COMPETITION IN THE CHINESE HEALTH CARE SECTOR
IMPORTANT PRE-CONDITIONS TO BE FULFILLED

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Competition in the Chinese Health Care Sector
Important pre-conditions to be fulfilled

Concurrentie in de Chinese zorgsector:
Belangrijke voorwaarden waaraan moet worden voldaan

Thesis

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Chapter 1

Background and research questions

Since 1950, the Chinese government has been building and rebuilding a healthcare system to improve the health status of the Chinese population. The accomplishments are significant. Some communicable diseases such as tuberculosis and malaria have been largely controlled. Average life expectancy at birth increased from 42 years (1950) to 73 (2009) (Ministry of Health of China 2010). The infant mortality rate fell from about 200‰ (1950) to 19‰ (2005) (Ministry of Health China 2007).

With the devastation resulting from World War II and the Civil War[1] as a starting point, the Chinese government has over the past 60 years built a three-layer healthcare network that includes (i) rural area primary clinics and (since 2007) urban community health centers, (ii) county and city hospitals, and (iii) tertiary hospitals. Before the mid-1980s, all Chinese hospitals were public, owned by the central or local government, and financially dependent on governmental subsidies. Since then, China has gone through a series of market-oriented and open-economy reforms that have had great impact on almost all aspects of society. In the healthcare sector, the government dramatically decreased governmental subsidies to public hospitals with the goals of "pushing the hospitals to the market" and enhancing efficiency. Along with a soaring economic development, the Chinese healthcare system encountered serious problems. Affordability and accessibility have been two major complaints since the late 1980s (Ge 2005). Since the mid-1990s, the central and some local governments have been reorganizing and establishing health insurance schemes and taking better control of the public hospitals. After more than 10 years of healthcare reform, however, criticism remains. In 2004, private expenditure on health as a percentage of total health expenditure (THE) was as high as 62%, with the government shouldering 38%. And of the private share, the percentage of out-of-pocket (OOP) payment was 87% (WHO 2008).

Calls for a fundamental healthcare reform have been increasing. In April 2009, the central government stated in a blueprint for healthcare reform that an additional €85 billion would be invested in the healthcare sector over the next three years (State Council of China 2009): one-third would go toward subsidizing public hospitals and health institutes, and two-thirds to broaden and deepen health insurance. More than three years later, it is still too early to evaluate the reforms. Contradictory policies have been observed and it may therefore be time to consider a consistent and fundamental direction for healthcare reform.

The many ways to organize a healthcare system depend on culture, history, political will, and the broader economic environment in a setting. In addition the functioning of healthcare systems is related to some specific characteristics of healthcare. Therefore, let us first look at the economic characteristics of healthcare systems.

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1. The Chinese Civil War (1927-1950) was between the KMT (Chinese Nationalist Party) and the Chinese Communist Party (CCP).

1. LACK OF EFFICIENCY AND EQUITY IN A FREE HEALTHCARE MARKET

1.1 Characteristics of healthcare

A free healthcare market fails to fulfill almost all the assumptions of a perfect market (Culyer, Newhouse 2000): symmetric information, cost-free searching, marketable risk, no monopoly power, and no entry/exit barriers. Healthcare service has certain characteristics that further distinguish it from general market products.

Uncertainty. Consumers are uncertain about their future health status and needs for healthcare. And once they need healthcare services, it is hard to predict the extent or volume of the products they will have to purchase. The need and demand for healthcare is thus irregular and unpredictable.

Uncertainty has another implication in the healthcare market that sets it apart from ordinary markets: consumers usually do not know the utility of the product they purchase without a physician's guidance. The expected outcome of healthcare services is also uncertain. Even physicians cannot tell with certainty the exact consequences of a certain treatment due to the complexities of medical science.

Uncertainty leads to a demand for certainty, and insurance is the most common way of providing it. In a healthcare market, besides supply (providers) and demand (patients), a third party fulfills the insurance function. The party could be an insurance company (organization), the government, employers, or even physicians.

Information asymmetry. We assume that physicians know more about how to treat patients than the patients themselves. Physicians also know the quality of healthcare services better than patients. That means the supply side of a healthcare market has certain power over the demand side. In other words, information asymmetry exists between physicians and patients.

In a normal market, information asymmetry is often addressed by an agent who acts on behalf of the information-deficient party. In a healthcare market, physicians normally work as such agents for patients. Physicians are, however, at the same time the market's suppliers. When agents work as suppliers, their interests are different from their customers'. Under some payment schemes, the physicians may have incentive to over-supply healthcare services to achieve their own interests. That leads to the problem of "supplier induced demand" (SID).

Altruistic preferences and social justice. In the context of healthcare, a caring individual might be one who derives utility – external benefit – from seeing another person receive healthcare (Culyer 1980). Individuals with altruistic preferences prefer having others

with health problems treated and are prepared to sacrifice resources to ensure the others' treatments.

Social justice (or equity) is not considered an individual preference; rather it derives from a set of principles concerning what a person ought to have *as of right* or entitlement. Rawls (1971) has suggested that people act behind a "veil of ignorance" when setting up principles of social justice.

The application of altruistic preferences and social justice to the healthcare sector translates to "equity in healthcare", given that redistribution policies cannot achieve equal health. Andersen (1975) suggests that an equitable distribution of healthcare is one in which the amount of healthcare received correlates highly with indicators of need and is independent of variables such as income. Equity in healthcare is further divided into two parts: equity in healthcare finance, and equity in healthcare delivery. A widely accepted definition of equity in healthcare is Marxist: "from each according to ability to pay, to each according to need for healthcare" (Culyer, Newhouse 2000).

Equity is usually considered an important policy goal in the healthcare sector, a characteristic that sets it apart from other products. Its byproducts are a large proportion of non-profit organizations and governmental control of healthcare.

1.2 Consequences of healthcare characteristics

Moral hazard. When the insurance function is fulfilled by an entity, an insured person does not pay the full price of the healthcare services they receive. In extreme cases – a "start from $0" health insurance scheme – an insured person pays no out-of-pocket (OOP) payment at the point of service. Such a price insensitivity may lead to an ex-ante moral hazard in which the insured have little incentive for preventing disease and an ex-post moral hazard in which the insured have incentive to use healthcare services for insignificant benefit, i.e., the marginal benefit is merely greater than zero.

Supplier-induced demand (SID). SID or, in this case, physician-induced demand, exists when a physician influences a patient's demand for care against his interpretation of the patient's best interest (Culyer, Newhouse 2000). SID is a direct consequence of information asymmetry and uncertainty. It may be influenced by physicians' payment systems, variations in the constraint of medical ethics, and physicians' target incomes.

Risk selection. Risk selection occurs when actions of economic agents exploit unpriced risk heterogeneity and break pooling arrangements, resulting in insurance inequities (Newhouse 1996). Risk selection exists on either the demand or supply side of the health insurance market.

Assuming that the insurance function of the healthcare market is undertaken by several competing and unregulated insurance companies, the price of the premium

will be equal to the expected medical cost of the potential insured; i.e., the insurer will charge those at high risk high premiums. When the risk rating is no longer profitable for insurers, they may engage in "risk selection". The insurers might add a high loading fee above the premium to protect themselves from the financial risks of an abnormal pooling, refuse to cover some pre-existing conditions, or set up an initial "waiting period" during which health costs are not covered. In some countries, "community rating" and "open enrollment" are enforced by the government. Explicit and implicit risk selections are the direct consequences of these governmental regulations.

Adverse selection occurs when a potential subscriber hides her disease history from the insurer to obtain insurance at a lower-than-market price.

Escalating medical costs. When the demand for insurance is fulfilled in the healthcare market, the financial risk that people confront when seeking healthcare services is largely absorbed by insurers. Under a fee-for-service payment scheme, physicians have incentive to over-supply healthcare services to patients for their own interest (Van de Voorde, Van Doorslaer & Schokkaert 2001). With low price sensitivity for both patients and physicians, overall medical costs in a society escalate. Such an escalation is not an efficient societal welfare allocation.

If medical costs are so high that they endanger accessibility to healthcare services of the less healthy population, the ideology of equity is also endangered.

1.3 Conclusion

In a freely competitive healthcare market, it is difficult for patients to purchase healthcare services efficiently because they cannot obtain sufficient price and quality information. It is also difficult or even impossible for those at high risk to purchase necessary health insurance because of insurers' risk rating and selection.

Because achieving both equity and efficiency in an unregulated competitive healthcare market is not possible, an entity that represents individual consumers toward achieving such social goals is required. Usually that entity is the government.

2. DEVELOPMENT OF THE CHINESE HEALTHCARE SYSTEM SINCE 1950S

The Chinese Communist Party announced the establishment of the Peoples' Republic of China on October 1, 1949. The development of Chinese healthcare system started in 1950 and since then can be divided into three stages.

From the 1950s to early 1980s, the Chinese government engaged in building a network of state-owned healthcare facilities to solve the accessibility problem for the population. The government heavily subsidized the facilities and set the user fees of

healthcare services much lower than the actual costs. Various health insurance schemes were also developed. In urban areas, government officers, teachers, university students, soldiers (and the dependents of all groups) were covered by province- or city-based Governmental Insurance Schemes (GIS). Employees, retirees, and their dependents were covered by employer-based Labor Insurance Schemes (LIS). Both schemes' co-payments were near zero. In rural areas, most farmers (90% at the peak of the scheme) were covered by "Collective Medicine", which had a co-payment (Liu, Rao 1998).

From the early 1980s to 2000, the market-oriented economic reform brought major changes to the healthcare sector. First, the government decided to push healthcare facilities to the front-line of the market with the intention of improving efficiency and shrinking governmental subsidies. Hospitals were left to themselves to pay staff bonuses in lieu of salaries that were lower than the basic living standard. Local governments often took the financial performance of the hospitals as an important indicator of the performance of the hospital directors. Such judgment often had influence on the directors' prospects of "climbing the management ladder" within the government. Thus, the hospitals were given strong incentive to be profitable. Supplier-induced demand and a medical arms race were observed in the Chinese healthcare sector. Second, the bankruptcy of many state-owned enterprises in the market-oriented reform broke up the enterprise-based insurance pools of LIS. Many employees and their dependencies went without (effective) health insurance. Third, "Collective Medicine" in the rural areas was also broken up with the collapse of the community economy. Medical costs became unaffordable for many people.

Beginning in 2000, the Chinese government rebuilt and enlarged the Urban employees' Basic Health Insurance Scheme[2] (UEBHI) in urban areas. The health insurance schemes for employees were also expanded to include those who worked in the informal economy. In rural areas, "New Cooperative Medicine"[3] (NCM) was organized to cover farmers with increasingly heavy subsidies from both the central and local governments. Since early 2007, the Urban Residents' Basic Health Insurance Scheme[4] (URBHI), a voluntary scheme for unemployed urban residents, was used experimentally in some cities and has expanded to the whole country.

2. "Urban Employee Basic Health Insurance Scheme" is also known as "Basic Medical Insurance Scheme".

3. "New Cooperative Medicine" is also known as "New Cooperative Medical Scheme" or "New Rural Cooperative Medicine System".

4. "Urban Residents Basic Health Insurance Scheme" is also known as "Urban Residents' Scheme".

3. PROBLEMS IN THE CURRENT CHINESE HEALTHCARE SYSTEM

3.1 Unaffordability

Inflation of medical costs has been causing attention in many countries for decades. Unlike other markets, high medical costs do not naturally lead to high quality care. Explanations for this include asymmetric information, agency problems, the role of third party payers, and SID. In most developed countries, inflation in healthcare costs leads to a heavy financial burden for the government because basic health insurance is normally regarded as social insurance. In China the story is somewhat different.

From 1979 to 2009, China's GDP increased by an average of 9% per year. During the same period, the average yearly increase in Total Health Expenditure (THE) was 12%. In 2005, THE was 4.73% of GDP (Zhao, Wan & Ying 2007). Although not high compared to many developed countries, the component of THE in China is heavily skewed to OOPs, which was 52% of THE in 2005. At the same time, the percentage of governmental expenditure on health was only 18% of THE; the rest was financed by other social entities. Most of the financial burden accompanying the inflation of healthcare costs fell on the shoulders of individuals.

Results from the 3rd National Health Service Investigation of China showed that only 51% of those reporting illness in a two-week period sought help from a healthcare facility, among those who did not do so, 38% of them failed to do it because of financial problems. Among people who reported in-patient care, 43% elected to be discharged without physician approval and 64% of them did so due to financial problems. Among those who reported a physician's referral for in-hospital care, 30% refused, and 70% of them did so for financial reasons (Statistic & Information Center of Ministry of Health China 2005). Such figures demonstrate that a significant portion of the population did not receive healthcare because of cost.

More explicitly, the average costs of an out-patient visit in 2003 were ¥120 (overall)[5], ¥219 (urban areas) and ¥91 (rural areas). Average cost per admission for in-patient care were ¥4,123, ¥7,606, and ¥2,649, respectively, which roughly equaled the average annual income of a Chinese citizen (Statistic & Information Center of Ministry of Health China 2005). Indexed increases in out-patient and in-patient costs from 1993 to 2003 are shown in Table 1.

The problem of unaffordability has been aggravated by the lack of (sufficient) health insurance for a large share of population. In 2003, 30% of the urban population was covered by UEBHI, 4% by the Government Insurance Scheme, 5% by the Labor Insurance Scheme, 6% by some kind of commercial health insurance; 44.8% were uninsured. Worse than that in the urban areas, 79% of the rural population was uninsured. At the

5. €1.00 ≈ ¥10.00 (2008).

Table 1 In- and out-patient costs index for 1993, 1998 & 2003 (adjusted for inflation)

	1993	1998	2003
Average out-patient visit cost index	100	117	220
Average per-admission in-patient cost index	100	150	250

same time, the Chinese government found it difficult to organize geographical cross-subsidization (Statistic & Information Center of Ministry of Health China 2005). Although social health insurance schemes have experienced significant progress in the last 10 years in terms of enrolled population, the government cannot afford comprehensive health insurance for all and many are under-insured (World Bank, 2005).

Hospitals' organization and incentives also worsen the affordability problem. With shrinking government subsidies, healthcare providers use information asymmetry to increase revenue. Because of its small ownership shares, the government has little power over public hospitals' control of SID behavior. Individual consumers have scarce information about the quality and price of the hospitals. They judge quality by the hospitals' "stars" or reputation, both of which are often based on the level and amount of high-tech equipment they own. Competition among hospitals is thus mainly focused on their ability to make profits and their stock of high-tech equipment.

3.2 Problem of inefficiency

In 2006, China had 19,246 hospitals, which comprised 1,045 tertiary (top) hospitals, 5,151 secondary hospitals, more than 10,000 primary hospitals, and various other medical facilities (Ministry of Health China 2007). Although primary hospitals have the largest share of total medical facilities, their quality of care and that of the higher-level hospitals are unknown for many people. People then tend to choose higher-level hospitals because they assume higher-level hospitals provide higher quality health care. In 2006, only 26% of the patients in urban areas sought health care services in primary hospitals: 55% chose tertiary and secondary hospitals. Even in the rural areas where tertiary hospitals are scarce and secondary hospitals are usually far away, 39% of the people sought care from at least secondary hospitals. The percentage of patients seeking care from higher-level hospitals has been increasing in the last decade. The utilization rates of hospital beds for tertiary and secondary hospitals in 2006 were 91% and 51% respectively (Ministry of Health China 2007). Because many patients go without health insurance and even for the insured OOP is substantial, individual patients without sufficient quality and price information are the actual purchasers of care. This leads to over-crowding in higher-level hospitals, and a waste of resources in primary hospitals.

4. HEALTH CARE REFORM IN CHINA

The current healthcare reform in Chinais at a crossroad. Although the Chinese government is aware of the problems in an unregulated (or not properly regulated) healthcare market, the government also knows clearly about the problems in the previous healthcare sector, where no competition existed at all. The government has strong willingness to initiate a healthcare reform that will address the current problems of inefficiency and unaffordability. However, there is no clear clue of how to invest in the healthcare system, though there has already been heavy investment in expanding social health insurance coverage.

Governments can be involved in a healthcare market in various ways. At one extreme, it directly provides healthcare services for free or at any affordable price to its residents. At the other extreme, the government only acts as a regulator who sets the rules of the game. It could also take a role in between, for example, act as an insurer and allow healthcare providers to compete with each other.

The Chinese government is currently facing several options. If it decides to heavily subsidize the supply side (e.g., public hospitals), the system will move toward the first extreme of government provision of healthcare. If it decides to heavily subsidize the demand side (e.g., insurers), at least two options for the government exist: (i) to act as an insurer or (ii) to regulate the market and allow insurers to compete with each other.

In its 2009 blueprint of reforming the Chinese healthcare system, market mechanism, which in most official documents in China has the same meaning as competition, was frequently mentioned (State Council of China, 2009). There are several options for competition in a healthcare sector: it might take place among healthcare providers; it might take place among health insurers; or it might take place among both. Therefore, to indicate the potential options of the future Chinese healthcare reform, we will use a categorization of healthcare systems based on whether or not there is price competition among healthcare providers and insurers (Table 2, van de Ven, Wynand P.M.M, Schut & Rutten 1994).

Table 2. Models in organizing a healthcare system

		Providers	
		Price competition	No price competition
Insurers	Price competition	1	3
	No price competition	2	4

Source: van de Ven, W.P.M.M., Schut, F.T., and Rutten, F.F.H., "Forming and reforming the market for third-party purchasing of health care", *Social Science & Medicine,* 1994, 39(10): 1405-1412

Model 1: Consumers have choices among both insurers and providers. Market failure may result from characteristics of healthcare services. Efficiency and equity can hardly be achieved in this model if no entity regulates the system. The possibility of success in this model thus heavily depends on the capability of the regulating entities. The regulated competition model, typically represented by the current models in the Netherlands, Israel, and Switzerland, falls within this category. The government should be an active regulator that sets the rules of the game.

Model 2: Health insurers do not compete, but healthcare providers do. Examples include the Canadian National Health Insurance (NHI) model, the post-reform UK model, and some employer-based traditional health insurance schemes in the US. The current Chinese healthcare system is close to this type: price competition is allowed among private hospitals and to a certain extent allowed among public ones. The performance of this model relies on the incentives given to non-competing insurers to act as prudent and efficient purchasers of care. The government in this model has two important roles: to regulate the competitive healthcare provider market and to act as a prudent purchaser of care on behalf of the citizens.

Model 3: Health insurers compete; healthcare providers do not. Although theoretically speaking, insurers are motivated to "shop around" for efficient care on behalf of their enrollees, their ability to act as prudent purchasers is seriously undermined by healthcare provider monopolies. The model has the disadvantages of competition among insurers, such as unaffordable insurance, numerous forms of risk selection, etc, while its structure blocks its advantages, such as responsiveness to consumer preference, innovation, etc. The model is therefore impractical and will not be discussed further.

Model 4: Neither health insurers nor healthcare providers face price competition. The Chinese healthcare system before the 1980s was a typical example of Model 4, the classic pre-1990s NHS model in the UK is also an example of this model. Whether the healthcare system could achieve social goals heavily depends on the performance of the government, which is the provider of healthcare for all citizens. It is difficult for the government to plan accurately for the needed amount of care in the society. In addition, bureaucracy of the government might also lead to inefficiency of the system. Government failure is thus a potential problem of this model.

The current Chinese healthcare system is currently close to model 2: the governmental branches of health insurers do not compete, but there is some room for price competition among healthcare providers. The various benefit packages of the existing social health insurance schemes are major sources of inequity in terms of finance and acces-

sibility of care. Furthermore, public hospitals do not compete based on price because of poor product classification and poor quality information, among other things.

According to our classification of Table 1-2, China might be moving to model 4 by removing competition in the health provision sector, or to model 1 by allowing competition among health insurers and further encouraging provider competition. It can also move even closer to model 2, by changing the current fragmented health insurance schemes and improving necessary regulations for a more effectively competitive healthcare provision sector.

Choice between model 2 and 4 as potential options for China's coming healthcare reform are under fierce debate among the public and academia. Model 1 is also mentioned in a government statement (State Council of China 2009). Models 1, 2, 4 are therefore relevant to this dissertation.

5. RESEARCH QUESTIONS

The central research question of this dissertation is: "What are the prospects of competition in China's healthcare reform?"

To answer this research question, two parts compose the backbone of the thesis:

5.1 Part I: international experience of healthcare reforms in three countries

Before the Chinese government makes the decision on the option for the current/future reform, it is crucial to understand two issues: first, what are the advantages and disadvantages of the relevant prototype models (model 1, 2, and 4); and second, what can be learned from the international experience/lessons of healthcare reforms (transitions) aiming at the relevant models.

Three countries, namely England, Netherlands, and Russia are selected for further research in this thesis. England has a National Health Service (NHS) system. The traditional NHS in England before the 1991-reform is characterized by health care services funded through general taxation, provided predominantly by government facilities, and free at the point of services. Such a system was very close to model 4 in Table 1-2, and close to the previous healthcare system in China during 1950-1980. In 1991, the British government implemented the internal market reform, aiming at a "regulated competition" among health care providers. The major measure was to split the responsibility of purchasing care from providing care. With this reform, the British government aimed to transit its healthcare system from model 4 to model 2.

Similar to England, Netherlands also had a model 4 healthcare system between 1940s and 1990s. During 1970s and 1980s, the Dutch healthcare system was characterized by strict price and capacity regulation in the health provision market and regional-

monopolized non-competing sickness funds. The Dutch government has considered a fundamental change towards model 1 since late 1980s. Price and capacity regulations in the health provision market were gradually loosened during the past 20 years. In 2006, a Health Insurance Act came into force, obliging individual consumer to buy health insurance from a private health insurance company, and allowing yearly free consumer choice among the companies. Since then, competition in the health insurance market has increased. The Dutch healthcare system has experienced a transition from model 4 to model 1, and the transition is still an on-going process.

Before the market-oriented reforms in 1980s, Russia and China were similar in many aspects, for example the political system and social forms. Both of the countries had heavily regulated health provision sector, which relied mostly on governmental subsidization. Health care was regarded as social welfare. Governments acted as both providers and purchasers of care. The healthcare systems in Russia and China are categorized as model 4 before the reform. Despite all these similarities, Russia and China experienced different paths in their healthcare reforms since 1980s. Russia underwent an abrupt change in legislation from model 4 to model 1 in 1993. In this reform, the Russian government copied many organizational elements from the Dutch healthcare system. However, contradictory to what has been achieved in the Dutch healthcare system (increasing competition in both the health insurance and health provision market), competition has never been achieved in the Russian healthcare system during the past decades. This suggests that the Russian healthcare system failed in making the transition from model 4 to model 1.

Analyzing the experience in these three countries contributes to figure out the advantages and disadvantages of model 1, 2, and 4, and the important pre-conditions that need to be fulfilled for either model 2 or 1 to achieve efficiency and equity in a competitive healthcare system.

5.2 Part II: investigation of whether three selected pre-conditions for a competitive healthcare system are fulfilled in China

Among the pre-conditions for a competitive healthcare system analyzed in part I, three pre-conditions are considered as most important and/or relevant to the Chinese context.

- Competition policy. Effective competition law/policy is important for both a competitive health provision market and a competitive health insurance market. Thus, competition policy is relevant for model 1 and 2. Chinese government issued its first anti-monopoly law in 2008, however, this law is currently not applicable in the healthcare system. The room for competition in the current Chinese hospital sector and key competition policies needed for a competitive hospital market are analyzed in this thesis.

- Consumer information. Sufficient consumer information is essential to facilitate consumers to make reasonable individual choice among insurers and/or healthcare providers. Therefore, this is also relevant for model 1 and 2. Moreover, this has been a neglected issue in the debate about the Chinese healthcare reform. In this thesis, the level of consumer information about health insurers in China will be investigated.
- Risk equalization. As discussed before, competing insurers have incentives for risk rating and/or risk selection. One way to remove these incentives from insurers is to equalize the insured risks. In other words, an adequate risk equalization scheme should compensate the insurers with high risks according to the predicted high expenditures, and take the profit away from the insurers with low risk profile. Although risk equalization is only relevant for model 1, this concept is brand new in China. If the Chinese government chooses to go for model 1 (with competitive insurers), risk selection and eventually inaccessibility to basic health insurance for high risks are very likely to happen without an effective risk equalization scheme. Therefore, we also choose risk equalization as a pre-condition for in-depth investigation.

6. OUTLINE OF THE THESIS

Part I composes chapter 2 to 4. In chapter 2, advantages and disadvantages of model 1, 2, and 4 are analyzed based on the experiences of the pre- (model 4) and post-reform (model 2) English healthcare system and the present Dutch healthcare system (model 1). Their relevancy for the current Chinese healthcare reform is also discussed in this chapter.

In chapter 3 and 4, experiences in Russia ("failed" reform from model 4 to 1) and the Netherlands ("successful" reform from model 4 to 1), and their relevancy for China is analyzed. Pre-conditions for model 1 are summarized.

Part II composes chapter 5 to 7.

International experience of enforcing competition law in the healthcare sector, and the enforcement of anti-monopoly law and other competition policies in the Chinese healthcare sector are analyzed in Chapter 5. In this chapter, focus is put on competition regulations for a competitive health provision market because these aspects of competition regulations are currently highly relevant in China. Current room for hospital competition in China is examined, and proper regulations needed for competitive health provision market, especially competition law are discussed.

Chapter 6 is an empirical analysis of the level of consumer information about health insurance in Nanjing, the capital city of Jiangsu Province.

In chapter 7, potential ways of introducing consumer choice among insurers are proposed. Methods to avoid risk selection are discussed. Specific attention was paid to

risk equalization. The potential obstacles of implementing risk equalization schemes in China are also analyzed.

Chapter 8 summarizes and concludes the thesis.

Each of chapter 2 to chapter 7 was written as an independent manuscript with the purpose to be published as a journal paper. Therefore, there may exist some overlap among these chapters, i.e. introduction of the Chinese healthcare system, the list of pre-conditions, etc. There may also exist little variance in the terminologies for model 1, 2, and 4, as well as the name of the major health insurance schemes in China, partly because the authors followed the opinions of reviewers regarding the names.

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Chapter 2

Purchasing health care in China: Competing or non-competing third-party purchasers

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ABSTRACT

Objectives: China's government has decided to increase government funding by 1-1.5% of the Gross Domestic Products in the health care sector. However, it is still a question how to turn the new funding into efficient health care.

Methods: To help to answer this question we analyze three prototype models of organizing the health care system that may be relevant for China, namely the "Government provision model", the "regulated market with non-competing third-party purchasers", and the "regulated market with competing third-party purchasers". The pre- and post-reform English health care system and the present Dutch health care system are used as examples of the three models. During the last 20 years these countries had, just as China, major health care reforms from a national centrally planned system to a market-based system. Based on the experiences in these countries we analyze the advantages and disadvantages of these three prototype models and discuss their relevance for China.

Results and conclusions: We conclude that the creation of prudent third-party purchasers, who have the incentive and ability to act on behalf of individual consumers, is a critical success factor, whatever model China chooses to implement.

KEY WORDS: China, market-based reform, purchasing care.

1. INTRODUCTION

The Chinese government has committed to increase government funding for health care by 1-1.5% of Gross Domestic Product (GDP) during the coming years [1,2]. The goal is to make basic health care services accessible to all. However, China is at a loss as to how to transform the new funding into efficient and effective health care. The Chinese health care system faces major challenges, and the question is how the new money can be best used to deal with them. For more than two decades, China has reformed its health system from a governmental, centrally planned and universal system to one that is heavily based on the market [3]. In the early 1980s China virtually dismantled the previous system, in which the physicians were employees of the state and the government owned, funded and managed the health care facilities. The effect was that most Chinese health care facilities were largely 'privatized', although they are formally still public [4]. In addition the Cooperative Medical Schemes were dismantled, making 900 million rural citizens uninsured, and due to the small scale of the risk pools that are based on the employers the health insurance schemes in the urban areas became also unsustainable. These developments have been openly acknowledged by the government to be a failure [5].

The preliminary result of the 4th National Health Service Survey of China in 2008 showed that the three major social health insurance schemes in China, namely the New Cooperative Medicine for farmers covered 89.7% of the rural population, the Urban Employees' Basic Health Insurance designed for urban employees covered 44.2% of urban employees, and the Urban Residents' Schemes for urban unemployed covered 12.5% of urban unemployed residents. About 60% of all health expenses in China (in 2002) are being paid out of pocket by the patient [1]. This lack of risk pooling makes expensive health care unaffordable for low-income people and puts the individual patient at great financial risk, driving many households into poverty. In addition, due to the information asymmetry between the physician and the patient, and due to a lack of information on the quality of the providers of care, an individual patient can hardly countervail supply-induced demand and generally is not a good purchaser of care. Over the last decades, perverse incentives have altered physicians' behavior in China towards self-interest at the expense of patients, even where professional ethics dictated otherwise [2]. The distortion of administered prices away from costs, gives providers strong incentives to favor the profitable high-tech diagnostics and skimp on unprofitable basic services. Based on an extensive literature study Eggleston et al. [6] conclude that current health service delivery in China leaves room for improvement, in terms of quality, responsiveness to patients, efficiency, cost escalation, and equity. They also conclude that substantial improvements could be made by changing the way providers are paid - shifting away

from fee-for-service and the distorted price schedule - and that 'active purchasing' by insurers could further improve outcomes.

In this paper we deal with the question how to best spend the new money to tackle the above problems concerning efficiency and equity. In China the debate focuses on "subsidizing the supply side", i.e. government facilities or "subsidizing the demand side" [7]. And in the latter case, should the government subsidize individual consumers at the point of service, or subsidize them in purchasing health insurance? And in the later case, should there be competing or non-competing insurers, and what additional measures should be taken? For example, Wagstaff and Lindelow [8] have shown that simply extending insurance coverage - in terms of the share of the population covered by insurance - may increase rather than decrease the financial risk associated with household health care spending due to a lack of any countervailing power against supply- and consumer-induced moral hazard.

The above questions are closely related to the fundamental question of how to organize the health care system in China. Presently, helath insurance schemes are reaching the target of 100% coverage by policy. In some areas in China, there are pilot experiments of merging the New Cooperative Medicine and the Urban Residents' Scheme. The Chinese government has been considering of universal health insurance scheme. At the same time, the government is also considering introducing competing mechanisms into social health insurance [9]. What model will suit the Chinese situations best? To help to answer this question we consider the following three prototype models of organizing the health care system that may be relevant for China (see also Refs. [10,1]): (1) the "Government provision model"; (2) the "regulated market with non-competing third-party purchasers"; and (3) the "regulated market with competing third-party purchasers". The third model is also referred to as the "managed competition model" [11,12]. The latter two models assume competition among the providers and assume that there is a third-party who acts as a prudent purchaser of care on behalf of the consumers. In this paper we consider the option of subsidizing the purchase of health insurance, rather than giving subsidies to the consumers when receiving services. The advantage of subsidizing health insurance is that (1) the risk pooling reduces the citizens' financial risk, and (2) the consumers no longer herself is the purchaser of care, but this can be delegated to a professional third-party purchaser (i.e. the insurer). For reasons explained above, we do not consider models where the individual consumer herself purchases (subsidized) care.

We will discuss the experiences with these three models in the following settings: (1) the 'traditional National Health Services (NHS)' in England; (2) the 'reformed (i.e. after 1991) NHS' in England; and (3) the post-reform (i.e. after 2006) health care system in the Netherlands. The reason for choosing these countries is that in the last 20 years they went, just as China, through reforms from a centrally planned system towards a market-based system [13-15]; and second, health care system in these countries are very close

to the three theoretical models that are relevant to the Chinese health care reform. The experiences of these countries may yield worthwhile lessons for China, which will be discussed in the last section.

2. THREE PROTOTYPE MODELS: EXPERIENCES OF ENGLAND AND THE NETHERLANDS

2.1. Government provision model

The NHS of England before the 1991-reform is characterized by health care services funded through general taxation, provided predominantly by government facilities, and free at the point of services.

The British government succeeded in taking care of all its residents with relatively low health care expenditure as a share of GDP and showed relatively strong capability in controlling the escalating health care expenditure compared with other OECD countries during the 1970s [16] . At the same time, the NHS is one of the "cheapest" way of organizing a health care system with relatively low transaction costs [18]. With a hierarchical network of health care facilities and centrally planned care provision, the NHS needs relatively simple legislation compared to the other two models.

However, the ideology of a welfare state does not guarantee an NHS without problems. As most of the countries with a government provision model, the English NHS has been facing financial pressures ever since its establishment [19]. Beginning from the early 1980s, along with technology development and aging population, the medical expenditure outraced the growth of economy. At the same time, the economic recession weakened the financial ability of the government and threatened the sustainability of the "big stomach" of NHS. Government agencies were criticized for bureaucracy in decision making and inefficiency in care provision [20].

Though through strict rationing measures the NHS was still sustainable, the conflict between unlimited demand for health care and limited resource has been so serious that the government encountered constant funding crises after 1970s.

"Queue" is a major measure that was used in rationing health care before the establishment of the National Institute for Health and Clinical Excellence. During the 1980s, the problems of long waiting lists and waiting times, especially for elective procedures, were notorious for the NHS. Alleged causes for these long waits are (1) under-funding; (2) a lack of incentives for efficiency and for responsiveness to consumer preferences; and (3) perverse incentives for specialists working in public hospitals who are allowed to also work in private practice, to increase the demand for their private practice by increasing the wait for public services. Although a two tier system where patients can get access to care with shorter waiting time via private practices, may conflict with the

ideological goals of the NHS, supporters of the private sector argue that it is an effective pressure-valve for reducing the financial pressure in the public system.

There are other reasons why the incentive mechanisms for the providers working in the NHS were problematic. Under capitation payment for General Practitioners (GPs) and global budget for hospitals, payments to providers were not related to their working-load. Health care providers faced perverse incentives with respect to efficient or high-quality care, because if they were efficient or provided high-quality care, they attracted more patients but not more resources. Efficient providers were in fact punished for their efficiency.

The government was also blamed for bureaucracy and unresponsiveness to consumer demand. With a centrally planned health care system, it was difficult for the "center" to gain information about quality as well as cost of care [21]. The "top-down" management also worked poorly in stimulating innovation [16]. After the early 1980s major reforms took place with a high frequency, which may be considered as an indication of dissatisfaction with the 'traditional NHS'.

2.2. Regulated market with non-competing third-party purchasers

Based on the belief in superior efficiency in a market-based system, the British government in 1991 implemented the internal market reform, aiming at a "regulated competition" among health care providers. The major measure was splitting the responsibility of purchasing care from providing care. Universal and free access to care, as well as the tax-financed funding of the NHS remained unchanged.

Regional Health Care Authorities (RHAs) then became third-party purchasers of care on behalf of the population in their specific areas. At the same time, GPs were invited to become GP fund holders (GPFHs), on a voluntary basis. GPFHs had the responsibility of purchasing some secondary care and community care on behalf of the patients on their lists and received a budget for doing that. In order to motivate the GPFHs to shop around for their patients, GPFHs were allowed to keep the remaining fund for their own practice. An increasing number of GPs took the opportunity to improve their own practice through GP fundholding, with the result that, on a voluntary basis, half of the GPs were fundholders by 1997. Standard fundholding practices are responsible for approximately 20% of RHAs' budget, i.e. primarily elective procedures, laboratory tests, some drugs and community nursing [22]. The GPFHs proved to be more effective in purchasing services with better quality, lower price, and shorter waiting time than RHAs [23,24]. Because RHAs had the responsibility to purchase health care for patients whose GPs were not fundholders, this 'two tier' system was blamed to be inequitable.

In the late 1990s the option of voluntarily becoming a GPFH was replaced by the requirement for every GP to become a member of the new established Primary Care Group (PCG) in her practicing area. Later Primary Care Trusts (PCTs) were formed

through mergers of PCGs. An advantage of these large scale organizations was that GPs, who lacked the management skills and the capacity for figuring out the quality and efficiency of secondary care providers, were no longer individually responsible for doing this. Quality auditing and utilization review became the collective responsibility of GPs in the same PCG [25]. Further mergers ended in even larger organizations, the Primary Care Organizations (PCOs). RHAs were left mainly with the role of administration and with the responsibility of financing the new third-party purchasers.

However, the dilemma is that if the purchasers are at too far a distance from the population, the risk of non-responsiveness and bureaucracy emerges. This is one of the reasons that after having abolished the GPFHs, the government decided to re-establish them in 2006, albeit with another name "Practice Based Commissioning" [26].

An essential new aspect of the internal market reform was the principle "money follows the patients". This was intended to take away the previous perverse incentives with respect to efficiency, quality, and responsiveness to consumer preferences. Consequently hospitals were no longer under fixed global budgets. They started to operate as independent entities. Prospective payment schemes were used by RHAs and PCGs (as well as PCTs and PCOs). However, because hospitals were still governmental departments and physicians were still civil servants, these prospective payment schemes were only "soft" financial constraints. Several researchers doubt about whether the changes in the providers' behaviors are in the direction as the government had hoped [27-29]. Although health care services are easily contractible in terms of payment, they are hardly contractible in terms of quality of care. The providers can take the advantages of implicitly changing the quality of care in order to maximize their own utility.

Although there are improvements in terms of shortening waiting lists and waiting time, problems still exist. Running a regulated market is more expensive than the traditional NHS. Due to the complex nature of health care services, transaction costs rose as a share of health expenditure [18]. Consumer information was far from enough for purchasers to make clear judgments on the quality and price of the providers [30].

Le Grand [25] concludes that the internal-market reforms in the 1990s did not produce marked changes on the key criteria of performance. Their explanation was that the internal market was not really put to the test, because the incentives were too weak and the constraints too strong. Nevertheless the reform of separating the purchasers and providers changed the culture within the NHS from "command and control" to "contract". Switching the contract is the most powerful weapon held in the hands of purchasers.

After the first 7 years of the internal market reform several new reforms and reorganizations of the NHS took place, such as the creation of foundation trusts, a greater NHS-use of the private sector, the publication of indicators of the providers' performance, the provision of more choice (among providers) for patients, and the implementation of payments-by-result [31].

Foundation trusts are hospitals that are free from central government control and local authority management. These trusts were supposed to compete with private hospitals. Contracts between hospitals and their staff were changed to give physicians more incentives to provide efficient and high quality care. Independent Sector Treatment Centers were introduced to provide plurality of provision and enhance consumer choice of secondary care.

In the period 2001-2005 the performance of hospitals has been published in 'star ratings'. Publishing information on performance has been shown to be powerful, if designated to affect the reputation of organizations through ranking systems [31].

Evaluation of the recent reforms provides a mixed picture so far [32]. On one hand, significant progress has been made in terms of shorter waiting times and increased quality of care. On the other hand, the Audit Commission [32] found little hard evidence of benefits from the recent reforms and innovations.

In sum, though the languages of health care reform in the NHS has changed from "competition" to "cooperation" [33], and back again to "competition" [31], a core element of the market mechanism has been maintained, which is the separation of purchasers and providers, with the aim of creating powerful third-party purchasers of care who act in the interest of the consumer.

2.3. Regulated market with competing third-party purchasers

The history of the Dutch health care system can be characterized by three major waves of health care reforms [14]. The first wave of the health care reform lasts from 1940 to 1970s. The primary focus of the Dutch government then was to promote public health, to guarantee a minimum level of quality, and to ensure universal access to basic health services.

The second wave of the health care reform is marked by cost containment by the government from 1970s to 2000. Supply and price regulations were extensively used. Demand-side constraints then played a restricted role in containing costs as compared to supply-side constraints.

Although the cost containment reforms proved to be effective in containing costs, they might have been "too successful", as the rationing policies were increasingly subjected to growing criticism. The system was also highly criticized because of a lack of incentives for efficiency and innovation. From the early 1990s, the third wave of the reforms aimed at enhancing efficiency and consumer responsiveness in the health care system through regulated competition, not only among providers of care but also among health insurers.

After decades of central price- and capacity-control by government, the Dutch health care system is now in transition from supply-side regulation towards a 'regulated market with competing third-party purchasers'. In an international context the Netherlands'

health system reform is unique: it is the first country in the world that is consistently implementing Enthoven's model of national health insurance based on managed competition in the private sector [34]. During the past 20 years, successive governments have consistently worked on the realization of the preconditions for regulated (or managed) competition.

Since 1 January 2006 the Health Insurance Act has obliged each person who legally lives or works in the Netherlands to buy individual private health insurance with a legally described benefits package from a private insurance company. In order to assure equity in finance in the health care system, all Dutch residents have to pay an income-related contribution to the tax-collector, who transfers these contributions to a Risk Equalization Fund (REF). In addition all adults have to pay a premium directly to the chosen insurer. Each insurer sets its own community-rated premium. Consumers are fully price sensitive at the margin.

Individual consumers are encouraged to shop around among health insurers. For each type of insurance contract an insurer is obliged to accept each applicant at any time ("guaranteed issue") for the same premium ("community rating per product") per province. The contract period is maximum one year. Consumers have at least one option per year (on 1 January) to switch to another insurer or basic insurance contract.

Since 2006 price competition on the insurance market strongly increased [14]. The introduction of the new health insurance scheme prompted many people to reconsider their choice of insurer, resulting in an all-time high switching rate of 18% of the total population.

Given the requirement of community rating, which provides the insurers with incentives for risk selection, the risk equalization system is the major tool to reduce these incentives for selection. For high-risk insured the insurers receive a high risk-adjusted equalization payment from the REF. For low-risk insured they have to pay an equalization payment to the REF. According to the Health Insurance Act the sum of the income-related contributions equals 50% of the total insurers' revenues for the mandatory basic insurance. Until 2002 the risk equalization payments were primarily based on age, gender, and indicators of disability and socio-economic status. Since 2002 the following risk factors have been added: Pharmacy-based Cost Group (PCGs) in 2002 and Diagnostic Cost Groups (DCGs) and being self-employed (yes/no) in 2004 [35]. Even with this sophisticated risk equalization scheme, insurers have incentives and tools for risk selection [14].

Competing insurers are expected to become prudent third-party purchasers of care on behalf of their insured. Since 2006, insurers are allowed to selective contract with all care providers, including hospitals. Although the supply-side is still quite regulated by the government, insurers and health care providers get gradually more and more freedom to negotiate about prices, service and quality of care. Since 2005 prices for

physiotherapy are no longer regulated. Insurers and hospitals are allowed to freely negotiate prices and selectively contract for a range of products (Diagnostic-Treatment-Combinations) accounting for about one third (in 2009) of hospital revenues.

Insurers are allowed to integrate with health care providers and to provide care in their own facilities using their own staff (e.g. primary care centers, pharmacies). Recently insurers have started to set up primary health care centers and pharmacies. Insurers may provide their gate-keeping GPs with incentives to stimulate integrated and coordinated care, resulting in integrated care organizations that give a prime role to primary care. Currently most legal obstacles to that type of integrated care organization have been abolished, partly by the Health Insurance Act. Some large insurers are experimenting with some form of bonuses for, and risk sharing with, general practitioners.

Consumer information about price and quality of both insurers and care providers is one of the key conditions to enable the individual consumers to shop around. A few years ago the Dutch government took the initiative to set up a website where consumers can get information about insurers and providers of care (www.kiesbeter.nl). Consumers who visit this website can compare all insurers with respect to price, services, consumer satisfaction and supplementary insurance (premiums and benefits). In addition they can compare hospitals on different sets of performance indicators, which have been developed by the Health Care Inspectorate since 2004. The provision of adequate consumer information is also one of the main priorities of the newly established Netherlands Health Care Authority.

In sum, the core of the health care reforms that is taking place in the Netherlands is to transfer the responsibility for purchasing care from the government to competing insurers. Consequently the previous major tool for 'purchasing care', i.e. central legislation, is being replaced by private contracts between insurers and providers of care.

3. CONCLUSIONS AND DISCUSSION

The Chinese government has decided to substantially increase the funding for health care. However, the new funding will not automatically result in efficient and equitable health care. For the last decades the health care sector in China has been dominated by the providers who are motivated under perverse incentives. Major health insurers in both urban and rural areas have little incentives and few tools to act as prudent purchasers on behalf of the insured. At the same time, the large share of out-of-pocket payments indicates that the role of purchasers is predominantly taken by the individual patients. If this situation remains, it will be most likely that the new funding will be captured by the providers into inefficient care and higher income of physicians. A reform of the

current health care system is necessary to let the new money contribute to an efficient and equitable health system.

3.1. Prospects of the three prototype models in China

In this paper we discussed the experiences with three prototype models of organizing health care systems that may be relevant for China. We primarily concentrated on improving the efficiency of the health care system, and not so much on the equity issues. This is not because we consider equity unimportant, but because we think that the efficiency and equity issues can to a large extent be separated. Some people may have the view that the "Government provision model" offers the best perspective for equity. However, this is not true. As the experience in England indicates, the transition from the "Government provision models" to the "regulated market with non-competing third-party providers" can be made without any change in the tax-financed funding of the system. And the same holds for a further transition towards competing third-party purchasers. We can therefore conclude that the model that provides the highest level of efficiency is the preferred one and has the best potential to fulfill society's preferences concerning equity. The relative advantages and disadvantages of these models are summarized in Table 1.

The first model is the "Government provision model". As an example we discussed the traditional NHS in England (1948-1991), which in fact has many similarities with the Chinese health care system in the period 1949-1982. Strong aspects of this model are its ability to contain costs, the relatively simple regulation and the low administrative costs. Weak aspects, however, are the potential of under-funding, and the lack of incentives for efficiency, for quality, for innovation and for consumer responsiveness, which may result in long waiting lists. It is hard to predict whether this "Government provision model" will be a likely candidate for future China. Given the general developments in the Chinese economy and society which have a market-based orientation, a more market-based health care system with competing providers might seem more likely than the traditional "Government provision model".

Because of the information asymmetry between the patients and the providers of care, it is highly recommended that in a market-based health care system there will be powerful and motivated third-party purchasers, who act in the interest of the individual consumer. We consider a 'regulated' and not a 'free' market, because in a free, unregulated market many goals of society with respect to efficiency and equity cannot be fulfilled (see e.g. Enthoven [12]. Given the establishment of new (urban and rural) health insurance schemes in the last decade [36], insurers seem a natural candidate to fulfill the role of third-party purchaser in a regulated market with competing providers in China. The crucial question then is whether or not there should be competition among these

Table 1 Relative advantages and disadvantages of the three prototype models

	Advantages	Disadvantages
Government Provision model	Strong ability to contain costs; Low administrative costs; Relatively simple legislation.	Fiscal pressure faced by the government, which may result in underfunding and two-tier-system; Lack of incentives for Efficient care provision; High quality care; Responsiveness to consumer preferences; Innovation; Accountability. Long waiting lists and waiting time; Bureaucracy; If physicians are allowed to have a private practice: perverse incentives for them to reduce quality and increase waiting list in the public system; Difficult to gain information by the "center".
Regulated Market with Non-competing Third-party Purchasers	Because 'money follows the patient': incentive for providers for Efficient care provision; High quality care; Responsiveness to consumer preferences; Innovation; Accountability.	Relatively high transaction costs of contracting; No consumer choice among purchasers; Relatively low incentive for purchasers for Stimulating efficient care provision; Purchasing high quality care; Responsiveness to consumer preferences; Innovation; Accountability; Relatively complex regulation / stewardship (competition policy, quality, consumer information).
Regulated Market with Competing Third-party Purchasers	Consumer choice; Motivated prudent purchasers; because of 'voting by feet' incentives for purchasers and providers for: Efficient care provision; High quality care; Responsiveness to consumer preferences; Innovation; Accountability.	Relatively high transaction costs of contracting; Relatively complex regulation / stewardship (risk equalization, competition policy, quality, consumer information); Potential for "risk rating" and/or "risk selection", dependent on the regulation.

third-party purchasers. Some of the arguments discussed here are derived from van de Ven et al. [37].

We restrict ourselves here to discuss only one variant of the on-competing purchaser model, i.e. the single, monopsonistic purchaser. That is, we do not consider here the model of multiple, non-competing purchasers. An argument in favor of a single third-party purchaser can exert maximum buyer power to obtain the best medical care at the lowest price, especially when the provider market is highly competitive. However, the assumption of this argument is that the monoposonistic third-party purchaser is moti-

vated to exert his purchasing power. Another argument in favor of a single purchaser is that the transaction costs are likely to be lower than in case of competing purchasers, since providers have to conclude a contract with a single purchaser only. Finally, a single purchaser may be preferred because it may facilitate the coherence and coordination of local health care delivery which is considered to be important from a public health perspective. The Achilles' heel of the nonopsonistic model, however, is the lack of incentives for the third-party purchaser to act as an agent on behalf of the consumers [13]. Health insurers in China are motivated by political pressures, and not by financial incentives. Therefore, whether they are well motivated to use their purchasing power is unclear. For example, in 2005 the basic health insurance schemes in China collected 140.5 billion RMB. During the same period, 107.5 billion RMB was spent. At the end of 2005, the accumulated deposit of basic health insurance schemes was 127.8 billion RMB. Tian et al. [38] consider the high percentage of deposited fund as an indicator of inefficiency and one reason for high individual payment. A system of regulatory incentives and monitoring should be developed to guarantee that the single third-party purchaser will act in the citizens' interest. At present, the prospects for the feasibility of such a system in China are uncertain. This problem is one of the reasons that the Chinese government is considering introducing competition in social health insurance.

A strong argument in favor of competing third-party purchasers is that competition can provide the purchasers with an incentive to act as an effective agent on behalf of their (potential) consumers. However, this model has to be complemented with complicated regulation, e.g. to compensate high-risk citizens for risk-rated premiums and/or (in case of premium regulation) to prevent risk selection. We recommend that a risk equalization system, i.e. a system of risk-adjusted premium subsidies, is part of such a regulatory framework. Although in the last decade severe progress has been made with the development of risk equalization systems, it might be a huge effort for China to develop such a system at short notice (let alone to collect the necessary data to do the calculations).

3.2. Transition and implementation

The current Chinese health care system is close to a "regulated market with non-competing third-party purchasers". There are three non-competing third-party purchasers in the market, each with its own administration bureaus, targeting population, premium collection channel, and benefit package. That leads to fragmentation in health care finance and raised problems of inequity and managerial problem. The transition to a "regulated market with non-competing third-party purchasers" can be made via merging the three major health insurance schemes. However, given the history that the Ministry of Health takes charge of the New Cooperative Medicine, and the Ministry of Labor and Social Security takes charge of the Urban Employees' Basic Health Insurance and the Urban

Residents' Scheme, merging of the schemes might be a politically difficult procedure. A transition from non-competing third-party purchasers towards competing third-party purchasers can be done in several ways. For example, the single insurer in a certain urban area may be split into several local branches. Over time, when the insurer has acquired all the specialized skills (and data!) that are necessary for becoming a reliable insurer and a prudent purchaser of care, the local branches might gradually become independent and the consumers could be given a choice among them. Other options are to allow insurers to work province/nation-wide, rather than only in one region (as the Dutch government did in the early 1990s with the previously non-competitive sickness fund insurance market) and/or to allow new insurers, including private insurers, to enter the previously monopolistic market (as the Irish government did in 1994 with the previously monopolistic market for voluntary health insurance). If the Chinese government chooses this way, one important issue is to create a fair environment of competition for new enterers. Another option is to give community health centers financial responsibility for (some of) the follow-up care of their patients, and to give citizens a choice among these "fundholding community health centers". This option would require that citizens should register with one community health center, and that this center fulfills the gatekeeper function for their enrollees. In case of efficiency gains the enrollees could have broader benefits or lower copayments (just like the Medicare enrollees in the United States who choose an HMO).

For a regulated market with competing providers of care it is essential that the third-party purchasers, whether or not they are competing, have sufficient tools to be a prudent purchaser of care on behalf of their members. For example, they should be allowed to selectively contract with only good and efficient providers, and they should have sufficient room for negotiating the relevant aspects of the contracts, such as the fee-structure, the price of care, volume, quality of care, and consumer responsiveness. That is, they should have the authority to change the physicians' current perverse financial incentives. Currently this essential precondition is not fulfilled in China.

From the experiences in England and the Netherlands we conclude that the public availability of reliable consumer information about the quality of the health care providers and the third-party purchasers is another pre-condition to reap the fruits of a regulated market with competing providers. It does not make sense to give the citizens a choice among providers and third-party purchasers, if the consumers cannot compare their performance based on reliable, objective information. Currently, health insurers in several cities are sending "insurer staffs" including giving out information about services of the insurers, and at the same time, gaining reliable information about quality of the health care providers. Although spreading consumer information through this channel is not enough, consumer information is gradually now being created by the insurers.

Another important lesson from the Netherlands is also that competition policy is very relevant. Competition is not for free. Government has to prevent cartels and the abuse of dominant positions by providers. Currently in China the level of competition on the health care market is low, even when competition is allowed or even encouraged by the government. Partly this due to a lack of consumer information [39]. At the same time, China's Anti-monopoly Law, enforced on August 1st 2008, does not apply to sectors that provide public goods [40]. Although there are still debates on whether the anti-monopoly law can be applied to public hospitals, it is clear from the evidence in the Netherlands that an anti-monopoly and anti-cartel law is an essential precondition for achieving competition among providers of health care.

Finally, whatever model China will choose, given the current deficiencies in the health care system a major challenge for China is to set up powerful agencies that have the incentive and ability to be cost-conscious third-party purchasers of care on behalf of the individual consumers. The chosen model may be different for different provinces/regions, e.g. for urban and rural areas. In rural areas with a low population density, there might not be much room for competition in the health care market, just as there is no competition in other branches, such as garages, supermarkets and theaters. China is large enough to set up several experiments and to learn from the evaluation of these experiments.

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Chapter 3

Prospects for regulated competition in the health care system: What can China learn from Russia's experience?

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SUMMARY

As China explores new directions to reform its health care system, regulated competition among both insurers and providers of care might be one potential model. The Russian Federation in 1993 implemented legislation intended to stimulate such regulated competition in the health care sector. The subsequent progress and lessons learned over these 17 years can shed light on and inform the future evolution of the Chinese system. In this paper, we list out the necessary pre-conditions for reaping the benefits of regulated competition in the health sector. We indicate to which extent these conditions are being fulfilled in the post-reform Russian and current Chinese health care system, which shares a similar economic and political background with the pre-reform Russian health care system in terms of the starting point of the reform and analyse the prospects for regulated competition in China.

KEY WORDS: regulated competition; health care reform; Russia; China

KEY MESSAGES

- Although it has been 17 years since Russia implemented legislation to stimulate regulated competition in the health care sector, competition is lacking among both insurers and providers, which is not surprising since most, if not all, of the necessary pre-conditions for regulated competition are not fulfilled in Russia.
- The experience of Russia in implementing regulated competition is a signal to Chinese policy makers that the necessary pre-conditions, such as consumer choice, contracting freedom and appropriate government regulations (to name but three), must be fulfilled for such reform, and implementation strategies must be carefully considered.

INTRODUCTION

The past two decades have witnessed the transition of the health care system in China, from a centralized, government-funded system to a fragmented, underfunded and market dominated one (Ma et al., 2008). In the early 1980s China virtually dismantled the previous system, in which public provider institutions were fully funded by the government and employed salaried medical staff. Though public hospitals and clinics have remained owned and managed by the government, thus still state-owned legally,

the subsequent chronic underfunding has led to widespread "profit-seeking" behavious within these institutions to both cover the funding gap and enhance the service delivery capacity (Blumenthal and Hsiao, 2005). Meanwhile, over 900 million rural residents lost their insurance coverage with the collapse of the Cooperative Medical Schemes. Moreover, the urban employment-based social medical insurance faced increasing financial constraints, due to fragmented risk-pooling and inadequate managerial capacity. The reform has been openly acknowledged by the government to have failed to transform the health care system and to meet the public expectations (Ge, 2005). Presently, the "inconvenience" of health care services and the "rising costs" of the health care are two major sources of complaints in China.

The Chinese government has committed to increase government funding for health care by 1-1.5% of Gross Domestic Product (GDP) during the coming years (Yip and Hsiao, 2008, Hsiao, 2007). The goal is to make basic health care services accessible to all. However, China is struggling with feasible policy parameters to make rational use of the funding injection, both in coverage expansion and in capacity building, to deliver health care effectively and efficiently.

Despite the multiple daunting challenges, the health policy debate has focused on how to channel the new "health stimulus" package into the existing health care system. In China the debate focuses on "subsidizing the supply side", i.e. government facilities, or "subsidizing the demand side" (Cheng, 2008). And in the latter case, should there be only one government insurer or competing insurers, both public and private, and what should be the roadmap for implementation? Presently, the Chinese government is implementing different health insurance schemes for subgroups of the population with the aim of covering at least 90% of population by the end of 2011. A consolidated, even national, universal health insurance scheme is the long-term goal. Meanwhile, on top of all these debates, the central government is considering the introduction of competing mechanisms into the administration and operation of social health insurance (State Council of China, 2009). The design of this pro-competition social medical insurance is unprecedented in China, with a scope unmatched in other parts of the world.

Experiences and lessons can be learned from an international perspective. According to the theory of path dependence[1], health care reforms in the Russian Federation are of particular interest because of the historical similarities between the pre-reform Russian and Chinese health care system. In fact, China copied almost all aspects of the society from the Soviet Union when constructing the People's Republic of China in 1949. And both countries experienced the transition from a centrally planned economy to a market-oriented one during the 1980s and 1990s, though with different speed and strategies. During the period from 1950s and the 1980s, the health care system in the two countries had very similar structures and organization mechanisms, which, in both countries, had to some extent resulted in inappropriate allocation of health care

resources, bureaucracy and perverse incentives in the organization of health insurance and the health provision sector.

Despite almost parallel health care systems in the past, Russia underwent and abrupt change in legislation from a centrally planned, government provision health care system to "regulated competition" and universal mandatory health insurance in 1993 (Sheiman, 1994).

We define regulated competition as "competition among the insurers as well as the health care providers, regulated by the government to achieve the government's goal". Regulated competition requires certain pre-conditions to be fulfilled to yield efficiency and equity in health care. In the absence of effective regulations, market failures such as risk selection, inefficient consumer choice and cartels would be inevitable. Competition might not be a natural outcome of the health care "market" only by having multiple providers and multiple insurers in the same setting. Equity may not be achieved by mandatory health insurance if the government is not capable of enforcing the collection of premiums. If the Chinese government aims to further adopt market mechanisms in the health care system and universal health insurance in pursuing efficiency and equity, it needs to be cautious about the possible side effects, the consequences, and the difficulties. The Russian health care reform provides us with rich lessons about implementing the regulated competition model.

The paper is organized as follows. The next section provides a theoretical framework and a list of the necessary pre-conditions for a successful implementation of regulated competition. We then give a short description of the pre- and post- reform Russian health care system. What are the reasons and goals of regulated competition reform in the Russian health care system? To what extent is regulated competition functioning now and to what extent are the pre-conditions for regulated competition fulfilled after 17 years? Briefly we describe the Chinese health care system and check the extent to which the theoretical pre-conditions for regulated competition are fulfilled in China. In the discussion section, we examine what lessons China can learn from the Russian experience of its health care reform in the last two decades. We also analyze the prospects of regulated competition in Chinese health care system if the Chinese government decides to adopt it in the health care sector.

NECESSARY PRE-CONDITIONS FOR REGULATED COMPETITION

Regulated competition in the health care sector is a model that allows competition among both the health insurers and the health care providers. Individual consumers periodically make a choice among the insurers. The insurers purchase health care services on behalf of their insured and interact with the health care providers. In an unregulated

competitive market, the insurers and the providers might use strategies to pursue profits or survival, which may not be in the interest of the consumers. These strategies include risk rated premiums, risk selection, market segmentation, product differentiation that raises information costs, discontinuity in coverage, refusal to insure certain individuals or coverage with exclusions for pre-existing conditions, biased information regarding coverage and quality, and erection of entry barriers. These strategies will be difficult for the individual consumers to counteract and may harm efficiency and equity in the health care sector. The essence of regulated competition, that makes it different from an unregulated competitive market, is the need for a powerful, willing, and active collective "sponsor" on behalf of the demand side. The sponsor should regulate the competition in the health care sector in order to counteract market failure and achieve efficiency as well as a desired level of equity (Enthoven, 1988). In Russia and China, the function of the sponsor is taken by the government.

Theoretically speaking, a successful implementation of regulated competition in the health care system requires the fulfilment of a list of necessary pre-conditions:

1) *Consumer choice*. Individual consumers need to have the right to periodically make a free choice among the insurers.
2) *Open entrance/exit of the health insurance/provision market*. In principle there should be open entrance to the health insurance market and health provision market. "Open entrance" implies that inefficient insurers and providers must feel the potential threat of new and more efficient insurers and providers entering the market. In addition, there should be "open exit" for inefficient insurers and providers of care[2]. For example, it would be unfair competition if government would give financial support to an inefficient hospital that otherwise would go bankrupt. This pre-condition of "open exit" may be hard to fulfil in the case of state owned insurer or health care facilities, for which the government has a subsidiary responsibility.
3) *Price-sensitive consumers*. Consumers need motivations to act as prudent purchasers of health insurance and search for insurance products that suit them best with the lowest price.
4) *Contracting freedom*. Regulated competition does not work if the prudent third-party purchasers, i.e. the insurers, do not have sufficient freedom in contracting with the health care providers. An insurer should be allowed to selectively contract with the providers, thus building its own provider network, and negotiate about content of the contract (e.g. price and quality).
5) *Enough health care providers*. If health care providers are scarce, they enjoy a natural dominant position, which prevents effective competition. In that case, the insurers have little choice but purchasing health care services from all the providers in order to attract consumers and avoid unacceptable long waiting time.

6) *Competition regulations*. Effective competition law and policy needs to be applied to the health insurers and providers. Cartels among the insurers and among the providers must be prohibited. Insurers and providers who hold a dominant position must be prohibited from abusing their dominant position. Competition-reducing mergers must be forbidden.
7) *Standardised benefit package*. Health insurance packages are complex products. It is hard for the consumers to understand the details of an insurance contract. If different insurers offer different insurance packages, it is hard for the consumers to compare them. To increase transparency and thereby increase competition on the health insurance market, it is necessary that the health insurance benefits are more or less standardised and can be easily compared and understood by the consumers.
8) *Effective product classification on the health provision market*. Health care services are rarely purchased on a single item basis. A simple health care intervention may be composed of a long list of health care procedures. To enable the insurers and the consumers to compare the price of the health care interventions, a clear and well-developed system of product classification is needed.
9) *Risk equalization schemes*. In a free competitive health insurance market, the insurers risk-rate their customers. This will make health insurance unaffordable for high-risk groups and will harm the principle of equity. If risk rating is prohibited, the insurers may use risk-selection as a tool to avoid the predictable high risks. A risk equalization scheme is designed to adjust the predictable profit/loss that the insurers can make because of their enrolees of different risks. Such a scheme (or other subsidy schemes) is necessary to compensate the insurers for their high-risk enrolees. This reduces the insurers' incentives for risk-rating and, in the case of premium regulations such as community rating, for risk-selection (Van de Ven and Ellis, 2000, van de Ven et al., 2003).
10) *Effective quality measurement*. Ideally as prudent third-party purchasers, the health insurers need to be able to purchase health care products of acceptable quality and competitive price on behalf of their customers. They also need to be able to regularly overview the quality of the health care services they purchase in order to make future purchasing plans. Therefore effective quality indicators of the providers need to be publicly available to the insurers.
11) *Consumer information*. Sufficient and effective consumer information needs to be available for the consumers. Consumers need to be aware of their entitlements and the freedom to choose. Effective consumer information in terms of price, products, and customer service of different insurers need to be generated by independent entities and be disseminated among individual consumers. Information about the quality of different health care providers is also essential for individual patients and insurers to make prudent choice.

12) *Appropriate government regulation*. The government needs to carefully balance between government regulation and market-force. Government intervention such as detailed planning of health care resource together with regulating the payment of the providers limits the power of competition in achieving efficiency. On the contrary, a health care market without a suitable level of government intervention can have problems of market failure and inequity. It is the responsibility of the government to set the rules of the game. For example, the government needs to set a clearly defined basic health insurance package to guarantee a certain level of entitlement of health care. Organising mandatory cross-subsidization is also the responsibility of the government to ensure a certain level of equity.

THE REGULATED COMPETITION REFORM IN RUSSIA

The Russian health care system before 1993

From the1920s, the Russian health care system was funded mostly through general taxation in a centrally planned system. Governments of different levels owned, funded and directly managed medical facilities. Federal level Ministry of Health set the funding for health care and then gave explicit budgets to sub-national governments. Budgets allocated to polyclinics (major providers of outpatient care) and hospitals were based on their capacity, i.e. the number of doctors and hospital beds, and were not related to their performance. Physicians were government employees and received fixed salaries according to their years of working experience and specialty. Private practitioners practically did not exist. Medical care services were free at the point of service, or at least in theory they should be. Each citizen was appointed to a polyclinic according to their place of residence as the first point of contact with the health care system. If necessary, doctors at polyclinics referred the patient to a higher-level facility. Consumer choice of providers was rare (Schepin and Sheiman, 1992).

Though the previous Russian health care system made great achievements in improving the health status of the Russian people, the system had noticeable problems with poor quality and inefficiency. Government set quantitative targets to hospitals and allocated the budget accordingly. Therefore, hospitals had strong incentives to increase hospital beds and fill the beds as much as possible in order to reach (or even exceed) the government target and asked for more government budget in the following year. Rate of admission therefore was around 25 per 100 residents (Sheiman, 1995). In comparison, average discharge from the hospitals in EU countries was only 7.46 per 1000 population (European Community, 2002). The high admission rate, in combination with extended length of stay, resulted in over-utilization of inpatient care: in the 1980s the number of hospital days per person in Russia was 2-3 times higher than in the West (Twigg, 1998).

Primary care physicians who worked for polyclinics lacked the incentives to treat the patients by themselves; they frequently referred the patients to specialists and hospitals. Referral rate was around 30%; much higher than that in UK and France (Sheiman, 1995). Waiting time was also a serious problem. Patients often had to pay under-the-table to doctors in order to move rapidly to the front of a queue or acquire services of better quality (Telyukov, 1991).

The government tried to solve the "scarcity" of hospital care simply by increasing hospital beds and employing more physicians. The number of hospital beds in Russia was on average 11.34 per 1000 population in 1997, much higher than the EU number of 6.95 in the same period (Twigg, 1998, European Community, 2002).

To cope with inherent structural ineqalities, in 1988 the Russian government initiated a pilot project: polyclinics were made fundholders. Medical funds were transferred to fundholders who had to pay for referrals out of their own funds. Implemented first in 3 regions and then in around 10 regions of Russia, fundholding schemes decreased the utilization of inpatient care and contributed much to enhancing structural efficiency. However, this project was stopped in 1991 with the collapse of the Soviet Union and substantial economic problems which have aggravated a traditional "residual approach" to health sector funding. The increasing problems with funding have intensified a search for a new health finance model.

The Russian health care reform

In 1994, the Health Insurance Law introduced mandatory health insurance (MHI) in the Russian Federation, with the aim of changing the health care system from a government provision model to a model of regulated competition among the insurers and the providers of care. MHI was set out to provide comprehensive coverage for all citizens and later updated to entitlements of specific population groups (Fotaki, 2006).

Purchasing of care and provision was separated through setting up health insurers, which were expected to become prudent purchasers of health care with the motivation and actual leverage to influence providers' performance, replace input-based allocation of resource by contracting and performance-based payment, and introduce more choice through competitive bidding. Competition among both the insurers and the providers deemed to be the major instrument of enhancing quality and efficiency. It was also expected that the benefit package would be more specific through setting an explicit border between free and non-free care.

Collection of funds in the new finance system is based on contributions of employers and the government. Contributions of employees and individual citizens have been rejected – mostly for political reasons. All citizens are allowed to select an insurer without contribution. In this case price-sensitivity does not exist.

The contribution rate for employers is low by standards of countries with the "classic" MHI model. At the start of the reform, it was 3.6 % of payroll, and changed many times in the following years, with a general downward trend. Currently it amounts to 3.1% of payroll, though it is planned to increase it to 5.1% in 2011.

Regional governments make contributions for non-working population (pensioner, unemployed, etc), but the law does not specify the specific rate of contribution. Although the federal government sets targets of contributions per capita, most of the regional governments do not follow them – some of them cannot (due to the low financial capacity), some do not want to (due to the low priority of the health sector). This has led to a great under-funding of MHI. The reform has been implemented in the situation of serious financial constraint: public health expenditure was limited to 2.8-3% of GDP. Only over the last three years this share has increased to 3.5% (mostly due to growing funding from the federal budget).

The system is operated by the Federal MHI Fund and 83[3] Regional MHI Funds. The former is responsible for equalization of regional funding; the latter for pooling contributions and then allocating them to competing insurance companies using a risk-adjusted capitation rate. In many regions, the Regional MHI Funds must work closely with the Regional Health Authorities (RHAs), though they are not directly accountable to the RHAs. A general and increasing tendency is for the centralization of employers' contributions in the Federal Fund, rising from 6% in 1994 to 35% in 2008. This reflects a growing concern about a substantial regional disparity in funding.

Each region builds its own system of MHI organization, with various roles of health insurers. Although most of the regulations on the MHI are federal ones, the regional implementation of the federal law was driven more by the RHAs than by the Funds themselves. Three regional models are presented in Table 1. The model originally planned, with competing insurance companies is not universal: in 1998 it was implemented only in 45% of Russian regions, though since that - mostly due to the pressure of the federal government - its coverage has increased to 77% regions. At the start of the reform many regional governments opposed to insurance companies and made Regional MHI Fund (and its local branches) the insurer - in 26% of regions in 1998, but then this share has de-

Table 1 Percentage of Russian regions with a specific MHI model*

Organizations acting as insurers in regional MHI systems	*1998 (%)*	*2005 (%)*	*2006 (%)*
Regional MHI Fund and its local branches	26	10	5
Branches of Regional MHI Fund and medical insurance companies	23	36	18
Only medical insurance companies	45	53	77

*The data for specific years refers to 83-88 regions

Sources: Shishkin (2000) Database "Implementation of Health Care Reform in Constituent Territories of the Russian Federation", at: http://www.healthreform.ru and http://zdrav.socpol.ru

creased substantially. As a sort of compromise some regions have chosen a mixed model with both the Fund and insurance companies in the role of insurers (18% of regions in 2006). The major argument for the non-competitive market structure in some regions is the high administration cost by too many intermediaries in MHI.

Even though the legislation allows and even encourages competition among the health insurers and providers, competition has not come naturally to the Russian health care system. One of the most important reasons of this failure is that the necessary pre-conditions for regulated competition were not designed well at the start of the reform and have not been fulfilled during the reform process (see Table 2).

Individual-level consumer choice among the health insurers is very limited. The employers choose the insurers on behalf of their employees. Starting in 2007, regional governments select insurers for MHI on behalf of non-working population on a competitive basis but with no role of individual level consumer choice. Sometimes competition among the insurers takes the form of competing on kickbacks to the managers and officials who have the power of making choice (Tompson, 2007).

Even in regions with high penetration of insurance companies, these companies do not bear substantial financial risks. According to the Health Insurance Act 1993, they are financially responsible for covering medical costs only "within the limit of the allocation from the Regional MHI Fund". An insurer can apply for subsidies from the Regional Fund if it spends more. If all insurers spend more than expected, the capitation rate that the

Table 2 Necessary pre-conditions for regulated competition and a checklist of Russia and China 2008

Necessary pre-conditions for regulated competition	*Russia*	*China*
Consumer choice	Rarely	Rarely
open entrance/exit	No	No
Price-sensitive consumers	No	No
Contracting freedom	Rarely	No selective contracting; Contents of the contract under negotiation between the HIBs and the providers.
Enough health care providers	Not enough high quality providers	No
Competition regulations	No	May not applicable
Standardised benefit package	No	No
Effective product classification	Not enough	Not enough
Risk equalization schemes	Not enough	No
Effective quality measurement	No	No
Consumer information	Not enough	Not enough
Appropriate government regulation	mixed, not appropriate	Not appropriate

insurers pay the providers of care is adjusted downwards (or tariffs for services become lower).

A large share of the providers' income relies on direct funding from regional and local government budgets, which cover fixed costs of health facilities (utilities, equipment costs). Insurers control less than 40% of public health expenditure. This fragmented structure of finance distorts incentives of the providers. They face contradictory signals sent by the government (input-based funding) and insurers (output-based). Providers tend to incline to the targets set by the government in order to obtain a more substantial budget (Tompson, 2007). The lack of funds also harms the ability of the insurers to improve quality of care and efficiency, even if they are motivated to do so.

The Russian government is presently making efforts in directing budgetary allocations to Regional funds to create a one channel financial system – mostly through MHI. This movement may resolve the problem of contradicting incentives, but it will greatly increase the authority of the Regional MHI Funds at the expense of RHAs, and will increase the power of the federal government in regional health care at the expense of regional authorities.

The barrier faced by private providers in entering the health care market is high because of the difficulties in getting license, and the premature capital market. Exit of the poor-performing public hospitals is also rare largely because of the protection by local governments (Sheaf, 2005). The MHI system is basically a cartel one. Tariffs are collectively negotiated by regional insurers association, providers association, and health authorities. The providers do not have freedom to set the price of health care services. Neither is there any freedom of benefit package variation in the MHI system. Voluntary health insurance is an isolated market, limited in scope.

Insurers have limited freedom to negotiate the volumes and quality of care with providers. A standard contract is used which does not contain volumes of care and specific requirements on quality of care. Insurers are supposed to control quality of care and protect the rights of the insured. These are their major functions (in addition to paying the providers). The insurers (mostly big ones) have made some progress in this area which justifies their existence in the MHI system. However, their capacity to influence service utilization and quality remains limited due to the lack of negotiating mechanisms and the focus on assuring a basic level of quality of health care provision, but not on enhancing the level of quality of the contracted providers. Most negotiating work is done by the RHAs, who actually act as the major purchasers of care with the insurers playing a secondary role.

Selective contracting is limited because many providers, particularly hospitals, are highly regionalised and often have a natural monopoly position. The usual contracting pattern for the insurers is to contract with all the providers in a given region.

There are different payment schemes for providers in Russia. For outpatient care, providers are mostly paid on a fee-for-service basis. Some regions (around 15%) use capitation payment and three regions implemented policlinic fundholding. For inpatient care, there is a general trend to a "finished case" payment: the tariffs are set for normalized length of stay for each detailed case and are based on clinical standards. Many regions group these cases into homogeneous clinically related groups or Diagnostic Related Groups (DRGs). In the regulated competition model, a clear and universal definition of the providers'"product" is needed. However, this is not met in Russia, where every region (and sometimes local areas within the region) uses its own version of "product" classification. Some regions use those methods together with global budget for hospitals. In recent years, there is a trend towards pay for performance. For example, in Kemerovo, Kaluga, Moscow oblasts process and outcome indicators are used for paying bonuses to outpatient care providers.

Regional funds allocate the funding among the health insurance companies on a capitation basis. The capitation is based on a simple equation related with only age and gender (Tompson, 2007). A more sophisticated risk equalisation system is needed to avoid the problem of risk-selection. The work on a new formula is underway.

Effective quality measurement is lacking in the present Russian health care system. Utilization review, if any, is done by the health authorities rather than the insurers, though there are some good examples to the contrary.

New incentives in the MHI have contributed to downsizing bed capacity and impatient utilization. The number of bed-days per capita decreased from 3.6 in 1997 to 2.9 in 2007. This is the result of decrease in both admission rate and Average Length of Stay. But there is still considerable inefficiency in the health system mostly due to problems in the low level of primary health care – its under-funding and lack of incentives. Health care services are still highly skewed towards expensive inpatient care, which consumes between 59-64% of public health spending in 2001-2007 (Marquez, 2008). There is also large regional disparity in terms of general health indicators and satisfaction with the health care system with the health care system.

Consumers are generally unaware of patient rights and their entitlements under the Health Insurance Law (Fotaki 2006). Consumer information about services of health insurers and providers practically does not exist. In 2006 an experiment promoting choice among maternity houses was initiated. Performance data on specific maternity houses was collected and made public, which is a first step to informed choice.

Thus after 17 years since the signing of the *Health Insurance Law*, the Russian government successfully separates the provision and purchasing of care. A multi-insurer health insurance system is set up. Providers are paid mostly for the actual volumes of care. However, the implementation of regulated competition has not been completed. Neither the insurance companies are competing for the insured, nor are the health care

providers competing for the insurers. Incentives for better performance and health gains are limited, which is a result of under-funding as well as poor design and inconsistent implementation of the reform.

CHINA'S HEALTH CARE SYSTEM

Brief overview

From the 1950s till the early 1980s, China's health care system had much in common with the pre-reform Russian one. Government funding (especially from the central government) was the major financing source of the health care system. Health care facilities were owned, funded and managed by the government. Physicians were government employees and received fixed salaries based on their years of working experience and specialty. Most citizens had their appointed providers based on their place of residence registration or the nature of their employers. The price of health care services was set by the government and was much lower than the real costs at the point of service based on heavy subsidization from the government.

Rural residents were encouraged to join Cooperative Medical Scheme (CMS). During the 1970s, CMS covered more than 90% of the rural population. Urban residents were covered by different health insurance schemes, such as Labour Insurance Scheme (LIS) for employees and their dependents, and Government Insurance Scheme (GIS) for students, government employees and their dependents.

Since the mid 1980s, the central government has stopped subsidizing the health care sector and decentralized this responsibility to local governments. The rule of subsidization was that the local governments should adjust the amount of subsidization according to their financial abilities. Not surprisingly, subsidies to the health care sector shrunk a lot. For instance, government subsidization to the 2nd Hospital of Wuxi City, Jiangsu Province shrunk from 25.4% to 3.3% of their total revenue during 1978-2007 (Cao et al., 2004). Furthermore, in order to enhance the providers' awareness of efficiency, the subsidies were changed from open-ended subsidization to fixed budgets. A study showed that with an inflation rate of 20% of the cost of health care services, the increase of governmental subsidization was only 8% during the 1990s (Hesketh and Zhu, 1997).

Subsidies from the government covered only the basic salaries of the physicians and hospital staffs, which is far below basic living costs. And the subsidies usually contributed less than 30% of the whole cost of the health care providers (Hesketh and Zhu, 1997). At the same time, the central government still held the power of setting the price of health services far below the real costs, with the goal being that basic health care is affordable for everyone. Responsibilities to fill the deficits were thrown to the hospitals and clinics themselves. Realizing this problem, the central government intentionally left

room for the providers to make profit. It distorted the pricing scheme of the health care services by setting prices of the "basic" health care services low but setting prices of the "high-tech" health care services far above the real costs. And the hospitals and clinics were allowed to have a 15% -20% mark-up for drugs[4].

Since the 1990s, the income of the physicians who work for public hospitals (majority of the Chinese hospitals are public ones) consists of at least three parts: basic salary paid by the government; bonus paid by the hospital; and under-the table payment from the patients. The basic salary for an ordinary physician is far below basic living costs. Under-the table payment, which is usually kickbacks from pharmaceutical companies or red-envelops with cash from individual patients, is illegal. Many physicians rely heavily on the bonus from the hospitals. It is decided that the bonuses relate to the revenue generated by the physicians or their department. This introduces an improper incentive for the physicians and the hospitals of inducing too much demand from the patient.

China's Total Health Expenditure as a share of GDP is 4.67% in 2006. Of this, government health expenditure took a share of 18.1%, social health expenditure 32.6%[5], and out-of pocket payment 49.3%. Per capita health expenditure in 2006 is 748.8 yuan (about US$ 93.6[6]). There is a large disparity in health expenditure between urban and rural population. With expenditure per capita of urban residents is 3.45 times of that of the rural residents in 2007 (Ministry of Health China, 2007).

Due to the market-oriented reform during the 1980s, the economic structure of social life was changed. That led to the collapse of CMS, LIS and GIS. Presently, there are three major health insurance schemes in China.

- New Cooperative Medical Scheme (NCMS) is a voluntary health insurance scheme covering rural population. The Ministry of Health (MOH) and its local branches have administrative responsibility for the scheme. At the end of 2008, the NCMS covered 815 million rural residents (61% of the total population in China) (Statistics & Information Centre, Ministry of Health 2009). However, the benefit level is low, only 1.58% of THE was spent from the pool of NCMS in 2006 (Gao and Han, 2007), though with some increase in more developed areas in recent years.
- Basic Medical Insurance Scheme (BMIS) is a mandatory health insurance scheme for urban employees and retirees. Administrated by the Ministry of Labour and Social Security (MOLSS[7]) and its local offices (Health Insurance Bureaus (HIBs)), the BMIS covered 180 million people (13% of the total population) at the end of 2008 (Zhang 2008).
- Urban-Resident Scheme (URS) is a voluntary health insurance scheme for children, students, and urban residents who are unemployed. Implemented since 2007, the Urban-Resident Scheme is still in its infant stage. This scheme is also operated by the Ministry of Human Resources and Social Security (MOHRSS) (the previous MOLSS) and HIBs. The population under this scheme is gradually expanding.

Pre-conditions of regulated competition and China's health care system

In this section, we examine whether the pre-conditions as mentioned in Table 2 are fulfilled in China.

Consumer choice

Urban dwellers are covered by health insurance schemes that are managed by municipal level HIBs, with the types of insurance schemes decided by the residents' status of employment. The MOH and its regional branches (local Department of Health) are in charge of NCMS for farmers who live in rural areas. There are only a few private insurance companies selling expensive unsubsidized health insurance products. Therefore, insurers such as the HIBs and Department of Health do not compete with each other and there is no consumer choice among either insurers or insurance packages in China. Competition among the insurers can be achieved through multiple methods, such as: allowing the local branches of the HIBs to expand their practice to other areas and finally to become independent institutes; or allowing private health insurers to enter the subsidized health insurance market, and create an environment of fair competition for both public insurers and private ones. Moreover, a HIB could act as a pure purchaser, and set the minimum benefit mandate on which multiple insurers compete to attract consumers.

As public hospitals are legally owned by the government, consumer choice among the providers is not effectively transferred into opening/closure of hospitals. The General Physician and referral system exists in a very limited scope. Licensed physicians mostly work for the hospitals.

Open entry and exit to the market

Due to the high requirement involved in opening a hospital, there is a substantial obstacle for entering the health provision market. Private for-profit health care facilities have been emerged in recent years, especially in large cities such as Beijing and Shanghai (Hou and Coyne, 2008). This might increase the supply of health care services and foster competition among the providers. Exit of the health provision market is rare because the state legally owns and funds public hospitals.

Social insurers in China are government agencies. They are under political pressure of reaching a certain percentage of insurance coverage among the population. The government sets limited budget for the insurers. Although HIBs do not go bankrupt in case of exceeding this budget, this will have negative influence on the career of the government officers who are in charge of the HIBs. Therefore, HIBs are motivated to keep large deposits in order to make sure that the risk pool is not financially unsustainable (Tian et al., 2008). When their expenditure is higher than expected, they try to shift the

risk to the insured. This can be done through higher coinsurance rate, and by manipulating the number and type of medication in the drug formula.

Incentives faced by the HIBs are complicated. While they are motivated to shift the risk to their enrollees, the NCMS and URS are voluntary insurance schemes, so people can choose to be unsubscribed. The insurers can hardly achieve their target of insurance coverage if health insurance is unaffordable or health care service is unaffordable even with insurance. Therefore, the insurers cannot shift too much risk to the insured. Changing the incentive mechanisms for insurers will be a challenge facing the Chinese government.

Price-sensitive consumers

China and Russia have similar ways of calculating health insurance premiums, which is based on a certain percentage of the salary of the insured and is not related to their choice of insurer (if there was any choice). Therefore, consumers are not price-sensitive with respect to their insurance package.

Contracting freedom

Chinese public hospitals have been constructed, as in Russia, on a highly regionalized basis. Providers hold natural monopoly positions in a certain region, especially in rural areas with low population density. Most of the HIBs in China are prohibited to selectively contract with health care providers, and are obliged to contract with all the willing providers once the providers meet some basic conditions. In the rural areas, selective contracting can be difficult to be realized due to the natural monopoly position held by the health care providers, even if it was permitted.

Out-of-pocket payment comprise 60% of the revenues of the health care providers in China (Eggleston et al., 2008a), which is higher than their Russian counterparts. In 2003, 70.3% of the population was still uninsured (Ministry of Health, 2008). Since 2007, the Chinese government has been working on the URS that covers urban residents who were not covered by health insurance previously. In rural areas, the NCMS is also covering more population based on increased government subsidies. The principle of the health insurance schemes in China, as stated by the government, is to have "low benefit level and wide coverage". It then becomes natural that copayment rate is still high, especially for the NCMS (Eggleston et al., 2008b, Hu et al., 2008).

A large proportion of uninsured people, as well as a high level of under-insurance, harms the negotiation power of HIBs in China. The insurers and the health care providers can negotiate about the contents of the contracts, but the government sets the pricing scheme for non-for-profit hospitals and allows little room for differentiated pricing. Although private for-profit hospitals have pricing freedom, in 2007 their share was only 3% in the health care provision "market" in terms of the number of hospitalized patients

(Ministry of Health of China, 2008). Therefore, pricing freedom of the health care providers is limited in China. In order to create an environment of pricing freedom, the Chinese government first has to set a more realistic pricing scheme, reflecting the resources and risk involved. Secondly, the service volume (wholesale vs. retail medical service) and the formation of a "preferred provider network" for selected specialty care should be recognized as part of the negotiation power of health insurers in order to obtain price discounts.

Number of health care providers

There exists a large disparity in the amount of health care providers across different regions in China. In Jiangsu province, one of the most wealthy coastal provinces in China, the number of licensed physicians per 1000 population is 1.56 in 2007 (Deparment of Health Jiangsu Province, 2007), while the figure is only 0.95 in Gansu province, one of the least developed western provinces (National Bureau of Statistics of China, 2007). Even in the more wealthy provinces, the number of licensed physicians per 1000 population is smaller compared with that in the Russian Federation (4.31 in 2006), and other developed countries, such as the Netherlands (3.71 in 2005) (WHO, 2007).

Competition regulations

China's National People's Congress passed a new Anti-Monopoly Law (AML) in August 2008. However, this law does not apply to social sectors that are crucial to people's welfare. Although health care sector is not explicitly exempted by the AML, public hospitals are considered to be highly related to social welfare and thus may be exempted. Therefore, there might be no valid competition regulation that can be applied in the health care sector in China.

Standardized benefit package

A universal standardized benefit package does not exist in China. The principle of health insurance in China is that each HIBs sets the benefit package according to the level of economic development in the local setting in order to maintain the balance of the pool. Therefore, the entitlement of the insured varies by area and over time.

Effective product classification

In most cases, the HIBs know little about the quality of health care services, except for several general indicators such as in-hospital mortality or 2-week readmission rates. Hospitals organize quality assurance programmes internally, but do not make quality indicators available to insurers or consumers. Therefore, quality assurance (or enhancing) programs of this kind cannot contribute to more prudent purchasing behavior of either the insurers or the potential patients. A utilization review should be undertaken

by the HIBs but is rarely done because they are not empowered to enforce providers to cooperate.

Risk equalization schemes

The concept of risk equalization schemes is brand new in China. If competition among the insurers is introduced in the health insurance sector, individual data about health services utilization/expenditure needs to be collected. Techniques and experiences about risk equalization schemes need to be gained in China.

Consumer information

Consumer information is scarce in China. Individual consumers know little about the service of the insurers and the quality of the health care providers. Consumer choice among health care providers is based on their perceived reputation and the "level" of the providers. However, the "level" of providers might be an inaccurate indicator of quality. This is decided by the health authorities and is not based on their quality of care but on their capacity to provide care. One improvement is that health insurers in several cities are now sending "insurer staffs" to their contracted hospitals, in order to spread consumer information about insurers among the patients, and to collect information about quality of care.

Appropriate government regulation

Local governments in China are still subsidizing public hospitals, though the extent of subsidization is relatively small compared with that in Russian. During the 1980s and 1990s, the Chinese government put much effort into pushing public hospitals towards a market approach. Unfortunately, the Chinese government was not successful in setting the rules of the game. For example, pricing schemes for public hospitals have long been considered as inappropriate and one of the major reasons of inducing the physicians to over-utilize expensive high-tech examinations. The pharmaceutical policy results in over-prescription of antibiotics and expensive drugs (Ge and Wang, 2005). Cross-subsidization across regions is poorly organized due to weak financial ability of the central government compared with the local ones. Even in the same region, cross-subsidization among those of different social economic status is not well organized because people of low social economic status, such as dependents of the employees, migrant and informal sector workers, are not covered by any insurance schemes (Center of Statistics Information Ministry of Health China, 2005). The good news is that with the recent implementation and development of URS, these populations are gradually covered by health insurance with subsidies from local governments.

DISCUSSIONS

Lessons from the Russian health care reform

It has been 17 years since the Health Insurance Act 1993 was passed in Russia. However, currently competition cannot be observed among either the insurers or the providers. This lack of competition is not surprising since most, if not all, of the necessary preconditions for regulated competition are not fulfilled in Russia. If the Chinese government decides to employ regulated competition in the health care sector, the following lessons can be drawn from the Russian experience.

Firstly, direct payment from insurers to providers should forma significant share of Total Health Expenditure in order to reap the benefits of an insurance-based health care system. In Russia, payments based on a contractual relationship between insurers and providers form a relatively small share of public health expenditure, compared with the share of government funding to the providers. Insurance companies are therefore deprived of the power of effectively negotiating with health care providers for better care and lower price, even if they are allowed to do so (Tompson, 2007). In China, the share of out-of-pocket payment in Total Health Expenditure was between 50% to 60% from 2001 to 2004 (Zhao et al., 2007). The Chinese government needs to ensure that a larger share of payments to providers come directly from the insurers, if the role of the competing insurers as prudent third-party purchasers is to be realized in the health care sector.

Secondly, the government should be willing and prepared to let the market force work in the health care sector. Furthermore, the central government must have enough tools to enforce and supervise the implementation of the law. In Russia, local governments in large parts of the country have not fully implemented the Health Insurance Act 1993. This shows the unwillingness or incapability of the lower level governments to encourage competition among the health insurers and health care providers. It also shows that it is important to get support from the majority of the actors before a policy is made. In Russia the central government seems to be somewhat weak when local governments do not behave according to the Health Insurance Act 1993, and it has no effective tools to supervise the implementation of the law by local governments.

This is a problem also facing the Chinese government. If it is determined to introduce any health care reform, effective tools need to be created to help implement relevant laws. The present proposal (State Council of China, 2009) about health care reform in China is characterized by conflicts and negotiations among several key actors in the health care sector, such as MOH, MOHRSS, Ministry of Finance, and the National Development and Reform Commission. The Chinese government should ensure that major stakeholders, such as the insurers, the health care providers, the population, and the local governments, do not obstruct the proposed reforms.

Thirdly, when implementing regulated competition in the health care sector, the government needs to change its role from an active player in the health care system to a collective sponsor who sets the rules of the game and organizes cross-subsidization. The Russian government is still heavily involved in collecting premiums; local governments are still budgeting health care providers in their present health care system. This direct involvement of the government becomes an obstacle for effective competition among health insurers and among health care providers. At the same time, the Russian government is not effectively organizing cross-subsidization. The Chinese government has also been directly involved in the health care delivery system for six decades. If competition is going to be introduced in this sector, the Chinese government needs to step back and act as a regulator rather than a front-line player. And the Chinese government also needs to pay more effort in organizing cross-subsidization across regions and across population of different socio-economic status.

Fourthly, generating enough public resources is a must in implementing any health care systems that aims to enhance the efficiency and ensure a reasonable level of equity. The Russian health care system has been reformed in a situation of under-funding (2.8% - 3% of GDP in 1991-2002, and 3.4% of GDP at present). Under-funding from the government will inevitably lead to a large share of private spending. Powerful third party purchasers are difficult to be introduced in this context. Besides this, in case of Russia and China, where the sponsor is a public entity, enough pubic resources are needed to organize cross-subsidization both among regions and sub-populations.

Fifthly, introducing proper incentives is as important as structural reforms. Through introducing MHI funds and multiple insurance companies in the health care system, the structure of the Russian health care system has been changed since 1993 (at least in the model areas). However, the complicated relationship between the Regional MHI Funds and the RHAs generates mixed incentives for health insurance companies as well as health care providers. Without proper incentives, competition cannot come naturally in the health care sector. If the Chinese government is going to change its health care system into an insurance-based one and is going to introduce effective competition among the health care providers, proper incentives for both the insurers and providers are needed.

Finally, it is important to disseminate consumer information via multiple channels. Although consumers are entitled to the right of making choice among the insurers in Russia, Fotaki (2006) found that consumers are generally not aware of this entitlement, or of consumer information about services of the insurers and providers. In China, generating and disseminating information about services and price of the insurers and the providers by independent entities is a must if any competition mechanisms are going to be introduced in the health care sector.

Prospects for regulated competition for the Chinese health care system

The prospects for regulated competition in the Chinese health care system depend on whether the Chinese government is willing and able to fulfill the necessary preconditions for regulated competition. The culture of "the employer decides on behalf of the employees" in the Soviet-era has been changed in China for more than three decades. Consumers are used to be independent in making a choice. We can anticipate that actual individual level consumer choice among the health insurers can take place if the government allows this. However, consumer choice does not necessarily lead to efficiency if multiple insurers are not competing. The HIBs are presently government branches and are under mixed motivations. Therefore, introducing effective competition among the insurers is a great challenge for China.

As China has gradually expanded its health insurance schemes, demand-side cost sharing has been implemented aggressively. With out-of-pocket payments forming 30–50% of medical expenditure, Chinese consumers are sensitive to medical prices, especially those of new medical technology that will penetrate most of the as yet underdeveloped regions in China. Moreover, as benefit schemes are not comprehensive, there will be opportunities for insurers to target newly-added health benefits to minimize moral hazard through high co-payments or high deductible schemes. Making consumers price-sensitive might not be difficult technically, but if the government subsidizes consumers to make health insurance affordable, the subsidies should be such that the consumers are price-sensitive at the margin.

Making the consumers price-sensitive might technically not be difficult, but if the government subsidizes consumers to make health insurance affordable, the subsidies should be such that the consumers are price-sensitive at the margin.

The number of private health care providers has a trend to increase in large cities, partly because policies regarding the entrance of providers have been loosened in recent years (Hou and Coyne, 2008). However, whether this trend can be maintained is still doubtful. Private for-profit (PFP) hospitals are facing much higher taxation than their non-for-profit (NFP) competitors. At the same time, PFP hospitals do not receive subsidies from the government as public hospitals do. These policies place the PFP hospitals at a disadvantage if they have to compete with the NFP ones. Therefore, most of the PFP hospitals choose to change to being NFP after the three years of tax-exempt period (Hou and Coyne, 2008). The fiscal policies regarding PFP hospitals might become obstacles for new enterers. In the urban areas, even if no more private enterer the health provision market, the number of providers is already large enough for a competitive market. At the same time, investors whose major aim is to make profit might not invest in poor rural areas with low population density and weak purchasing power. In China, whether real and fair competition among health care providers can be introduced largely depends on

the incentive mechanisms faced by the providers and the existence of a valid competition law.

Presently, patients in China have freedom (or relative freedom) to choose among providers. However, consumer choice without effective information is one of the major reasons that patients crowd into tertiary hospitals only to treat a cold (Xinhua Net, 2009). Although consumer choice among insurers is not an issue now, consumer information will become important if the Chinese government chooses to introduce competition among insurers. An independent entity is needed to help produce, update, and channel down effective information about price and quality of health insurers as well as health care providers.

In a spectrum from the government provision model to the regulated competition model, there are lots of alternatives in organizing the health care system. However, a perfect model does not seem to exist. In implementing each model, certain pre-conditions are to be fulfilled and trade-offs are to be made. Although regulated competition is a theoretically sound model, it is a technically complicated one. The experience of the Russian health care reform is a signal to Chinese policy makers that certain pre-conditions need to be fulfilled.

Implementation strategies need to be carefully considered in a reform towards the model of regulated competition. In the Netherlands regulated competition has been implemented for over two decades. The government recently published a report and announced that the health care reform is on balance a positive one, though there are still problems, such as bottlenecks for purchasing care by the insurers, insufficient risk equalization, and insufficient consumer information (van de Ven et al., 2009). Pro-competition policy makers who are interested in regulated competition in the health care sector need to be aware of the technical and political complexity of this model. At the same time, learning lessons from other countries will facilitate the Chinese government to avoid mistakes and implement health care reforms successfully.

ENDNOTES

[1] Path dependence explains how the set of decisions one faces for any given circumstance is limited by the decisions one has made in the past, even though past circumstances may no longer be relevant (Bebchuk and Roe 1999).

[2] There must be sufficient consumer protection in case of bankruptcy of insurers and providers of care.

[3] The number of regions was more than 83 at the beginning of the reform (in 1993 there were 89 regions listed). With the merging of regions, there have been 83 regions in Russia since 2008 (Wikipedia contributors, Federal subjects of Russia, 2010).

[4] In China, all hospitals and clinics own and operate pharmacies.

[5] Social expenditure is public expenditure through earmarked employer/employee contributions.

[6] The 2006 exchange rate for yuan to US$ was around 8:1.

[7] In March 2008, the MOLSS was re-organized and renamed as the Ministry of Human Resources and Social Security (MOHRSS).

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Chapter 4

What can China learn from the regulated competition reform in the Dutch healthcare system?

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ABSTRACT

The Dutch government has been implementing the reform of regulated competition in the healthcare system for decades. Such a reform aimed at a balance between equity and efficiency. In this paper, experiences from the Dutch healthcare reform of regulated competition are described and analyzed according to the Chinese context. The Chinese government needs to fulfill a list of pre-conditions to make competition in the health-care sector successful. And the reform of regulated competition may be a politically and technically complicated process. There are some important lessons that China can learn from the Dutch reform: first, strategy of the reform must be consistent in a long term; second, fundamental reform is not necessarily taken in the form of dramatic change in the system; and last, to introduce market mechanism into China's health reform, some pre-conditions are required.

KEY WORDS: regulated competition, healthcare system, government, market, Netherlands

1. INTRODUCTION

Since the early 1980s, China has virtually dismantled the previous system, in which physicians were employees of hospitals and the government planned, owned, funded and managed healthcare facilities. One direct result is that most Chinese healthcare facilities are "profit"-oriented, though their legal characteristic is still state-owned (Blumenthal, Hsiao 2005). In addition, health insurance schemes, both in the rural and urban areas, became unsustainable. These developments were openly acknowledged by the government to be a failure (Ge 2005). Presently, problems with "accessibility" and "affordability" are two major sources of complaints in China.

In April 2009, the central government of China committed to significantly increase governmental funding in the healthcare sector and considered creating competition in the healthcare sector (State Council of China 2009). Two years have passed; there has been yet no clear answer of how to create value with the new investment. This wave of healthcare reform faces substantial challenges. One of the focuses of debate about the reform is whether the government should subsidize the supply side (healthcare providers) or the demand side (health insurers or patients). If the government would subsidize the demand side, should there be competing or non-competing health insurers? In fact, the 2009 blueprint mentioned the option of allowing competition among social health insurers, and even allowing private insurance companies to enter the health insurance market, which is currently dominated by public insurance agencies.

Allowing competition in the healthcare sector is a complex process, experiences and lessons can be learned from an international perspective. In the Netherlands, the government has been paying efforts on reforming its healthcare system from a highly regulated and planned one into a regulated-competitive one for two decades. Valuable lessons can be learned from the Dutch experiences.

In section 2, the pre-reform Dutch healthcare system is briefly introduced in order to identify the reasons and the motivations for a change towards regulated competition. In section 3, we describe the reforming Dutch healthcare system. We also analyze the political process of this prolonged reform. To what extent regulated competition is functioning now and to what extent the pre-conditions for regulated competition are fulfilled after 20 years is also nalysed in this section. In section 4 we give a picture of the current situations of the Chinese healthcare system, by checking the prospects of fulfilling the pre-conditions of regulated competition in China. In section 5 we deal with the lessons that China can learn from the Dutch experience in its healthcare reform in the past two decades.

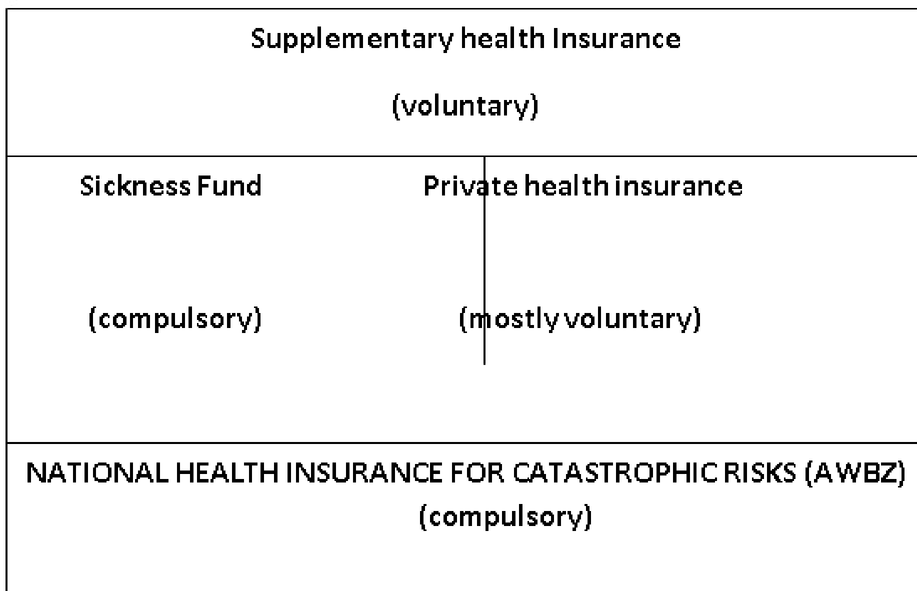
2. THE PRE-REFORM DUTCH HEALTHCARE SYSTEM (BEFORE 1990)

2.1 The health insurance sector

The Dutch healthcare system has been historically organized on private initiative in both funding and provision of care. Before 1940, there was practically no governmental intervention with respect to health insurance and providers. From 1940 to 1970, the Dutch government focused on promoting public health, guaranteeing a minimum level of quality, and ensuring universal access to basic health services. In 1941, a mandatory health insurance scheme for low- and middle-income groups was introduced. Coverage included physician services, prescription drugs, and hospitalization less than one year, maternity care, dental care for children, some paramedical care, and some medical devices. In 1968, Exceptional Medical Expenses Act (AWBZ) that covers long-term care, care for the mentally and physically disabled, and hospitalization for longer than one year, was passed and constituted a mandatory national health insurance scheme (van de Ven, Schut 2008).

After many waves of reform, The Dutch health insurance system in 2000 could be illustrated by Figure 1.

Figure 1 The Dutch health insurance system 2000



Source: (van de Ven and Schut, 2000) p. 31

The first compartment was a mandatory national health insurance AWBZ. Premium of AWBZ was income-related up to a certain income-level. Regional care offices took the responsibility of administering the AWBZ and borne no financial risk for that.

The second compartment consisted of mandatory sickness fund insurance for low- and middle-income groups (62% of the population) and the voluntary private health insurance for people exempted from mandatory sickness fund insurance.

Almost all sickness funds had a regional monopoly position due to a legally established territorial division of the market before 1992. The government set a uniform benefit package. Premiums of the sickness fund were to a large extent income-related and were paid to a central fund administrated by the Sickness Fund Council. Sickness funds were retrospectively fully reimbursed for the medical expenses of their enrollees. Therefore, sickness funds were purely administrative bodies bearing no financial risks.

The insured with private health insurers had consumer choice among competing private health insurers operating in the Netherlands (about 50 in 2000). Private insurers were allowed to risk-rate their enrollees, and there was no requirement of open-enrollment. Historically, the benefit package of sickness funds and private insurers was basically the same. The insured with either kind of insurers used mostly the same facilities and doctors, and waited in the same waiting line. Therefore, services received by the insured were of little difference. There was little government regulation on the private insurance market until the mid-1980s. Price competition among private health insurers led to cream-skimming by insurers and adverse selection by consumers. The elderly and high-risk groups faced the risks of being uninsured due to high premiums. Since 1986, the Health Insurance Access Act (WTZ) has been adopted to guarantee a comprehensive benefits package and a legally determined maximum premium for specified risk groups. Losses of the private insurers caused by the law were levied on all private insured (Schut 1992).

The third compartment consisted of voluntary supplementary health insurance coverage with risk-rated premium. Supplementary health insurance covered health services not included in the first and second compartment, such as luxury services within a hospital, prolonged physical therapy, and some alternative medicine.

The private insurance market was a competitive one, which only applied to about one third of the insured population. With no variation among health insurance products for AWBZ and sickness funds, no variation in price of health insurance package for sickness funds insured, and no consumer choice among sickness funds before 1992, the Dutch health insurance system was dominated by government-regulated cartels of insurers.

2.2 The healthcare delivery sector

There is a sharp distinction between general practitioners (GPs) and medical specialists in the Netherlands. The GPs are mostly the patients' first contacting point with the healthcare system and act as gatekeepers of the healthcare system. Individuals can

choose among GPs and are supposed to register with a GP. Most GPs work in solo practices. Sickness funds usually reimbursed GPs on a capitation basis, while private insurers usually paid GPs Fee-For-Service (FFS). The insured can be reimbursed by the insurers for services from medical specialists only when they are referred by their GPs.

Most general hospitals are private non-profit institutions. About 75% of the medical specialists are private practitioners who co-operate in hospital-based partnerships. Most medical specialists were paid FFS regardless of the type of health insurance schemes before 1980.

Despite the private basis of the Dutch healthcare delivery system, inflation of healthcare expenditure forced the Dutch government to heavily regulate on price and supply of care since mid-1970s. Based on the Healthcare Tariffs Act (WTG) 1980, the Central Office on Healthcare Tariffs (COTG) set out guidelines for the composition and calculation of tariffs. Actual charges were negotiated between representative organizations of providers and insurers based on the guidelines and then had to be approved by the COTG. The open-ended hospital reimbursement system was replaced by a budgeting system. The Healthcare Prices Act (1982) enabled the government to control physicians' fees and also their total revenues. By the mid-1990s, the traditional FFS system was largely replaced by a "lump-sum payment" per hospital for all specialists working in that hospital. The hospital sector was heavily regulated by the government. Construction of new hospitals and all other major hospital investments were subject to approval by the government (van de Ven, Schut 2000). Furthermore, the Dutch government indirectly controlled the output of healthcare services via controlling the supply of physicians.

In short, the Dutch health delivery system was highly regulated by the government in terms of price (tariffs) of care and capacities of production. And there was very limited room for the providers to compete with each other. As a result, the pre-reform Dutch health delivery system was also characterized by government-regulated cartels of providers.

3. REFORM TOWARDS REGULATED COMPETITION IN THE NETHERLANDS (1990 – PRESENT)

3.1 Motivations of the reform

Under heavy governmental regulation, the Dutch healthcare system was characterized by a lack of incentives for efficiency. None of the involved parties: such as, consumers, insurers, and providers of care, had any financial incentives for efficiency. In many cases, the financial system was actually rewarding inefficient behavior and punishing efficient behavior.

Due to the complexity of the planning process, the many parties involved, their conflicting interests, and lack of clarify of the regulation, the Dutch government was also not able to effectively regulate the healthcare.

The Dutch health insurance system had problems, such as the different premium structures for different insurance schemes, cream skimming and adverse selection in the private health insurance market. These problems jeopardized the goal of universal health insurance set by the Dutch government.

These problems motivated the Dutch government to consider a fundamental reform in the Dutch healthcare sector (van de Ven, Schut 2000).

3.2 Regulated competition and the Dutch progress from 1990 to 2008

Inspired by Enthoven's Consumer Choice Health Plan (Enthoven 1978) and first proposed by Dekker Committee, the Dutch government has been implementing regulated competition, which aims to obtain a balance between equity and efficiency, in its healthcare system since 1988.

The key point of the regulated competition model is to allow competition among both the health insurance market and the health provision market. Consumers have free choice among competing health insurers, who act on behalf of their enrollees and purchase healthcare services among competing healthcare providers. In an unregulated competitive market, competing insurers and healthcare providers have incentives to adopt some strategies for profit, including risk rating, adverse risk selection and some hidden forms of it, and preventing potential competitors from entering the market. To prevent these strategies, which may lead to market failure, there needs to be a sponsor, who has the willing and ability to regulate the market and to guarantee equity, on behalf of the consumers. The role of such a sponsor is normally taken by the government, employer, or other entities.

Due to historical reasons, healthcare sector in the Netherlands was far from a fertile ground for competition. Therefore, the first decade of the reform was not actually to make competition work in the Dutch healthcare system, but rather to create a workable environment for competition (Schut 1992). In other words, the Dutch government has been engaged in fulfilling the theoretical pre-conditions for regulated competition.

In the following part, we check the procedure of fulfilling the pre-conditions of regulated competition model in the current Dutch healthcare system.

1) Giving right of choice to price sensitive consumers.

Individual consumers need to have the right to make a free choice among insurers.

From 1992 sickness funds are permitted to extend their operating areas and enrollees have the chance to choose another sickness fund once in a year (van de Ven, Schut 2000). Also in 1992, several private health insurance companies and a large employer

got permission to establish new sickness fund organizations. This was a signal of opening the market of sickness fund and introducing multiple insurers in a given market. It indicated potential competition among sickness funds based on flat premium, quality, their contracted providers, services, responsiveness, and reputation.

Since 1 January 2006, the Health Insurance Act has obliged everyone who legally lives or works in the Netherlands to buy individual private health insurance, with a legally prescribed benefit package, from a private insurance company (van de Ven, Schut 2008)[1]. The difference between sickness funds and private insurance companies has been abolished. All health insurers are required to accept any willing consumers for mandatory health insurance benefit with the same community-rated premium. Consumers can now freely choose among health insurance companies (including sickness funds) on a yearly basis.

It is also expected that consumers are sensitive to the difference among premiums of insurance companies. Since 2006, consumers' payment for their health insurance can be divided into two parts: the first part, which is correlated to the individual income, is paid to the central risk equalization fund; the second part is paid directly to the insurance companies of their choice. Consumers may also choose to purchase supplementary health insurance, of which price is unregulated and therefore may be risk-rated.

2) Risk-bearing insurers.

Even with multiple insurers and consumer choice, insurers need to have incentives to compete. Financial incentive is the most straightforward one.

During the period 1941-1991, all sickness funds were fully reimbursed for their medical expenditures. From 1993, the retrospective cost reimbursement was gradually replaced by risk-adjusted premium subsidies from the central risk equalization fund plus flat rate premium contribution from their insured. This implies that sickness funds changed their role from pure administrative bodies to risk-bearing entities. However, the government decided to compensate a large portion of the incurred losses of the sickness funds until the risk-adjustment method was improved. The actual financial risk for sickness funds was only 3% in 1993 (van de Ven, Schut 2000).

In May 1995, the Dutch government announced an increase of the financial responsibility for insurers and sickness funds. It was also on the agenda of the government that the financial risk of 3% of the difference between the actual expenses and the predicted expenses (based on age, gender, region, and disability) of the sickness funds will be increased to about 65% in 1998. However, the sickness funds' financial risk in 1998 was about 29%, which is far below the government's plan. In 2000, the sickness funds' financial risk was increased to about 36%.

1. The financing and coverage of AWBZ was not changed in 2006.

Private health insurers always bore financial risks for their operation, except for the WTZ-insured enrollees since 1986. According to European regulation, the government is not allowed to enforce private insurance companies to accept insured who will predictably generate a loss, such as in the case of an open enrolment requirement for a standardized benefits package with community-rated premiums and without and adequate risk-adjusted system for subsidies. However, the private insurance companies opposed any form of risk-adjusted premium subsidies (van de Ven and Schut, 2000).

Together with improvement of the risk-adjustment schemes, the health insurers'[2] financial risk was increased to 59% in 2008, and 75% in 2010.

3) Contracting freedom.

Regulated competition does not work if prudent third-party purchasers, say the insurers, do not have sufficient freedom in contracting with healthcare providers. Insurers should be allowed to selectively contract with the providers and negotiate about content of the contract (e.g. price and quality).

From 1941 to 1993, sickness funds were required by law to contract with all the providers who wanted a contract. Since 1994, selective contracting with physicians and pharmacists was allowed. However, sickness funds seldom used the opportunity of selective contracting except for contracting with physical therapists.

Negotiation over lower fees of healthcare services between the sickness funds/private insurers and the providers was allowed from 1992. Sickness funds successfully made use of this tool and broke the price cartel of providers of some medical devices. As a result, prices went down by a quarter to a third.

Since 2005, prices for physiotherapy are no longer regulated. Although the providers are still heavily regulated by the government, insurers and providers gradually get more contracting freedom over prices, service, and quality of care. Insurers and hospitals are allowed to freely negotiate about prices and selectively contract for a range of products accounting for about 34% of hospital revenues in 2009.

Insurers are also allowed to operate forms of managed care such as Health Maintenance Organizations (HMOs).

4) Sufficient risk-bearing healthcare providers.

The number of physicians per capita in the Netherlands was 3.8 per 1000 population in 2006, slightly above the OECD average of 3.1. There were 8.6 nurses per 1000 population in the Netherlands in 2006, lower than the average of 9.7 in OECD countries. The number of acute care hospital beds was 3.0 per 1000 population in 2006 in the Netherlands, less

2. The differences between sickness funds and private insurance companies have been abolished since 1 January 2006.

than the OECD average of 3.9 beds (OECD, 2009). The Dutch government has been deregulating the entrance of the market for healthcare providers. From 1992, GPs are free to open a practice wherever they want. In May 1995 the Dutch government announced to deregulate the Hospital Planning Act, though large-scale investments related to hospital building still need permission from the government.

The Dutch government is still heavily regulating the price and capacity of production on the supply side. As a consequence, the providers were not confronted with large financial risks. Since 2008, the government gradually loosens the regulation on the providers in terms of price of care and allows the insurers and the providers to negotiate over the price and quality for some services (van de Ven, Schut 2008). In 2009, hospitals are allowed to set prices for about 34% of hospitals services under a government-determined price cap. This also means that the hospitals will be more financial risk-bearing than in the past.

5) Effective product classification.

Health insurance package is often a bundle of entitlements given to the consumers with a price. Therefore, consumers need to be able to compare the price of the health insurance package effectively with the help of effective product classification. Similar to the insurance package, healthcare services are rarely purchased on a single item basis. A simple healthcare intervention may be composed of multiple healthcare procedures. The insurers also need to be able to compare the price of the healthcare services with a well-developed product classification of healthcare services.

The mandatory health insurance has a standard benefit package for all individuals and insurers. Supplementary health insurance can vary according to benefit package and premiums.

Inpatient services provided by hospitals and physicians are paid for mostly on the basis of Diagnostic Treatment Combinations (DTCs) (Enthoven, van de Ven, W. P. 2007).

6) Effective risk equalization schemes.

In a free competitive health insurance market, insurers want to break even on each contract. They either risk-rate or risk select their customers. This will make high-risk groups under-insured and harm the principle of equity. Therefore, a risk equalization scheme (or other subsidy schemes) is necessary to compensate the insurers for their high-risk enrollees. An effective risk equalization scheme removes the insurers' incentives for risk-rating and (in case of premium regulations such as community rating) risk-selection.

From 1993, sickness funds receive risk-adjusted premium subsidies from the Central Fund, in addition with a flat rate premium paid by their enrollees. The risk adjustment system has been gradually enriched since its emergence in 1993. From 1993 to 2002, the risk equalization payments were primarily based on age, gender, indicators of disability,

and social-economic status. Because of the insufficient risk-adjustment scheme, the government compensated sickness funds for the losses from extreme high expenditures of high-risk insured and a significant portion of actual expenses above a certain threshold amount per insured per year. In 2002, Pharmacy-based Cost Group (PCGs) was added in the risk adjustment scheme; in 2004, Diagnostic Cost Groups (DCGs) and being self-employed (yes/no) have been added (Enthoven, van de Ven, W. P. 2007). Along with these improvements, financial risks borne by health insurers have been gradually increased.

7) Effective quality measurement.
Ideally as prudent third-party purchasers, health insurers need to be able to purchase healthcare products of acceptable quality and competitive price on behalf of their customers. They also need to be able to regularly overview the quality of the healthcare services they purchase in order to make future purchasing plans. Therefore effective quality indicators of the providers need to be available to the insurers.

Dutch healthcare providers traditionally self-regulated the quality development. The Quality Institutions Act 1995 offered a simple framework for quality assurance and improvement. Although without decisions regarding specific tools and procedures, the Act mandated that every profession or organization in healthcare set standards for optimal care; develop strategies for monitoring and improving care; and create systems to enable public reporting to the healthcare inspectorate, through an annual quality report, and to patient organizations (Grol 2006).

In the last 15 years, there has been an effort to develop, test, and validate indicators, assessment tools, and instruments used in measuring clinical performance of general practitioners under the pressure from stakeholders such as the government, inspectorate, payers, and patient organizations.

There are certain evaluations which are focused on medical specialists and other hospital professionals. Specialist societies run regular and compulsory appraisals of specialist teams with well-developed and validated procedures and criteria. Since 2006, the inspectorate for healthcare has obliged the hospitals to collect data on some performance indicators, including mortality after myocardial infarction or stroke, wound infection, pressure ulcer incidence, and medication errors. These results are publicly reported on a freely accessible website (www.kiesbeter.nl).

8) Sufficient consumer information.
Sufficient and effective consumer information needs to be available to the consumers. Consumers need to be aware of their entitlements and the freedom to choose. Effective consumer information in terms of price, products, and services of different insurers need to be generated by independent entities and be disseminated among individual

consumers. Information regarding healthcare services of different healthcare providers is also essential for individual patients and insurers to make prudent choice.

The Dutch government set up a website where consumers can get information about health insurers and providers (www.kiesbeter.nl) a few years ago. Information about health insurers includes price, services, consumer satisfaction, and supplementary insurance (premiums and benefits). Information about providers includes different sets of performance indicators developed by the Healthcare Inspectorate (IGZ). Besides this website, the newly established Netherlands Healthcare Authority (NZa) is also responsible to provide adequate consumer information.

9) Effective competition regulations.

Effective competition law and policy need to be applied to the health insurers and providers. Entrance and exit of the health insurance market and healthcare market should be allowed and be made possible in practice. Cartels among insurers and among providers must be prohibited. Insurers and healthcare providers who hold a dominant position must be prohibited from abusing their dominant position.

On January 1st, 1998, a new Competitive Act (Mededingswet) became effective. With this more powerful anti-monopoly law, anti-competitive behaviors by health insurers and healthcare providers were better regulated than in the past.

4. THE FULFILLMENT OF THE PRE-CONDITIONS IN THE CHINESE HEALTHCARE SYSTEM

4.1 No room for competition and financial risk for social health insurers

Urban employees are obliged to be enrolled with a mandatory scheme that is managed by the local Health Insurance Bureau (HIB). Unemployed people and rural residents have an option to be insured by a voluntary scheme that is managed by the local HIB and health authority respectively. There are few private insurance companies selling health insurance products. Insurers such as the HIBs and Department of Health do not compete with each other and there is no consumer choice among either insurers or insurance packages in China.

Insurers in China are governmental bureaucracies. Local insurance agencies keep large amounts of deposits in order to avoid any financial risk. They have no incentives to lower the premium or expand benefit package with the large deposit (Lu, Wang 2010). And once the health expenditure is higher than their expectation, they shift their risk to the insured by increasing the level of copayment.

4.2 No financial risk and rigid capacity planning for public healthcare providers

Chinese public hospitals have been constructed on a highly regionalized basis. The government set guidelines of healthcare facility planning that aimed at controlling the number of healthcare facilities, as well as hospital beds and health workforce within each local area (Ministry of Health, 2009). The volume of healthcare provision is calculated from a formula including population within a certain area and the average utilization rate of hospital beds, and is updated every five years. With highly-regulated capacity of provision, providers hold natural monopoly positions in a certain region, especially in the rural areas with less population density. Public healthcare facilities virtually face no financial risk.

Due to the governmental planning over the number of healthcare providers, HIBs are obliged to contract with almost all the willing providers because of the providers' monopoly power in the market, though by regulations they are allowed to selectively contract with healthcare providers,.

Private for-profit hospitals hold pricing freedom. However, their market share was only 3% in terms of number of hospitalized patients in 2007 (Ministry of Health China 2008). Therefore, pricing freedom of the healthcare providers is limited in China.

4.3 Other pre-conditions for regulated competition are not fulfilled

There is currently no effective product classification of healthcare services in China. Nevertheless the insurers are making progress. Traditionally, HIBs pay the healthcare providers mostly on a fee for service basis. However, early attempts of Diagnosis-Related-Groups are experimented in some areas.

The concept of risk equalization schemes is new in China. If competition among insurers is introduced, techniques and experiences need to be gained.

In most cases, HIBs know little about the quality of healthcare services except several general indicators such as in-hospital mortality or two-week readmission rate. Hospitals organize quality assurance programs internally, but do not make quality indicators publicly available. Utilization review is rarely exercised by the HIBs because they are not empowered to enforce the providers to cooperate.

Consumer information is limited in China. Individual consumers know little about the service of the insurers and quality of the healthcare providers. Consumer choice of healthcare provider is based on their perceived reputation and the "stars" of the providers. The "stars" of providers might be an inaccurate indicator of quality. Evaluated by health authorities, the "stars" is based on the capacity of, rather than quality of providing care.

There exists large disparity in the density of healthcare providers across different regions in China. For example, in Jiangsu province, one of the wealthiest coastal provinces in China, the number of licensed physicians per 1000 population is 1.56 in 2007 (Department of Health Jiangsu Province 2007). In the meanwhile, this figure is only 0.95

in Gansu province, one of the least developed western provinces (National Bureau of Statistics of China 2009). Even in the more affluent provinces, the number of licensed physicians per 1000 population is smaller compared with that in the Netherlands.

China's National People's Congress adopted a new Anti-Monopoly Law (AML) in August 2008. However, the AML does not apply to social sectors that are crucial for people's welfare. Although healthcare sector is not explicitly exempted from the AML, public hospitals are considered to be highly related to social welfare and might be exempted from the AML. Therefore, there might be no valid competition regulation in the healthcare sector in China.

In short, pre-conditions for the regulated competition are currently to a large extent unfulfilled in China.

5. LESSONS FROM THE DUTCH EXPERIENCE AND DISCUSSIONS

It has been 20 years since regulated competition was considered as the main line of the Dutch healthcare reform in 1988. During this period, the reform of regulated competition is slow but steady. In early 1990s, the public even considered the proposal of regulated competition a failure. This was not true. In fact, consecutive governments implemented policies that aimed at loosing governmental power and fulfilling the pre-conditions of competition in the healthcare sector.

The Chinese government determines to reform its healthcare system with a large amount of investment. Same as the Dutch healthcare reform, it is hard to identify an appropriate model and systematically work towards it. The Chinese government is aware of the importance of market mechanism in the healthcare sector in the government announcement that described the blueprint of the healthcare reform (Ministry of Health of China, 2009). However, some policies that may block the functioning of market force were implemented (with some implemented and then abolished during a very short period of time) after the publishing of the governmental announcement. These conflicting actions of the government further indicate the comprehensiveness and the difficulty of the healthcare reform in China.

The reform of regulated competition is not yet finished in the Netherlands. However, at this stage, preliminary lessons can already be learned from the Dutch experiences:

1) Governmental strategy should be consistent in a long term.

Although regulated competition in the healthcare system was proposed by the Dekker Committee in 1988, it was only a political proposal at that time. When it came to political decision-making and implementation, the market-oriented program proved to be technically too complex. From 1988 to 1994, the government implemented several policies

to fulfill the pre-conditions for competition in the health insurance market, though real competition was not observed during that period. During 1994 to 2000, the Dutch government even strengthened the control over the providers (Helderman et al. 2005). However, the government still insisted in creating the technical and institutional pre-conditions for regulated competition. Insures were facing more and more financial risks. Since 1997, price competition had been observed among sickness funds (van de Ven, Schut 2000). The government also agreed on the convergence of sickness funds and private health insurance companies. In 2001, the Dutch government once again explicitly announced the reform plan of regulated competition (Helderman et al. 2005). Market oriented reforms has then been implemented not only in the health insurance sector but also in the health provision sector. The Dutch reform progress is slow but steady. Explicitly or implicitly, consecutive governments were (are) working on fulfilling the pre-conditions for regulated competition.

If the Chinese government decides to introduce competition in the healthcare sector, it must take the time to prepare and implement the reform.

2) Fundamental changes may not take the form of revolutionary reforms.

Consecutive Dutch government chose the strategy of muddling-through, rather than breaking-through in the implementation of policies to avoid opponents from major interest groups. In China, major interest groups in the healthcare sector include Ministry of Health (MOH) that represents healthcare providers and the insurer for rural populations, Ministry of Human Resource and Social Security (MOHRSS) that represents the insurer for urban populations, and patients. The recent initiations of healthcare reforming plans are results of internal and external conflicts among these interest groups. The Chinese government could learn from the Dutch government about the strategies of obtaining support from major interest groups and muddling-through the reform.

3) The government should take the lead of fulfilling the pre-conditions of a regulated competition model.

First, the government should have "willingness to change", especially in terms of giving way to market force, though that may mean loss of "power". We observe "willingness to change" in consecutive Dutch governments. The Chinese government showed strong willingness to change in recent years. However, willingness to change does not equal with "willingness to lose power". The Chinese government has a long history of planning and controlling over the healthcare sector, especially over the providers. If the Chinese government decides to adopt more market mechanisms, it has to change from a planner and controller to a regulator.

Second, the government needs to be neutral in setting rules of the game. Providers in China have intimate relationships with MOH. Therefore the government may not be

neutral and make policy decisions and treat public and private healthcare providers equally. For previously "public" entities, the government needs to strategically change them into risk-bearers.

Last but not least, the government should fully aware of the difficulties and potential side-effects of allowing competition in the healthcare market. Preparations of data, talents, and management skills might take significant time.

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Chapter 5

Competition in the Chinese hospital market – effective regulations required

ABSTRACT

The Chinese government announced to encourage competition in the hospital sector. This paper examines the current room for competition in the Chinese hospital market and analyzes proper regulations to have a competitive hospital market. It is observed that the government rigidly regulates price and plans capacity of public hospitals, which are the major players in the hospital market. There is no level playground for public and private hospitals. Public hospitals face exit barriers. Consumer choice among hospitals is limited by reimbursement policies of major insurers. There is insufficient price and quality information about hospitals. We conclude that currently the extent of competition in the Chinese hospital market is limited. Market monopoly of public hospitals is regulated and supported by the government. International experience suggests that effective competition law is essential for a competitive market, including the hospital market. The Chinese hospital sector is in practice exempted from the Chinese Anti-Monopoly Law (AML). If the Chinese government decides to encourage competition in the hospital market, it is imperative to eliminate regulated monopoly and remove the hospitals' exemption from the AML, and to change its role from a player to a regulator in the market.

KEY WORDS: Chinese hospital market, competition regulation, regulated monopoly

1. INTRODUCTION

Seeking a balance between equity and efficiency, combining governmental planning and market mechanisms … encouraging investment in the hospital market besides governmental subsidization, encouraging the development of private and for-profit hospitals and their cooperation with public and not-for-profit ones.

(Ministry of Health of China 2010)

China has initiated a healthcare reform since 2009. As a part of the reform, the hospital reform has been a difficult one. Various pilot reforms have been experimented in 17 cities since 2010. These pilot reforms include improving internal management capacity, formulating public hospital groups, separating healthcare service provision from selling pharmaceutical products, and conversion pubic hospitals into stake-holding hospitals, etc.

According to the "Opinions of the State Council of China on Deepening Health Care Reform", Chinese policymakers have been contemplating how to allow and encourage competition in the hospital market (State Council of China 2009). Because of multiple imperfections in a hospital market such as uncertainty and information asymmetry, competition may lead to unintended results, such as a Medical Arms Race and risk selection in case of some payment schemes (Varkevisser 2009; Varkevisser, Capps & Schut 2008).

Public hospitals are the key players in the Chinese hospital sector. Solo clinical practice is rare in China; almost all physicians are employed by public hospitals. Except for long-term care, in- and out-patient services are mostly provided by public hospitals. Because of their dominant position in the hospital sector, and because they are embedded in a unique hierarchy, public hospital sector is difficult to be fundamentally reformed. Such a reform is considered as the most important and challenging part of the Chinese healthcare reform (News 2011). The Chinese government is attempting various reforms in the hospital sector, among which, several have been piloted to encourage hospital competition. One example is converting public hospitals into shareholding entities, aiming at giving public hospitals more autonomy and more incentives for efficiency. Another example is to loosen the restrictions regarding consumer choice among hospitals. The Ministry of Human Resources and Social Security (MOHRSS), which is the Chinese social health insurance authority, has also officially encouraged local Health Insurance Bureaus (HIBs) to reimburse subscribers across administrative areas (News 2009), giving consumers a broader choice of hospitals and encouraging competition in a wider geographical area.

Effective competition, however, is far more complex than giving hospitals autonomy and incentives for efficiency. There are a bundle of pre-conditions required, including open entry/exit of the hospital market, sufficient number of healthcare providers, free consumer choice, sufficient consumer information about price and quality, proper

product classification, effective quality measurement, and effective anti-monopoly law, etc. The enforcement of effective competition regulation[1] is one of the most important prerequisites. However, even if effective competition is achieved in the Chinese hospital sector, it does not guarantee accessibility and affordability of healthcare, which are two important goals of the current healthcare reform. Specific pre-conditions must be fulfilled to achieve these goals, such as the existence of prudent purchaser(s) of care, effective risk equalization schemes, etc. In this paper, competition policies, among which one of the most important one is competition law will be investigated in the context of the Chinese healthcare reform, especially hospital reform.

The goal of our research is to examine the current regulations relevant to competition in the Chinese hospital market and to explore required regulations to enhance effective competition, focusing on the enforcement of the anti-monopoly law (AML). Required regulations are studied based on theory and international experience. Our two research questions are:

- What is the current room for competition in the Chinese hospital market?
- What regulations are needed to encourage effective competition?

The structure of this paper is as following: section 2 is a brief introduction of the Chinese hospital sector. In section 3, the current room for competition in the Chinese hospital market is analyzed. In particular we analyze the existing competition-related regulations in the market, e.g. the Chinese AML. In section 4, proper regulations that are required for an effective competition in the hospital market are analyzed; international experience of implementing AML, especially in the hospital market, is discussed. In section 5, one pilot reform in the Chinese public hospital sector is described and analyzed, focusing on its effect on competition. Conclusions and discussion are given in section 6.

2. BACKGROUND OF THE CHINESE HOSPITAL MARKET

When the hospital system was set up shortly after the establishment of the People's Republic of China (in 1950), the Chinese central government created a typical communist healthcare system with a government-owned hospital network comprising tertiary, secondary, and primary hospitals. Physicians were salaried employees of hospitals and thus government employees. Solo practice did not exist except for 'barefoot doctors', who were salaried by rural communes in rural areas. Although the hospital sector has

1. We use the term 'competition regulation' rather than competition law because the Chinese government has a tradition of regulating the market with governmental regulations rather than laws.

experienced dramatic changes since 1980s, the 3-level hospital framework has remained largely unchanged.

The responsibility of the Ministry of Health (MOH) of China includes nationwide supervising and administrating, including capacity and human resource planning, of all healthcare facilities. It is also responsible for implementing the national basic medical system and administrating the health insurance scheme for rural populations (New Cooperative Medical Scheme). Public hospitals are owned by the government and are thus all non-profit organizations. Although they are generally protected from bankruptcy, financial support from the government is limited. Governmental subsidy is on average only about 10% of a hospital's total revenue – far from enough for daily operation (Eggleston et al. 2008). The base salary of medical staff in public hospitals is standardized by province, and is normally set as a basic living standard. Both hospital directors and employees are motivated to create extra revenue for internal allocation on employee benefits or hospital development.

The National Committee of Development and Reform (NCDR), which is responsible for regulating the price of healthcare services, sets price of basic services lower than marginal costs (to make services affordable) and price of high-tech examinations higher than their marginal costs. At the same time, hospitals are allowed a 15% mark-up on drug price. Such a price schedule intentionally leaves room for hospitals to profit from drugs and high-tech examinations. This distorted pricing schedule leads to perverse incentives for hospitals to excessively use high-tech equipment and drugs (Hsiao, 2008). Such an incentive is passed on to physicians with various bonus schemes in hospitals. Generally speaking, the government gives public hospitals both incentives and leeways to pursue profits (Hsiao 2008).

Solo practice has been allowed since mid-1990s, but it is rare. Private-owned hospitals are allowed within certain criteria. Before 2011, almost all private hospitals (defined according to their private ownership) were automatically categorized as for-profit. Since 2011 they can choose to be for- or not-for profit.

According to MOH statistics, by the end of 2010 the number of public hospitals was almost twice of that of private hospitals (Ministry of Health China 2010). Public hospitals are generally much larger than private ones (by about eight times) in terms of hospital beds and number of physicians. Besides their superior capacity, public hospitals also have a higher utilization rate (90%) than private ones (59%). It is thus not surprising to find that public hospitals treat many more outpatients (by about 11 times) than private ones. This ratio is similar for inpatient admissions. In sum, public hospitals take a significant share of the Chinese hospital market (Table 1).

Table 1 Comparison of public hospitals and private hospitals in China (2010)

	Public hospitals	*Private hospitals*	*Ratio*
Number of hospitals	13,850	7,068	1.96
Hospital beds	3,013,768	373,669	8.07
Medical staff (thousands)	3,090	348	8.88
Outpatient visits (billions)	1.87	0.17	11
Admissions (millions)	87.24	8	10.91

Source: China health development statistical report 2010 (www.moh.gov.cn/)

3. CURRENT ROOM FOR COMPETITION IN CHINA'S HOSPITAL SECTOR

Competition in the Chinese hospital sector is hindered because of at least 7 reasons as following.

3.1 No enforcement of AML in the hospital sector

China's AML was adopted in August 2007 by the National People's Congress and came into force in August 2008. Three agencies, NCDR, the State Administration of Industry and Commerce (SAIC), and the Ministry of Commerce (MOFCOM), have parallel enforcement authority (Wang 2008). MOFCOM conducts merger reviews and monitors international cooperation according to competition policies. SAIC is in charge of cartels, abuses of dominant market position, and abuses of governmental power that restricts competition. Monopolistic pricing behaviors fall within the exclusive authority of NDRC.

Key definitions in AML. The relevant market is defined as 'a product or service (or a group of products or services) and a geographic area within which business operators compete during a certain period of time (AML art. 12). 'Business operators' has a broad meaning, including both natural and legal persons and any other entities that produce products or supply services (AML art. 12).

Scope of regulation in AML. The Chinese AML's essential goals are prohibiting cartels (AML chp. 2), prohibiting abuse of dominant position (AML chp. 3), and controlling Mergers &Acquisitions (M&A) (AML chp. 4). Because many pricing and output restraints in China were organized or/and encouraged by industry associations, which operate under government authority, chapter 5 of the AML is devoted to regulated monopolies, i.e., monopolies caused and supported by the government because of their ubiquity. Regulated monopolies arise from many kinds of governmental actions such as restricting price competition in a particular industry or restricting market entry.

According to the AML, industry associations and government authorities cannot force individuals or undertakings to purchase the products or services that are provided by

their members. It does not, however, explicitly deter government agencies from restricting competition.

Enforcement of AML in China. Up to August 16, 2010, MOFCOM had received about 140 anti-monopoly lawsuits, most of which were M&A cases (Ministry of Commerce of China 2010). However, no lawsuits against regulated monopoly have been brought to the AML to date. The lack of lawsuits against regulated monopoly and the difficulties in the drafting process of AML regarding this topic suggest that regulated monopolies are a real stumbling block for the AML (Owen 2008).

Exemptions to the AML. Several sorts of undertakings are exempted from the AML. Under Articles 15 and 28, undertakings may obtain an exemption from the law if they can prove that their monopoly agreements or transactions satisfy the "public interest" criteria. National security (Art. 7) and the agricultural industry (Art. 56) are also exempted from the AML.

The AML has not yet been enforced in the hospital market, primarily because public hospitals (i) provide products tightly related to the public interest and are therefore exempted from the AML and (ii) form a powerful anti-competition interest group making the AML difficult to enforce (Zeng, Yu 2008). Although the applicability of AML in the hospital market is still under debate, numerous regulations have had anti- or pro-competitive effects, which we now analyze.

3.2 Lack of autonomy of hospitals regarding capacity and pricing

Theory and evidence of price competition in the healthcare sector

In a hospital market, hospitals can compete on either price or quality, or both. If both quality and price competition are allowed (in case quality is measurable and both quality and price information is known by patients), Gaynor et al (2004) predicts based on theory that hospital competition may either increase or decrease quality. In this case, how providers respond to competition depends on the preference of patients. If price competition among hospitals is introduced in a setting where quality is difficult to measure and purchasers face significant pressure to constrain costs, clinical quality can be harmed because providers tend to choose to differentiate themselves on the elements of care that purchasers of care can easily observe (i.e. price) at the expense of those that they cannot (i.e. clinical quality) (Gaynor, 2004). This theory is supported by empirical researches from the US (Volpp et al, 2003) and the UK (Propper et al, 2004; Propper et al. 2008), where the price competition significantly decreased clinical quality.

If price of healthcare services is regulated or set by the government and hospitals are given the incentives to compete, they can only compete on quality. Gaynor et al

(2004) also analyzed this scenario in their research. They concluded that faced with competition, as long as reimbursement rate are greater than hospitals' marginal costs, hospitals will increase their quality in an effort to increase market share until their profits approach zero. Empirical studies in the US and UK support this theory (Cooper et al, 2011; Gaynor et al, 2010; Kessler et al, 2000).

In both scenarios, effective quality measures and publicizing quality information are important pre-conditions to hospitals competition result in outcomes desired by the government and the public.

Hospital capacity and pricing in China

In the Chinese hospital market where quality is not well measured, it is dangerous to allow free price competition. At this stage, proper government regulated price is maybe desirable. The Chinese government has different price regulations for non-profit (NFP) hospitals (all public hospitals and some private) and for-profit (FP) ones (some private hospitals) (Ministry of Health China 2000). The central government issues price-setting guidelines, defining items and healthcare services. Provincial governments are responsible for setting service-based governmental guiding prices (e.g., price for diagnostic, nursing, routine blood test, or abdominal ultrasound) for NFP hospitals, around which NFPs are allowed a price float range of ±15%. In practice, price variation among public hospitals is rarely observed. FPs follow market price, and have no price constraints. The biggest pitfall with pricing is the distorted pricing scheme described in section 2, which intentionally leaves large profit room for high-tech examinations and drug and set lower-than-costs price to basic healthcare services. This distorted pricing schedule leads to perverse incentives for hospitals to excessively use high-tech equipment and drugs (Hsiao, 2008). Such an incentive is passed on to physicians with various bonus schemes in hospitals. Such a pricing scheme gives wrong price signals to healthcare providers and seriously inhibits effective competition that might leads to better quality of care. The Chinese health authority plans local healthcare in terms of the number of hospitals (and their level), hospital beds, and medical staff (Ministry of Health of China 2009). A top-down and static plan is made every five years by predicted number of beds needed in a specific area based on previous number of inpatients, hospital bed turnover, and utilization rates, as well as an assumed increasing rate. Local health authorities are responsible for ensuring that all health facilities, public and private, follow the plan. Purchasing decisions on high-tech medical devices in hospitals are also subjects to the approval of national or regional health authorities (Ministry of Health of China 1995). The planning logic is similar to that of hospital beds. Besides these regulations, the government controls the number of physicians nationwide by controlling the number of medical students that each university may enroll.

In conclusion, public hospitals in China, which take a large share of the hospital market, do not have autonomy in terms of capacity building and pricing. The government tightly controls over the capacity and price of the public hospitals.

3.3 No effective entry/exit to the market

In 2004 the MOH explicitly encouraged private and foreign investments in the hospital market. The government further loosened entrance regulations for private and foreign investments in the hospital market at the end of 2010. For example, private hospitals were given priority if the government considers more hospitals or healthcare facilities in a certain area (Council of developing and reform et al. 2010).

Private hospitals can apply for bankruptcy according to the Enterprise Bankruptcy Law of China (issued on August 27, 2006). However, there is currently no clear market exit mechanism for public hospitals. If a public hospital runs a deficit, local government usually supports it with (more) subsidization, or provides it with better policy than previous.

Thus, the current Chinese hospital market is far from a contestable market.

3.4 No level playground for private and public hospitals

Real obstacles for private hospitals, however, lie not in entering the market but surviving it. Because of four major reasons, it is difficult for private hospitals to compete with the public ones.

First, public hospitals have advantages in terms of taxation. Public hospitals are tax-exempt. Private hospitals face 16 sorts of taxes, including a VAT, operation tax, and enterprise income tax after an initial three-year tax exemption period. On average, private hospitals are taxed about 10.6% of annual revenue (Chen 2008).

Second, public hospitals have privileges in terms of contracting with major payers. Public hospitals contract with HIBs much more easily than private ones because both public hospitals and HIBs are government branches. In urban areas local HIBs are the major social health insurer covering the employed and retired populations (Urban Employees' Basic Health Insurance) and are currently expanding to the unemployed (Urban Residents' Basic Health Insurance). The two insurance schemes cover more than 80% of the urban population (National Bureau of Statistics of China 2011). In rural areas local health authorities are responsible for New Cooperative Medical Scheme, which covers 96.3% of the population (National Bureau of Statistics of China 2011). The insured can choose freely among hospitals, but are reimbursed only if they are treated in contracted hospitals. Although reimbursement rate varies widely across different insurance schemes and areas, it is essential for hospitals that they obtain a contract with the local insurance agencies. Nearly all public hospitals have such contracts; a large share

of private hospitals does not have them. For example, only 20% of private hospitals in Shanghai have contracts with the local government insurance agencies (Chen 2008).

Third, insurers implement different payment scheme to public and private hospitals. Once a hospital obtains a contract with local insurers, they generally reimburse on a fee-for-service (FFS) basis. The price follows the government schedule and is generally set higher for higher level hospitals than lower level ones. The accreditation system that determines hospital level, however, only applies to public ones. Private hospitals are left unaccredited. According to reimbursement policies, unaccredited hospitals can only be reimbursed according to the schedule of primary (the lowest level) hospitals and thus receive the lowest price regardless of quality and capacity.

Fourth, public hospitals have advantages over private ones in attracting top-level talents. Public hospital physicians are government employees (i.e., more permanent employment); those in private hospitals have less job security and fewer career advancement opportunities. Besides that, public hospitals generally have a better reputation than private hospitals, and thus are more attractive for top-level physicians. With difficulties in attracting top talents, private hospitals have problems with quality.

In December 2010, the central government decided again to encourage private investment in the hospital market (Council of developing and reform et al. 2010). According to a governmental document issued in December 2010, the regulations that have effects of unequal-treatment for public and private hospitals, such as taxation difference, contracting difference, different payment scheme, have supposedly been removed (Council of developing and reform et al. 2010). While it is too early to evaluate the impact of this governmental action, it gives a signal that the government is at least attempting to level the playing field for private and public hospitals.

3.5 Lack of purchasing techniques of major health insurers

Major social health insurers in China are governmental branches. Their role is getting more and more important because of the increasing share of the population covered by social health insurance schemes. However, most of them perform still as third party payers, rather than third party purchasers because of their poor capacity of purchasing. They reimburse contracted hospitals mainly on a Fee-for Service (FFS) basis defined in most areas by the provincial government. At the same time, competition among hospitals is hindered because major payers are unable to negotiate prices effectively as a result of poor product classification.

Some experiments with payment schemes such as global budgets, capitation, and Diagnosis-Related Groups (DRGs) have recently arisen in developed areas such as Beijing, Shanghai, and Jiangsu province, but their enforcement varies. For example, the HIB of Wuxi, Jiangsu province sets global budgets for each contracted hospital but even when a public hospital exceeded it by 30%, the HIB made up the deficit after negotiating

with the local health authority, which is the pillar of public city hospitals[2]. The global budget system does not in practice financially restrain public hospitals.

The Beijing HIB has experimented with reimbursement based on certain DRGs since 1993. In 2011 a payment scheme based on 104 DRGs[3] was encouraged in more areas by the MOH (Ministry of Health of China 2010). Local HIBs can choose from the 104 DRGs for their own pilot experiments. It is too early to evaluate their level of use.

3.6 Restricted consumer choice

In principle, consumers can choose their hospitals but subscribers are reimbursed only if choosing the hospital that contracts with the local social health insurers. In practice, local insurers normally contract only with public hospitals in the same administrative region. Consumer choice in practice is therefore to a large extent restricted among public hospitals and within an administrative region. In theory, this restriction has been loosened because the MOHRSS has tried to remove limitations of consumer choice by encouraging reimbursement across administrative regions (News 2009). However, the actual implementation of this policy is however currently unobserved.

3.7 Insufficient consumer information

Hospitals are obliged by health authorities to show the price of their products explicitly to the consumers. Most hospitals follow the regulation and display prices on a digital or white board in their lobbies. What they show, however, are item-based prices according to the NCDR and its local branches. Without effective product classification, it is almost impossible for consumers to compare prices, because care usually comprises a bundle of items or services.

Quality is not effectively measured for hospitals in China. There is no official quality report for hospitals. Consumers are also poorly informed about quality. The only indication of quality of healthcare service is a hospital's level or star, which is assigned by health authorities based on capacity rather than quality of hospitals.

3.8 Conclusion

Current regulations with pro- or anti-competitive effects are summarized in Table 2. The emerging of these barriers is mostly due to the traditional relationship between public hospitals and the governmental agencies that act as the umbrella organizations. These regulations are still in place today mostly because the interest groups (mainly large public hospitals and relevant governmental branches), which benefit from a non-competitive market, have strong incentives to blockage any pro-competitive regulations. As they

2. Information is from an interview with the director of Wuxi HIB (March 26, 2011).

3. The number of DRGs is small compared to other countries.

Table 2 Summary of regulations regarding the Chinese hospital market competition

Pro-competition regulations	
Disseminating valid and reliable consumer information about price and quality	No
Effective product classification	No
Enforceable Anti-monopoly Law	No
Level playground for public/private hospitals	No
Free consumer choice among hospitals	No[a]
Anti-competition regulations	
Inappropriate price control	Yes
Capacity control (hospital beds, medical staff, high-tech equipment)	Yes[b]
Entry/exit obstacles	Yes[c]

[a] *In theory no restriction within an administrative area. Choice across administrative area is to a certain extent restricted. This restriction has been loosened since 2009. In practice, this regulation has not been implemented.*
[b] *Hospitals may use other strategies to overcome capacity control from the government.*
[c] *It is gradually removed since 2011.*

are in the position of being able to heavily influence policies, these anti-competition regulations are still in place today. Although the Chinese government announced to encourage competition in the hospital sector, anti-competitive regulations widely exist while those with pro-competitive effect are rare. Governments of different levels have strong power of implementing various "policies" regardless of their effect on the room of competition in the hospital sector. Because of the fact that AML is not enforceable in the public hospital sector, it is extremely hard to break the government-supported regulated monopoly.

4. PROPER REGULATIONS REQUIRED

If the Chinese government really wants to allow and encourage competition in the hospital market, all the regulative obstacles should be removed. However, a free market is not necessarily perfectly competitive. The degree of imperfect competition depends more on provider behavior (strategic provider interaction, behaviors intended to control price) than on market structure. These anti-competitive behaviors should be banned if competition is desired in a hospital market. Although the hospital market has several specific characteristics (e.g. information asymmetry, uncertainty, differentiated products, etc.), these characteristics do not exempt the hospital market from competition laws because most other markets that are not exempted from competition laws are also not text-book markets (Gaynor, Vogt 2000). Another important issue is that the market power of hospitals is not necessarily beneficial to consumers. The major goal of competition regulation is to ban the abusive behavior of a market-dominating entity (Samuel-

son, Nordhaus 1998). Therefore, an effective competition law should be applicable in the Chinese hospital sector. An effective and applicable competition law needs to have the following basic elements according to international experience.

4.1 Classification of competition laws

Competition laws can be classified according to the objectives of jurisprudence:

i. *Cartels*. An important assumption in a competitive market is that individual undertakings independently determine product price and quantity. Cartels are agreements about price, quantity, market division, or market share among providers. They can have anti-competitive effects and are forbidden by most anti-competitive laws.

In the US, physicians and hospitals have a tradition of self-regulation by professional associations or networks that may also provide their members platforms for creating cartels over price or price-related terms or agreements to obstruct innovative forms of healthcare delivery. In the US, they are forbidden by the Federal Trade Committee (FTC) anti-trust actions. In 2003 the FTC reached an agreement with a network of doctors and hospitals in northeast Maine, under which the organization stopped negotiating with third-party payers on behalf of its members (Federal Trade Commission 2003).

In China, professional associations or networks are less powerful compared to their US counterparts. However, the distorted price schedules and capacity regulations by the government in practice create Cartels among public hospitals. These governmental regulations can be defined as administrative monopoly according to the Chinese AML They should be forbidden by AML if competition is to be encouraged in the Chinese hospital sector. However, most governmental regulations are considered to be in favor of public interest (which is exempted from the AML according to chapter 1, article 7 of the Chinese AML). Up till now, there has been no case in China against administrative monopoly.

ii. *Abuse of dominant position*. If a company legally gains a dominant position, it is forbidden to abuse it by, for example, predatory pricing, binding contracts, price discrimination, or refusing to provide essential facility to a competitor. An example is the 1990 'Dr. Friedman case' in the US (Meier, Albert & Brau 2011). Medicare set a fixed price for the out-patient dialysis of its beneficiaries, but no price limit for in-patient dialysis. Dr. Friedman, who owned a dialysis clinic with a dominant position that was judged by the FTC, required the physicians who sent their out-patients to his clinic for dialysis to also send their hospitalized patients to his clinic for dialysis (binding contract). At the same time, Dr. Friedman charged higher than average price on inpatients dialysis. In 1990, such a binding contract behavior of Dr. Friedman was forbidden by the FTC.

In Article 17 of the Chinese AML, six types of abusive conduct are prohibited, including selling or buying goods at unfairly high or low prices, selling goods at a price below

cost without valid reasons, refusing to trade with another party without valid reasons, restricting another party to a transaction to dealing exclusively with it, or only with designated undertakings without valid reasons, tying products without a valid reason, or imposing other unreasonable conditions of trade, applying different price or transaction terms to equivalent trading parties without valid reasons, and other abusive conduct as might be recognized by the relevant antimonopoly enforcement authorities.

Since the enforcement of AML, there have been some cases regarding abuse of dominant position. Various types of companies have been involved, including pharmaceutical companies (for example Shandong Weifang Shuntong Pharmaceutical company), internet search engines (for example Baidu), and some state-owned enterprise (for example China Telecom, China Unicom, and Hebei Salt company) (Wang, 2012).

iii. *Merger &Acquisition* Firms opt for M&As to consolidate a fragmented market, increase their operational efficiency, and give them a competitive edge. Some mergers, however, substantially reduce competition or even lead to a monopoly power. M&A rules monitor M&A behavior and limit the degree of concentration in a relevant market. Hospital mergers have proved to be a difficult part of the antitrust enforcement worldwide. In the US, the first hospital merger case was brought to the FTC in 1981. From 1981 to 1997, the FTC and the Department of Justice (DOJ) received 956 merger applications involving general acute care hospitals. The agencies challenged only 2 percent of them (Leibenuft 2007). The Netherlands Competition Authority (NMa) from 2004 to 2007 has permitted all 6 hospital mergers seeking approval (Varkevisser, Capps & Schut 2008).

Different forms of M&As among public hospitals are organized by the government in the Chinese hospital sector, without proper supervision by the AML authorities. Their effects on competition are also rarely analyzed. However, M&A cases in other market sectors are reviewed by MOC. One example is that Coca-Cola's bid to acquire China Huiyuan (one of the largest juice company in China) is rejected by the MOC (News, 2009).

4.2 A relevant market

If AML would be applicable in the Chinese hospital market, it is also necessary to define a relevant market. The *Horizontal Merger Guidelines* issued by the U.S. DOJ and the FTC in 1997 defined a market as

"… A product or a group of products and a geographic area in which it is produced or sold such that a hypothetical profit-maximizing firm, not subject to price regulation, that was the only present and future producer or seller of those products in that area likely would impose at least a small but significant and nontransitory increase in price, assuming the terms of sale of all other products are held constant."

A relevant market is "a group of products and a geographic area that is no bigger than necessary to satisfy this test" (US. Department of Justice, the Federal Trade Commission

April 2, 1992). The two principle dimensions in defining a relevant market are product and geography.

A relevant product market. The degree of demand and supply substitutability is important to the scope of a relevant product market.

There is little debate about the relevant product market for hospitals. In US hospital merger cases, it has been defined as "a broad group of medical and surgical diagnostic and treatment services for acute medical conditions that the patient must retain in a health care facility for at least 24 hours for recovery or observation" (DOJ, FTC 2004). Despite the general acceptance of the concept, few researchers have attempted to disaggregate the product market to differentiate inpatient care (Zwanziger, Melnick & Eyre 1994, Sacher, Silvia 1998). Although theoretically sound, the approach has not been widely employed in antitrust analyses.

A relevant geographic market. A relevant geographic market pertains to where products are produced or sold. The determinants of a relevant geographic market in the hospital context are subjects of much research. Elzinga and Hogarty (E/H) approach (Elzinga, Hogarty 1978; Elzinga, Hogarty 1973) and the three-step Critical Loss analysis introduced by Harris and Simons (Harris, Simons 1989) are both widely used in deciding a relevant geographic market. Several other approaches – time-elasticity, competitor share, option demand – have been proposed that include consideration of consumers' relative insensitivity to price of healthcare services and the overly broad nature of 'general acute care' as a product (Varkevisser et al. 2008).

In practice, it is crucial to choose a suitable way of defining a relevant geographic market according to the context of a specific healthcare system. For example, in Germany, the courts tend to use a stringent way of defining a relevant geographic market for hospital merging cases; while in the Netherlands and especially in the US, the courts tend to under-estimate the anti-competitive effects of hospitals mergers and use a more permissive way of defining a relevant geographic market for hospitals (Varkevisser et al, 2012). According to the Chinese AML, the definition of a relevant market is in-line with the definition adopted by the US anti-competition law. However, there has been very little, if not no, effort made to adjust this definition especially in the hospital market.

4.3 Conclusion

The goals and the key definitions of the Chinese AML are consistent with that in the US. The implementation of the AML depends not only on the law itself, but also on the broad social background, in which the law is rooted. In China, the main challenge lies in the implementation of the AML.

Although abuse of administrative power is prohibited by the Chinese AML, it is the most difficult part in enforcement. If the Chinese government determines to encourage competition in the hospital sector and to enforce AML in this sector, it is an important first step to disentangle the currently tight relationship between public hospitals and the (local) government. Only when public hospitals are independent from the government, is it possible that AML can be enforced in this sector.

5. ONE EXAMPLE OF PILOT REFORMS IN THE CHINESE HOSPITAL MARKET

Since 2010, several ongoing pilot reforms that may have impact on competition in the Chinese hospital market have been implemented in some pilot cities. One example is the reform of changing public hospitals into share-holding entities in Luoyang in 2010 (Department of Health Luoyang 2010).

The city government of Luoyang (2008 population: 6.54 million) made public hospitals share-holding entities in December 2010 (Department of Health Luoyang 2010). The plan is to gradually transit government-owned public hospitals into shareholder-owned (by employees or other investors) public hospitals. With such reform the government is attempting to transit from a player in the hospital market to a referee.

The goal of the government is to give more incentives for efficiency to the public hospitals, to give more autonomy to the public hospitals over their strategies, and eventually to encourage competition in the hospital sector. Therefore this reform is by itself a pro-competitive one. However, whether the reform creates room for competition is determined not only by changing the ownership of the hospitals in the market, but also by the fulfillment of other pre-conditions, including giving the public hospitals autonomy over their products and price, clearance of entry/exit obstacles, free consumer choice, sufficient consumer information, effective product classification, enforceable AML, and level playground for both public and private hospitals. Given the government's limited financial control over public hospitals even when owning them, changing ownership may only have a limited effect on hospitals' financial motivation. While All other influential factors remain unchanged, the change of ownership alone may have limited impact on the efficiency of hospitals. For example, because of insufficient consumer information available, hospitals might compete only on price and not quality of care. This will be harmful for the consumers and the society because a "market of lemon" will be created (Hoffer, Pratt 1987).

In sum, the Luoyang government showed its willingness to change in this pilot. One pre-condition for a competitive hospital market: giving autonomy to public hospitals, is to be fulfilled to a certain degree. This suggests a step forward towards a competitive hospital market.

6. CONCLUSION AND DISCUSSION

6.1 Conclusion

The Chinese government is attempting to allow and encourage competition in the hospital market. Effective competition, however, does not naturally arise from consumer choice and motivated providers. Other important pre-conditions are required, such as the enforcement of AML in the hospital sector, forbidding the government from abusing its administrative power in the hospital market, creating a level playground for public and private hospitals, giving consumers sufficient choice and disseminating reliable consumer information, as well as conducting valid and reliable quality measurement of hospitals.

Based on the observation of the current regulations in the Chinese hospital sector, we conclude that the current room for competition is limited because of the prevailing regulated monopoly supported by the government. The government heavily regulates capacity and price, has no effective product classification system, creates exit obstacles for public hospitals, and disseminates rarely any (if not no) reliable and publicly available quality information about hospitals. Private and public hospitals are treated differently in terms of taxation and contracting with insurers. Private hospitals also face difficulties in attracting top-level talents, and thus can hardly compete with public hospitals, even if they are allowed to enter the market.

Although competition laws have been enforced in the healthcare sector in several countries, the Chinese hospital market is in practice exempted from AML. Governmental regulations, cartels, and M&As among public hospitals are therefore also exempted from the examination of anti-monopoly authorities before their implementation. Such a context suppresses effective competition.

If the Chinese government decides to further encourage competition in the hospital market, we propose several necessary pre-conditions, which should be fulfilled:

- Eliminating regulated monopolies in the hospital market.
- Transiting the government's role from an owner and administrator of public hospitals to a regulator who sets the rules of the game.
- Removing the hospital market's exemptions from AML enforcement.

6.2 Discussion

A competitive hospital market requires both the existence and the enforcement of the proper regulations. The enforcement of regulations is problematic in China. The interaction between public hospitals and social health insurers is now often an internal discussion process between the MOH and MOHRSS and their local branches, though insurers always have formal contracts with public hospitals regarding quality and price of healthcare service. Public hospitals can easily challenge contracts with local HIBs,

which leads to ineffective negotiation. Building the capacity to enforce regulations in the Chinese hospital market is essential.

Key stakeholders in the Chinese hospital market have different interest and goals, which lead to sometimes conflicting regulations. MOH represents public hospitals and emphasizes generating high quality healthcare and removing financial constraints. Two other ministries are the payers (besides individual patients) of the healthcare providers. MOF is responsible for allocating governmental subsidies to health authorities, which then organizes allocation among public hospitals. MOHRSS acts as the major health insurer. Both MOF and MOHRSS emphasize cost constraints and therefore expect hospitals to provide care efficiently, while MOH still tends to work as a protective pillar of public hospitals. All the key stakeholders should cooperate with each other in the implementation of other pro-competitive regulations and clearance of anti-competitive ones, in order to create a competitive hospital market.

An essential, but not sufficient, condition of a competitive market is the existence of multiple independent hospitals. This basic assumption has yet to be fulfilled in China. Public hospitals are still to a large extent controlled and protected by the government. The government might continually encounter conflicts among its branches when initiating pro-competition regulations. And even if they are initiated, their enforcement is hardly guaranteed. The government indicates willingness to change. However, there is still a long way to go.

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Chapter 6

The level of consumer information about health insurance in Nanjing, China

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ABSTRACT:

The Chinese government is considering a (regulated) competitive healthcare system. Sufficient consumer information is a crucial pre-condition to benefit from such a change. We conducted a survey on the level of consumer information regarding health insurance among the insured population in Nanjing, China in 2009. The results from descriptive analysis and binary logistic regression demonstrate that the current level of consumer information about health insurance is low. The level of consumer information is positively correlated with the subscribers' motivation to obtain the information and its availability. The level of searching for health insurance information is also low; moreover, even upon searching, the chance of finding relevant information is less than 25%. We conclude that the level of consumer information is currently insufficient in China. If the Chinese government is determined to adopt market mechanisms in the healthcare sector, it should take the lead in making valid and reliable information publicly available and easily accessible.

KEY WORDS: consumer information; health insurer; regulated competition; China, healthcare reform

INTRODUCTION

In 2007, the Chinese government initiated a wave of healthcare reforms and promised to increase government funding in the healthcare sector by 1-1.5% of GDP in the coming years (Hsiao 2007, Yip & Hsiao 2008). It is still too early to evaluate the major reforms aimed at building a universal health insurance system and strengthening healthcare provision, which have been instituted thus far. In its ongoing effort towards structured healthcare, the government is considering allowing private health insurance companies to operate in the social health insurance sector. This is actually a step towards the regulated competition in the health insurance market.

A model of regulated competition means that the government regulates the market to achieve pubic goals (e.g. accessibility, affordability, and good quality of care), while consumers periodically choose among competing health insurers and health insurers selectively contract with competing healthcare providers. It is highly recommended that several pre-conditions must be fulfilled for the system to achieve intended outcomes such as efficiency and equity ((Xu & van de Ven 2009, Xu et al. 2010). If the pre-conditions are currently not met, the government should pay efforts in fulfilling them during the process of the market-oriented reform. Sufficient consumer information is an important per-condition.

Consumer information about health insurance has not to our knowledge been studied in China. Although the Chinese health insurance sector is overall a non-competitive one, it is arbitrary to have any conclusions about the current level of consumer information. We thus conducted an empirical study of the insured in Nanjing, China to examine the current levels of (i) consumer information about health insurance and (ii) searching for health insurance information.

The rest of the paper is organized as follows: in the second section, the importance of consumer information in a competitive healthcare market is discussed in theory and practice. The third section describes the health insurance information survey in Nanjing, including a background description, methods, and results. The fourth section ends with conclusions and discussions.

THE IMPORTANCE OF CONSUMER INFORMATION IN A COMPETITIVE HEALTHCARE MARKET

Theoretical background

Informed consumers know the price distribution of a product in the market via searching or advertisement (Janssen, Non 2008). Varian (1980) formulated a mathematical model that suggests price approaches marginal cost in proportion to the growth of informed

consumers. The market is thus more competitive with a large share of informed consumers. If the share is small, price dispersion is likely to vary widely (Parakhonyak 2010). If the share of active consumers increases and the number of informed consumers is sufficient, the price will approach that of a perfect competition (Salop & Stiglitz 1977; Waterson 2003). This suggests that the level of consumer information and how consumers use information can significantly influence the competitiveness of a market.

If consumers are provided with information that is not directly related to decision making, they need the knowledge and the time to filter out unnecessary information. Unnecessary information is an obstacle to utilizing information. Similarly, information must be understandable or consumers will ignore it or consider it unimportant (Hibbard 1997).

Theoretically, consumer information is effective only if the following criteria are satisfied:

- The source of information is reliable.
- Information is valid.
- Indicators are consistent with the aspects they measure; quality measurement reflects consumers' and professionals' perceived quality.
- Information about price and quality is accurate and up-to-date.
- Information is publicly available and easily accessible.
- Information is understandable for consumers of average intelligence in the society.
- Information is relevant.

In the health insurance market, products are highly heterogeneous. Consumer information about their quality and content (e.g. benefit package) is as important as price. Therefore, effective consumer information about quality, content, and price is essential to both consumers in decision making and insurers in maintaining or increasing the number of their customers.

Sufficient consumer information is an essential pre-condition of an efficient competitive healthcare market but it is not necessary that all the consumers should actively use the information in a competitive health insurance/care market. Insurers are motivated to improve their performance if a sufficient share of consumers actively uses consumer information because they want to maintain or expand their market share (market force mechanism) (Hibbard 2008). Moreover, when insurers cannot discriminate between informed and uninformed consumers, price can work as a signal of quality and actually convey part of the information from the informed to the uninformed (Grossman & Stiglitz 1976; Linnemer 2002).

Some people expect a sufficient level of consumer information to generate a high switching rate in the market, but that the switching rate can be used as an indicator of the level of competition is a misunderstanding. In a market with perfect competition – an extreme scenario – all consumers stay with their choices because they are the most

suitable choices in the market. In this case, the switching rate is zero. In a competitive healthcare market, even if only 5% of the consumers switch from poor performers to good ones, the former may continue to lose market share each year unless they improve. There is no single suitable market churn rate: looking at other highly competitive markets, we see churn rates that vary widely according to the type of product (Chiu 2005; Saba 2007). We can at least make the statement that the churn rate is not necessarily correlated with the level of consumer information and competition.

We conclude that, in theory, a sufficient level of consumer information is essential for a competitive healthcare market. Health insurers are motivated to improve efficiency by lowering price or enhancing quality if they (i) know that consumers have sufficient consumer information and (ii) cannot discriminate between the informed and uninformed. Determining the extent to which the level of consumer information is 'sufficient' is an empirical question.

Evidence of the effect of consumer information in a healthcare market

Effects of consumer information on consumer choice. When consumer information is understandable, consumers generally value and use it (Bundorf 2009). Consumers tend to choose better performing health plans and providers and respond to initiatives that provide quality information, though the response varies significantly among consumers and across population subgroups (Beaulieu 2002; Jin & Sorensen, 2006; Kolstad 2009; Wedig & Tai-Seale 2002). Quality information also has an impact on consumers' choice of managed care organizations (Scanlon et al. 2002). Chernew et al. (2008) have found that consumers have a moderately high willingness to pay to avoid plans with bad ratings. Consumers are sensitive to information that is new to them (Levesque 2006; Dranove & Sfekas 2008).

A few studies report that consumer information has no effect on consumers' choice of health plan (Farley 2002a, 2002b). However, Farley (2002b) found with subgroup analysis that consumers who actually read the quality report chose plans with high scores compared with a control group. In another study, Abraham and Feldman et al. (2006) found no evidence to support either a link between quality information and switching behavior, or between perceived health plan satisfaction and switching. But as discussed above, switching as an indicator of the level of consumer information utilization can be misleading.

Even in those studies finding no effect of consumer information on consumer choice, no author ruled out the necessity of a sufficient level of consumer information. Possible explanations of consumers' non-responsiveness are (i) consumers may define "good quality" differently from experts and industry leaders (Fung 2008); (ii) some information may be too complex for consumers to use; and (iii) consumers may already have the information and are no longer influenced by it.

We conclude from the empirical research that consumer information can influence consumers' choice of insurers. The empirical findings further emphasize the importance of satisfying the criteria of effective consumer information. How information is presented affects its interpretation and weight in decision-making (Hibbard 2002; Hendriks & Spreeuwenberg 2009). A good provider of quality information will report it in such a way that it allows consumers to easily identify the good performers.

Quality improvement efforts of insurers. In theory, publicly available information leads to quality improvement through the market mechanism. Hendriks and Spreeuwenberg (2009) found that quality of health plans scoring below average increased more than those scoring average or above. Consumer information had a positive effect on insurers' quality improvement initiatives, especially among those ranked low in public reports.

Consumers' attitude towards insurers and providers. Consumers update their views regarding the quality of healthcare providers and can accurately recall the hospitals ranked as high or low performers two months after the release of a report about hospital performance (Hibbard 2005). Changing consumers' attitude towards specific providers is an important step before actually steering the consumers to better performers.

Conclusion of the literature. We conclude from the previous empirical studies that a sufficient level of consumer information has multiple effects in a competitive healthcare market. Most empirical studies support the theoretical argument for the importance of sufficient consumer information. Quality scores and rankings influence consumers' choice. Consumers' attitudes towards a specific insurer or provider are influenced by public reports. Insurers rated below average in quality reports tend to make quality improvement initiatives.

EMPIRICAL STUDY OF CONSUMER INFORMATION ABOUT HEALTH INSURANCE IN NANJING

Background

Nanjing, an eastern Chinese city, has 6.17 million residents within 6582 square kilometers (anonymous 2010). It was chosen by the Chinese government as a pilot area for the healthcare reforms because of its relatively high level of economic development. Its health insurance schemes are detailed below; the first three cover about 90% of the population (anonymous 2009).

- Urban Employees' Basic Health Insurance (UEB): Urban employees and retirees are mandatorily covered by the UEB, which has a city-wide risk pool and is managed by

the Health Insurance Bureau (HIB) of Nanjing. The UEB is funded by a combination of employee and employer contributions as a percentage of enrollees' salary. The employees' contribution is deducted from their salaries and sent to the HIB by their employers. The percentage is based on subscriber's employment status (employed, retired, or self-employed) and ranges between 2% and 8%.

- New Cooperative Medicine (NCM): NCM is a health insurance scheme with open enrolment and community rating. Rural residents[2] can join the NCM voluntarily and are encouraged to do so. Subscribers pay a premium to the local health authority, which is in charge of the plan. The central and local governments also contribute a certain amount of money to the risk pool. The NCM has district-level risk pools and is managed by district-level health authorities, which are branches of the city health department. The premium of NCM varies across districts because contributions from local governments vary. Generally speaking, the premium for NCM is low in order to attract subscribers; on the other hand, copayments are high. The benefit package is far less comprehensive than the UEB.
- Urban Residents' Basic Health Insurance Scheme (URB): With open enrolment and community rating, URB is a voluntary health insurance scheme implemented in 2008 for students or unemployed urban residents. As with the NCM, the government subsidizes subscribers and it is characterized by low premiums, a non-comprehensive benefit package, and high copayments.
- Government Free Medicine (GFM): Covering government officers and employees of not-for-profit organizations such as universities and public hospitals, GFM is financed through local taxation and managed by GFM offices at different levels of government. Subscribers do not have to pay a premium. The benefit package of the GFM is comprehensive with limited copayment, which varies slightly across organizations and local governments.
- Health Insurance for Severe Diseases: All UEB enrollees can select to be enrolled in this plan for an additional contribution of ¥10 per month.[3] It also covers low income and handicapped people, in which case it is subsidized by local government. It has a city-level risk pool and reimburses a portion of medical expenditure for a selected list of diseases.
- Commercial health insurance schemes and others: Some people join commercial health insurance schemes. Premium, enrolment, and benefit package are not regulated in any means. Some employers organize group health insurance for their em-

2. The definition of "rural population" in China is ambiguous and changes over time. Generally speaking, it is based on a "rural", "agricultural", or "countryside" definition. Therefore, groups of rural populations can reside inside Nanjing city.

3. The exchange rate between RMB and euro is about 9:1.

ployees to cover services or pharmaceuticals not covered by UEB. These other types of healthcare plans cover only a very limited percentage of population in Nanjing.

With respect to health insurance plans, we test the following hypotheses:

1. Motivated consumers are more likely to have correct knowledge about their health insurance and are more likely to search for information than those who are not.
2. Consumers with access to reliable sources of information have better chance of acquiring correct information about their health insurance schemes than others.

Data and Methods

Data. Our study is based on a household survey on the level of consumer information about health insurance, conducted in Nanjing on the weekends of October and November 2009. Respondents were covered by some type of health insurance and were between 18 and 75 years old. A stratified random sample of 2000 residents was drawn from districts of different levels of economic development. The sample comprised 1175 completed questionnaires (response rate 58.75%).

Measures of the level of consumer information. Respondents were asked to indicate the price of their health insurance schemes (the out-of-pocket premium) from a few standardized answers, which were designed according to local health insurance policies. We cross-checked respondents' answers with the premium that related to their age, type of employment, and employment status according to their local health insurance policies.[4] The variable "correctness of price", indicating whether the respondent gave a correct answer about the price of his or her premium, was created.

The respondents were asked whether they had free or limited choice among healthcare providers. We checked the accuracy of their answers against their types of health insurance schemes and created a second variable, "correctness of choice".

We used these two variables as indicators of respondents' knowledge about their health insurance.

Measures of information searching level. We investigated the current level of searching for three types of information about health insurance schemes among the respondents: (i) out-of pocket (OOP) pharmaceutical costs, (ii) other healthcare copayment, and (iii) their health insurance in general (such as reimbursement method and service of the insurers). The reason for separating consumer information into these three types is that motivation to search varies according to respondents' health needs, such as pharmaceutical use or health status.

4. The price of health insurance depends on age and employment type and status.

Independent variables. In the questionnaire, factors that may influence the level of consumer information are measured from three perspective: (i) type of insurance, (ii) difficulties of understanding consumer information, (iii) the importance of consumer information, (iv) other co-founding factors, such as education level, age, self-assessed health status, etc.

Analytical approach. Descriptive statistics were used to describe the current level of (searching for) information about health insurance by consumers in Nanjing. We employed correlation analysis and binary logistic regression to test our hypotheses.

Results

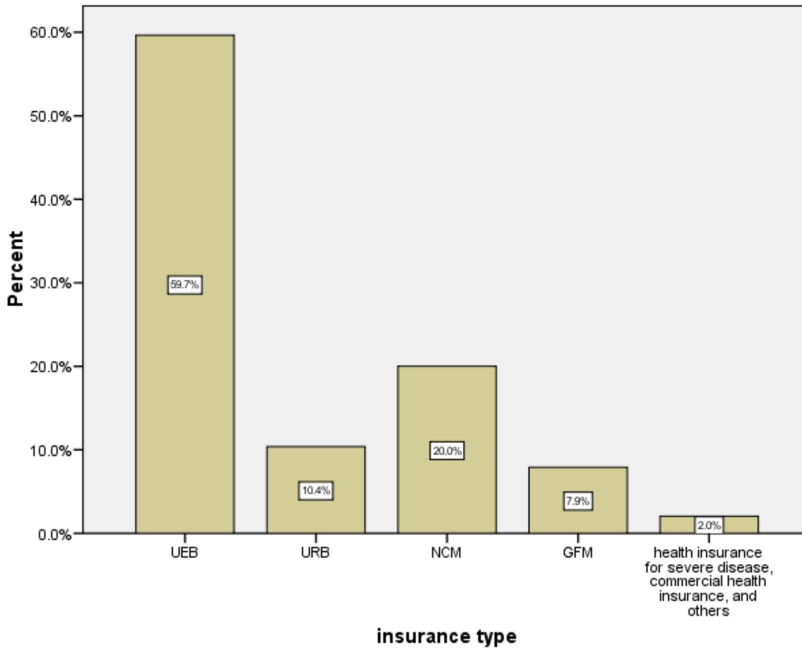
Some descriptive statistics are listed in Table 1. There were more female (60%) than male respondents in the sample. UEB enrollees (59.7%) and NCM enrollees (20%) were the two largest insured groups (Figure 1). The elderly were over-represented (average age=50.17, SD=12.75), because all retirees are covered by UEB; furthermore, young people in the informal economic sector may choose to be insured or not, which may lead to adverse selection. As a result of the relatively high age of respondents' age, 36% had chronic diseases and 81% were regular users of pharmaceuticals. Average cost of the latest inpatient admission was ¥8778 (SD = ¥13219.4) with an average out-of pocket payment of ¥4718 (SD = ¥8897). This is substantial when we take into account that 75.2% of the respondents had a monthly income of less than ¥2000.

Current level of consumer information in Nanjing city. Most respondents did not give correct answers regarding the price of their health insurance or their right to choose their healthcare providers (Table 2). Concerning benefit packages, their wide variation made it difficult to judge whether the respondents had correct knowledge. UEB subscribers, however, automatically receive "health insurance for severe diseases", which we can call a benefit package component. Only 1.5% of the respondents knew that they had such a coverage, indicating their poor knowledge of benefit packages. Generally speaking, the current level of consumer information about health insurance was limited among the insured in Nanjing city.

Determinants of correctness of health insurance price. Several reasons affected subscribers' knowledge of their insurance. First, enrollees of different insurance schemes were variously motivated to obtain and remember price information. UEB and GFM are mandatory health insurance plans and enrollees pay little to nothing for their insurance. On the contrary, NCM and URB are voluntary schemes; enrollees pay a significant part of the whole price of the insurance as premium, though the schemes are also heavily subsidized by the government. If consumers regard the premium as too high, they can

Table 1 Description of selected variables (*N*=1175)

Variable	Percent (%)
Type of Health Insurance Scheme	
UEB	59.7
URB	10.4
NCM	20.0
GFM	7.9
Others	2.0
Total	100.0
Self-assessed health status	
poor	6.3
fair	46.7
good	27.0
very good	15.2
excellent	3.7
n.a.	1.1
Total	100.0
Number of out-patient visit in the past 12 months	
0	69.9
1	4.5
2	7.8
3	4.4
4	3.1
5-9	4.1
10 or more	5.9
No answer	0.3
Total	100.0
Number of in-patient admission in the past 12 months	
0	88.5
1	6.6
2	1.4
3	0.3
4	0.3
5 or more	0.2
No answer	2.6
Total	100.0
Reliable source of information	
No	33.0
Yes	67.0
Total	100.0



Note: Health insurance for severe disease is compulsory for enrollees of UEB. And some people whose income falls below a certain level are also covered by this insurance scheme. Here we only include those who are only enrollees of health insurance for severe disease but not UEB enrollees in the category of "health insurance for severe disease, commercial health insurance and others".

Figure 1 Percentage of respondents according to type of health insurance schemes

choose not to join. In other words, in case of NCM and URB, health insurance is a commodity that can be purchased; and in case of UEB and GFM, it is more of an entitlement. NCM and URB subscribers are thus more motivated to search for and remember information about health insurance price than GFM and UEB subscribers.

Second, information availability varied with the plan. NCM and URB are strongly promoted by the government due to political considerations and their voluntary nature. An important strategy is to broadly disseminate information about the schemes among the public. On the other hand, the government has a totally different strategy of dissemi-

Table 2 Respondents' knowledge about the price of health insurance and the right of free choice among healthcare providers (*N*=1175)

	Price of health insurance	Right of free choice among providers
Correct (%)	25.1	36.8
Incorrect/unknown (%)	74.9	63.2

nating health insurance information about UEB and GFM, while information is mainly spread among employers. As a result, individual UEB and GFM subscribers receive little information about their health insurance plans.

Third, difficulty in understanding information varied according to type of insurance. UEB premiums are based on a complicated formula that includes the enrollee's age, employment status, and the nature of employment. NCM premiums are set as fixed amounts per year. GFM enrollees pay no premium.

Fourth, difficulty in recalling the premium amount varied depending on the insurance plan. NCM and URB premiums are paid directly out of pocket and therefore more easily recalled. GFM enrollees pay nothing, which is also easy to recall. UEB enrollees' contributions are deducted from their salary, making it extremely difficult to recall the price.

To separate other influential factors from "motivation", we included variables such as "difficulty of understanding the information", "reliable source of information (yes/no)"[5] in the analysis. We also tried to rule out the factor of "whether the information is considered important by the consumers", because this is a potential determinant of the independent variable. We identified the "importance of price information" by asking: "If you could choose an insurance plan, how important would you consider the premium?"

The level of knowledge about price of insurance (premium paid by consumers) varied enormously among subscribers of the five major insurance schemes. NCM enrollees scored highest (89%) in correctness. The correctness rate was significantly higher than that of the UEB enrollees (10%) and GFM (0%) (Cramer's V= 0.74, $P<0.01$). The other determinants did not have significant correlation with the respondents' correctness about price of their health insurance schemes. Other possible influential factors, such as the importance of price and difficulty in understanding price information, were ruled out. Therefore the superior knowledge about insurance price among NCM enrollees could be explained by their high motivation to obtain such information. However, for URB enrollees, who also had high motivation, only 9% gave the correct answer. One explanation is that URB had been in effect for less than one year at the time of the survey, thus the enrollees might still have limited information about it.

We used binary logistic regression to check the influence of each of the independent variables on the dependent variable keeping all else constant. The dependent variable was "correctness of the price of health plan". Independent variables were plan type, the

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5. We are interested in the influence of 'formal' information sources on consumers' knowledge about their health insurance plans. Therefore, according to the current status of the Chinese health insurance system, we assume that information sources operated by the government (TV programs, newspapers, health insurers, toll-free help lines) are reliable. Other sources, such as doctors, employers, websites other than those of the insurers (there are currently no government-initiated independent websites about health insurance in China), family/friends, and patient organizations are considered unreliable.

importance of plan price, the understandability of the price, and reliability of information. Using the results from binary logistic regression, we calculated the predicted probabilities of giving a correct answer about price of health insurance schemes for each group of the respondents keeping other independent variables at their means (Table 3).

NCM enrollees and enrollees with commercial health insurance or other health insurance schemes had significantly higher predicted probability of giving a correct answer about price of their health insurance than the other groups. Note that only 3% of enrollees had commercial health insurance or another type of plan, we need be cautious with the implication of the result. We also found a significant difference in the probability of knowing the correct price of an insurance plan between respondents with and without a reliable source of information (25% and 18%, respectively) keeping other variables at their means.

Table 3 Predicted probability of "correctly answering the price of health insurance schemes" keeping other independent variables at their means

	Sample share	Percentage of correct answer	Predicted probability
Type of health insurance scheme			
UEB†	59.0	9.8	0.11
URB	10.5	9.0	0.09
NCM	20.3	89.4	.91**
GFM	8.0	0	0.11
Severe disease HI, Commercial HI and others	2.2	20.8	0.23*
Importance of price			
Least important†	2.7	24.1	0.21
Not important	9.0	36.8	0.03
Neutral	24.5	18.1	0.23
Somewhat important	33.7	24.2	0.24
Very important	31.1	28.2	0.02
Difficulty in understanding price			
Very easy †	7.4	32.0	0.21
Somewhat easy	25.6	29.8	0.24
Neutral	39.2	24.2	0.23
Somewhat difficult	23.0	23.4	0.22
Very difficult	4.8	29.2	0.22
Reliability of information source			
Unreliable information source†	31.6	22.9	0.18
Reliable information source	68.4	26.2	0.25*

† reference group.
*significantly different from the reference group, $P < 0.10$
**significantly different from the reference group, $P < 0.05$

As discussed above, the variable "type of insurance scheme" contained many determinants. The respondents' perceived importance of information and difficulty in understanding information was ruled out. Therefore, only motivation and availability of information were significant determinants of the dependent variable.

Our hypotheses, "well-motivated consumers are more likely to accurately know their health insurance schemes" and "consumers with access to reliable sources of information have better chances of acquiring accurate information about their health insurance plan than others" were therefore not rejected.[6]

Determinants of correctness regarding the right of choosing a provider. More GFM enrollees (56%) knew about their right to choose a provider than UEB enrollees (37%) or NCM enrollees (27%) (Cramer's V=0.15, P<0.01). We used "self-assessed health status" as another indicator of motivation besides "type of insurance scheme", because we expected respondents who considered themselves unhealthy (and perhaps use more services) to be more motivated to obtain such information. Two confounding factors might influence the respondents' level of knowledge: how important the information is considered by the respondent, and how understandable the information is according to the respondent. The level of correctness about the right of choice among the providers did not differ significantly when we grouped respondents by "importance of right to choose among providers", "difficulty in understanding the right of choice among providers", "outpatient visits in the last 12 months", "self-assessed health status", and "reliable source of information (yes/no)".

We employed binary logistic regression to explore the influence of the independent variables on the dependent variable. Based on the results, we calculated the predicted probability of giving a correct answer about right to choose for each category keeping other variables at their means (Table 4). A GFM subscriber's probability of knowing about the right to choose was almost two times of that of an NCM subscriber. A person who had 10 outpatient visits in the past 12 months had a 20% higher probability of knowing about the right to choose than one who had none. One limitation was that we could not identify the sequence between the respondents' acquiring such information and their contact with healthcare providers. If respondents acquire such information because they forecast a need, the better knowledge among respondents with experience in the healthcare sector may be due to higher motivation. If the sequence is the other way around, their better knowledge may be due to their past experience within the healthcare sector. Not being able to identify the sequence, the influence of the number of out-patient visits can be explained by motivation *or* experience. However, self-assessed health status was found to be a strong indicator of motivation. Respondents

6. One limitation is that the level of difficulty in recalling the price of a health insurance scheme cannot be ruled out in this survey; further research is needed to address this problem.

Table 4 Predicted probability of "correctness in answering the right of choice among the providers" keeping other independent variables at their means

	Sample share	% of correct answer	Predicted probability
Type of health insurance scheme			
UEB†	59.7	37.2	0.36
URB	10.4	40.2	45
NCM	20.0	26.8	0.28**
GFM	7.9	55.9	0.53**
Severe disease HI, commercial HI and others	2.0	29.2	0.23
Importance of right of choice among providers			
Least important †	1.4	37.5	0.37
Not important	6.4	44.0	0.45
Neutral	21.8	34.5	0.33
Somewhat important	40.1	36.5	0.36
Very important	30.3	37.6	0.36
Understanding choice among providers			
Very easy †	9.9	37.1	0.34
Somewhat easy	28.5	38.1	0.37
Neutral	37.9	37.9	0.38
Somewhat difficult	17.7	32.8	0.30
Very difficult	5.9	40.3	0.44
Number of outpatient visits‡			
0 †	65.8	35.7	0.34
5	3.2	51.4	0.43*
10	6.1	45.1	0.52*
Number of inpatient admissions‡			
0 †	67.1	35.8	0.38
5	.4	50.0	0.22
Self-assessed health status			
Very poor †	6.4	44.0	0.46
Fair	47.2	38.4	0.37
Somewhat good	27.3	37.1	0.37
Very good	15.4	30.2	0.31**
Excellent	3.7	27.9	0.24**
Reliability of information source			
No †	33.0	39.2	0.39
Yes	67.0	35.6	0.35

† reference group.
* significantly different from the reference group $P<0.10$ ‡ Here we only calculated the predicted probability for a selected number of outpatient visit and inpatient admissions as an indication of the changes of the knowledge among people who have different degree of contact with the healthcare system.
** significantly different from the reference group $P<0.05$

who claimed excellent health status had a 24% probability of giving the correct answer about right of choice, about half that of those reporting their health status as "very poor" gave correct answer about right of choice.

Other variables, such as the respondents' perceived importance of the right to choose, the difficulty in understanding the right to choose, and the number of inpatient admissions, did not have significant influence on the correctness of the respondents' answers.

Generally speaking, the respondents' current level of information about their health insurance scheme was influenced by two factors. The first was the respondents' motivation to obtain the information. The second was the availability of the information. We found that respondents tended to know about information that had (potential) impact on them. And if such information was available, the probability of knowing increased significantly.

The hypotheses that "well-motivated consumers are more likely to have correct knowledge of their health insurance scheme", and "consumers who have access to reliable sources of information have better chance of acquiring correct information about their health insurance scheme than those without reliable sources of information" were thus not rejected.[7]

Level of searching for information about health insurance schemes and its determinants. The overall level of searching for any kind of information was low among the respondents (Table 5). Only 26% of the respondents had searched for one or more types of information.

One important finding was that among those who did search for health insurance information, their chance of "often" or "always" finding such information was only about 25% (Table 6). And whether a respondent was capable of finding information was not correlated with ability (e.g. age, health status, educational level), the availability of a reliable source of information (e.g. type of insurance), and experience in the healthcare sector (e.g. use of pharmaceuticals, inpatient admissions, outpatient visits). Possible explanations of the difficulties in finding information could be:

1. People could not obtain relevant information from their information sources.
2. People could not access information even if they assumed they had reliable source. For example, someone might consider the HIB an information source but reaching it by telephone was nearly impossible. Or she might go to the HIB information counter, but the attendant could not answer her question.

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7. One limitation is that we cannot separate experience from motivation in case of the impact of out-patient visits on the respondents' knowledge about the right to choose a provider. Further research is needed to clarify this issue.

3. Information was not understandable for average respondents. *Determinants of searching for information about OOP pharmaceutical costs.* People were motivated to search for information about OOP pharmaceutical costs maybe because it was a significant expenditure or they simply considered the information important. Respondents who reported poor health status or had chronic diseases might have more OOP pharmaceutical expenditures than others. Unlike UEB and GFM enrollees, NCM and URB enrollees should be more motivated to search for health insurance information because they chose to join.

We checked the correlation of "search for OOP pharmaceutical costs (yes/no)" with "types of health insurance scheme", "importance of benefit package", "chronic disease (yes/no)", "regular drug user (yes/no)", and "self-assessed health status". Respondents with chronic diseases were slightly more motivated to search for OOP pharmaceutical costs (19%) than those without (14%) ($P<0.10$). Similarly, respondents who regularly used pharmaceuticals were more motivated (19%) than non-drug users (14%) ($P<0.10$).

The results of a binary logistic regression suggested that none of the above mentioned variables had a significant influence on the searching behavior of the respondents. This indicated that people, whatever their situation, generally did not search for the information. The hypothesis that "Well-motivated people tend to search for information" is thus rejected. One explanation was that OOP pharmaceutical cost was based on complex drug formulas, which were decided by type of health insurance scheme and the respondents' district.

Table 5 Percentage of the respondents who (yes/no) search for three types of health insurance information (N=1175)

	Information about OOP pharmaceutical costs (%)	Information about other healthcare copayment (%)	Information about health insurance scheme (%)
Yes	15.6	15.2	14.4
No	84.4	84.4	85.6

Table 6 Frequency of finding needed health insurance information among the respondents who searched for information.

	Information about OOP pharmaceutical costs (%)	Information about other healthcare copayment (%)	Information about health insurance scheme (%)
Never	16.5	17.9	9.5
Sometimes	61.5	58.1	62.1
Often	13.7	12.3	13.6
always	8.2	11.7	14.8
Total (N)	182	179	169

Determinants of searching for information about other copayments. We assumed that respondents would be motivated to search for copayment information in the following scenarios: (i) health insurance plan had a high copayment (e.g. URB and NCM); (ii) the respondent had a poor health status or high use of healthcare services; (iii) the respondent had copayment experience in the past; and (iv) information was considered important. We therefore used the following variables as determinants: type of insurance plan, existence of chronic disease, number of outpatient visits and inpatient admissions in the previous 12 months, self-assessed health status, and importance of copayment information. Correlation analysis showed that searching for other copayment information was significantly but weakly correlated with having a chronic disease (Cramer's V=0.05, $P<.10$), outpatient visits (Cramer's V=0.08, $P<0.05$), and inpatient admissions (Cramer's V=0.05, $P<0.10$).

Using the results of a binary logistic regression we calculated the predicted probability of searching for copayment information of each sub-groups according to the independent variables, keeping other things at their means. The results suggested that the number of inpatient admissions had a significantly positive influence on searching for copayment information and GFM enrollees searched significantly more often than UEB enrollees. The predicted probability of searching for healthcare copayment information for respondents who had no inpatient admissions in the previous 12 months was 14%, as opposed to 33% for those who had 5 inpatient admissions, keeping other things at their means.

The hypothesis that "Well-motivated consumers tend to search for information about health insurance" was thus not rejected but evidence supporting it was limited.

Attitude of respondents concerning consumer information

Important aspects of consumer information. We assumed that price of the health insurance plan, copayment, content of the benefit package, the right to choose a healthcare provider, and insurers' consumer service quality were potentially important aspects that people would take into account when choosing an insurer.[8] Around 70% of the respondents considered all aspects somewhat or very important (Table 7). The top two most important aspects were benefit package (33.1%) and copayment (32.5%). Other aspects, such as price of health insurance scheme (14.1%), right to choose a healthcare provider (10.6%), and consumer service (6.7%), were considered most important by only a small share of the respondents.

In Nanjing, choosing an insurer is an imaginary scenario. For UEB and GFM, enrollment is mandatory. For URB and NCM, consumers can only opt for being insured or not. Benefit packages are limited. Copayment is significant for most insured people receiving healthcare services. Therefore, information about benefit package and payment, rather than premium and right of choice among insurers, which was virtually non-existent, was regarded as important.

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8. This is hypothetical; almost no consumer choice exists for health insurers in our case.

Table 7 The level of importance of several aspects of a health insurance scheme (*N*=1175)

	Least important (%)	Less important (%)	Neutral (%)	Somewhat important (%)	Very important (%)	n.a.
Price of health insurance scheme	2.5	9.0	24.5	33.7	29.9	0.4
Copayment of health care service	1.4	7.0	19.6	35.6	36.4	-
Content of the benefit package	0.8	4.4	18.7	34.1	42.0	1.0
Right of free choice among health care providers	1.4	6.4	21.8	40.1	30.3	-
Consumer service of the health insurer	1.3	4.9	20.7	35.3	37.8	-

CONCLUSION AND DISCUSSION

Conclusion

Several reforms have been piloted in the Chinese healthcare system since 2009. With a substantial amount of additional investment in the healthcare sector, how to turn the investment into an efficient healthcare system remains unresolved. Regulated competition is a potential model but requires a sufficient level of consumer information to be successful.

The rationale of a sufficient level of consumer information is justified both theoretically and empirically. One important note is that several criteria need to be satisfied while creating and disseminating consumer information. Evidence from the healthcare sector showed that effective consumer information can reshape the behavior of key actors in the market, such as channeling consumers to good performers, helping insurers contract with high-quality providers, and motivating insurers' and providers' quality improvement initiatives. There is also evidence indicating that consumer information can change the consumers' attitude towards specific providers (Hibbard 2005). Besides them, some unintended consequences of publicly disseminating consumer information were observed in practice, such as negative attitudes, provider anger, and more seriously, selection behavior of the providers. These observations called for risk-adjusted rating and case-mix techniques in the process of generating consumer information (Hibbard 2005).

The results of the survey showed that the insured in Nanjing currently had limited knowledge about their health insurance schemes. Respondents who voluntarily chose to be insured were more likely to have accurate knowledge of their plan than those were automatically covered. Recent (potential) care-seekers had better knowledge of their insurance plans than those who were healthy or did not seek care in the same period. This suggested that the level of consumer information was positively influenced by respondents' motivation to obtain relevant information. The availability of reliable consumer information also positively influenced the respondents' level of information.

In 2006, the first year of the implementation of regulated competition in the Dutch healthcare system, a survey about consumer information was conducted in the Netherlands. Results revealed a much higher searching level (55-62%) than that of the Nanjing survey (~15%). Besides the low searching rate of our sample, the share of finding needed information among those who did search was also very low in Nanjing (~25%) in contrast to respondents of the 2006 Dutch survey (80%). This may partly explain why most respondents in the Nanjing survey never searched for any kind of information. We found that people who had had inpatient services in the previous 12 months were more likely to search for information about healthcare copayment than others.

In conclusion, the necessary pre-condition of an efficient competitive healthcare market, a sufficient level of consumer information, is currently absent in China. The results of the Nanjing survey indicated that consumers tend to search for relevant information if motivated. However, searching was not common among the respondents because their chance of finding the information was slim. Thus, if the Chinese government is going to give consumers the right to choose from competing insurers, it is important that it takes the lead in making valid and reliable information publicly available and easily accessible.

Discussion

Sufficient consumer information is not an automatically achieved in a competitive healthcare market. Although consumer choice gives consumers incentives to acquire information, it is essential that the information exists and is easily accessible. In the context of the Chinese healthcare system, it should be the government's responsibility to ensure that consumers can access valid and reliable information. This can be done either by government generating or disseminating reliable and valid information, or government assurance that the information generated by other entities is reliable, valid, and publicly available. The government should help consumers familiarize themselves with reliable sources of information.

Moreover, the function of the insurers should not be overlooked. In the Dutch healthcare system, insurers who compete for market share act as an important source of information. In the Nanjing survey, only 21% of the respondents chose "insurers" as their source of information. The Chinese insurers are currently not motivated enough to publicize price and quality information. Being governmental branches, their interests are aligned with those of the government. If this situation remains unchanged, the government can hardly be regarded as a regulator in the market that acts on behalf of the consumers. There is no assurance that the government would actively generate and publish information, even if the model of regulated competition were implemented in the Chinese healthcare system. Making the insurers independent of the government may be a necessary step toward creating sufficient consumer information.

Several limitations of our study should be noted. First, the sample included only insured people. It was as yet unclear whether our results could be generalized to the uninsured. Second, those who voluntarily chose to be insured (e.g. NCM and URB) might be more risk averse than others and might therefore lead to an upper bias of the result that people in voluntary schemes were more informed than those in mandatory schemes. The significance was not likely, however, given that the uninsured population in Nanjing was less than 10% at the time of the survey. Third, elderly people were over-represented in our sample because of the enrollment policy of the UEB and the results should be interpreted with caution. Fourth, the un-respondent population was not investigated in this study. However, because this survey was an household interview, the main reason for un-respondence was that nobody answered the door, bias due to selection problem should not be a large issue. Last, our results, based on the Nanjing population, cannot be directly applied to all areas in China.

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APPENDIX

Table A1 Binary logistic regression of the respondents' correctness in answering the price of health insurance scheme (incorrect/unknown=0, correct=1) (*N*=99)

	Odds ratio	90.0% CI for odds ratio	
		Lower	Upper
Type of Health Insurance Scheme			
URB	0.86	0.47	1.56
NCM	81.91**	51.52	130.20
GFM	0.00	0.00	.
Severe disease HI, commercial HI and others	2.58*	1.07	6.21
Important of price			
Not important	1.62	0.44	6.00
Neutral	1.14	0.33	3.90
Somewhat important	1.21	0.36	4.05
Very important	0.84	0.25	2.83
Difficulty in understanding price			
Somewhat easy	1.26	0.57	2.75
Neutral	1.19	0.56	2.55
Somewhat difficult Somewhat difficult	0.95	0.43	2.11
Very difficult	1.12	0.39	3.24
Reliable source of information	1.57*	1.05	2.36
Constant	0.07		

Cox and Snell R square = 0.41, Nagelkerke R square = 0.60
*p<0.10. **p<0.05.
The reference categories in the regression are "UEB", "importance of price" as "least important", "difficulty in understanding price" as "very easy", and "reliability of information source" s "not reliable information source".

Table A2 Binary logistic regression of the respondents' correctness in answering whether they have right of free choice among healthcare providers (incorrect/unknown=0, correct=1) (*N*=1006)

	Odds ratio	90.0% CI for odds ratio	
		Lower	Upper
Type of Health Insurance Scheme			
URB	1.44	0.92	2.24
NCM	0.69	0.48	0.99
GFM	2.03	1.25	3.27
Severe disease HI, commercial HI and others	0.54	0.19	1.53
Important of right of choice			
Not important	1.43	0.40	5.11
Neutral	0.83	0.25	2.78
Somewhat important	0.98	0.30	3.22
Very important	0.99	0.30	3.23
Difficulty in understanding right of choice			
Somewhat easy	1.15	0.70	1.91
Neutral	1.19	0.73	1.96
Somewhat difficult	0.84	0.48	1.46
Very difficult	1.51	0.76	3.01
Number of outpatient visits	1.08	0.99	1.17
Number of inpatient admissions	0.85	0.67	1.09
Self-assessed health status			
Fair	0.70	0.41	1.20
Somewhat good	0.68	0.39	1.22
Very good	0.53	0.28	1.00
Excellent	0.36	0.14	0.93
Reliable source of information	0.84	0.63	1.12
Constant	0.87		

Cox and Snell R square = 0.04, Nagelkerke R square = 0.06
*$p<0.10$. **$p<0.05$.
The reference categories in the regression are "UEB", "importance of right of choice among prividers" as "least important", "difficulty in understanding right of choice among providers" as "very easy", "self-assessed health status" as "proof", and "reliability of information source" s "not reliable information source".

Table A3 Binary logistic regression of whether a respondent searched for information about healthcare service copayment (not searched=0, searched=1) (*N*=1127)

	Odds ratio	90.0% CI for odds ratio	
		Lower	Upper
Type of Health Insurance Scheme			
URB	1.25	0.73	2.16
NCM	1.21	0.79	1.85
GFM	1.91	1.09	3.35
Severe disease HI, commercial HI and others	1.39	0.46	4.20
Chronic disease	1.30	0.88	1.92
Important of healthcare service copayment			
Least important			
Not important	0.62	0.14	2.62
Neutral	0.65	0.17	2.54
Somewhat important	0.73	0.19	2.76
Very important	0.87	0.23	3.29
Number of outpatient visits	1.00	0.91	1.11
Number of inpatient admissions	1.25	0.97	1.59
Self-assessed health status			
Very poor			
Fair	1.36	0.68	2.71
Somewhat good	1.11	0.52	2.40
Very good	1.45	0.63	3.31
Excellent	1.70	0.57	5.10
Constant	0.13		

Cox and Snell R square = 0.02, Nagelkerke R square = 0.03
*$p<0.10$. **$p<0.05$.
The reference categories in the regression are UEB, no chronic disease, importance of healthcare service copayment as "least important", and self-assessed health status as "very poor".

Chapter 7

Consumer Choice among Mutual Healthcare Purchasers: A feasible option for China?

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ABSTRACT

In its 2009 blue print of healthcare reform, the Chinese government aimed to create a competitive health insurance market in order to increase efficiency in the health insurance sector. A major advantage of a competitive health insurance market is that insurers are stimulated to act as well-motivated prudent purchasers of healthcare on behalf of their enrolees, and that consumers can choose among these purchasers. To emphasize the insurers' role of purchasers of care we denote them, as well as other entities that can fulfil this role (e.g. fundholding community health centres), as 'Mutual Healthcare Purchasers' (MHPs). As feasible proposals for creating competition in China's health insurance sector have yet to be made, we suggest two potential approaches to create competition among MHPs: (1) separating finance and operation of social health insurance and allowing consumer choice among operators of social health insurance schemes; (2) allowing consumer choice among fund-holding community health centres. Although the benefits of competition are widely accepted in China, the problematic consequences of a free competitive health insurance market - especially in relation to affordability and accessibility - are generally neglected. To solve the problems of lack of affordability and inaccessibility that would occur in the case of unregulated competition among MHPs, at least the following regulations are proposed to the Chinese policy makers: a 'standard benefit package' for basic health insurance, a 'risk-equalization scheme', and 'open enrolment'. Potential obstacles for implementing a risk equalization scheme are examined based on theoretical arguments and international experiences. We conclude that allowing consumer choice among MHPs and implementing a risk equalization scheme in China is politically and technically complex. Therefore, the Chinese government should prepare carefully for a market-oriented reform in its healthcare sector and adopt a strategic approach in the implementation procedure.
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KEY WORDS: China; consumer choice; Mutual Healthcare Purchasers (MHPs); Chinese health insurance sector; healthcare reform; risk equalization

INTRODUCTION

In the blue print of the Chinese healthcare reform ("Opinions of the State Council of China on Deepening Health Care Reform") in 2009, the Chinese government explicitly states that one of the goals of the reform is to make healthcare affordable and accessible for every citizen (State Council of China, 2009). One of the major actions of the government has been the expansion of the basic social health insurance, aiming at a universal health insurance. Since 2009, the Chinese government has significantly increased healthcare investments (by 850 billion RMB over three years; approximately 109 billion euro, August 2012 exchange), a large share of which has been made in the health insurance sector (State Council of China, 2009; Yip & Hsiao, 2008). As a result of this enormous additional investment, 96% of the population was covered by various types of social health insurance by July 2010 (Hu, 2010).

Currently there are two major insurers responsible for fund collection and operation of the three social health insurance schemes in China: the Ministry of Health (MOH) and the Ministry of Human Resource and Social Security (MOHRSS). The MOH and its local branches (local health authorities at the county-level) are responsible for the New Rural Cooperative Medical Scheme (NRCMS). The MOHRSS and its local branches (local health insurance bureaus (HIBs) at the city level) are responsible for the Urban Employees' Basic Health Insurance (UEBHI) and the Urban Residents' basic Health Insurance (URBHI). The NRCMS and the URBHI are voluntary health insurance schemes for rural population and urban unemployed respectively. The premiums of these two schemes are paid directly by the enrolees to the insurers. The government encourages the enrolment in the two voluntary insurance schemes by substantial government subsidies (to a larger extent for the NRCMS than for the URBHI). The UEBHI is a mandatory health insurance scheme for urban employed people. The premium is collectively paid by employers and employees, the share of which depends on local regulations and the age of employees. There is currently no consumer choice of either the type of social health insurance schemes or the insurer. In principle, consumers can only be enrolled in a specific insurance scheme (according to their residence status and employment status) with a specific local insurer (according to their place of residence). With the NRCMS and the URBHI consumers can only choose to be enrolled or not, and not to choose among different insurance schemes.

Although the coverage rate of social health insurance has risen significantly in the past decade, it is questionable whether currently the major social insurers are efficient in providing health insurance. In fact, there have been some critics about the high level of financial reserves (deposit) of the social health insurers: it was reported that some insurers' financial reserves exceeded their one year total premium revenue in the previous year (Lu &Wang, 2010). At the same time, co-payments for the social health insurance schemes are still high: the out-of pocket payments (OOPs) that individuals pay directly

to healthcare providers at the point of service, still amount to approximately 50% of the total health expenditure (You & Kasuki, 2011). In other words, even though the health insurers collect more funds than necessary, they neither lower their premiums nor upgrade their products (i.e. by providing more comprehensive benefit packages than is currently the case or lowing co-payments). The social health insurers are also criticized as not acting as prudent purchasers of care because they basically contract with all public healthcare providers (in practice no selective contracting), and initiate very little quality monitoring or programs aiming at quality improvement/control of their contracted health providers (Yip & Hanson, 2009).

The Chinese government is planning to create competition within its health insurance sector in order to increase efficiency (State Council of China, 2009). Theoretically speaking, allowing consumer choice among health insurers is one option to give the insurers incentives to be efficient and to act as prudent purchasers of care. In practice, there are several countries with competitive health insurance markets, for example the Netherlands, Germany, Israel and Switzerland. In the Netherlands, it was found that the profit of health insurers was lowered due to competition (van de Ven, Schut, & Hermans, 2009). In the 2009 blue print of the Chinese healthcare reform, the Chinese government mentioned that private insurers would be encouraged to enter the social health insurance market, and market mechanisms would be introduced among social health insurers (State Council of China, 2009).

A major advantage of a competitive health insurance market is that insurers are stimulated to act as well-motivated prudent purchasers of healthcare on behalf of their enrolees, and that consumers can choose among these purchasers. Currently the individual consumer in China is in a weak position as a purchaser of healthcare because of the information asymmetry between the consumer and the provider of care (which may result in supply-induced demand) and because of a lack of information about the quality of healthcare. In addition, at the time that care is needed the consumer often is not in the position to compare the price and quality of the relevant providers of care. To emphasize the insurers'role of purchasers of care we denote them, as well as other entities that can fulfil this role (e.g. fundholding community health centres), as 'Mutual Healthcare Purchasers' (MHPs) (Bevan & van de Ven, 2010). Without proper regulation competition may induce serious side-effects especially for high-risk individuals, such as unaffordability and inaccessibility of insurance, and to a certain extent inaccessibility to healthcare if MHPs have incentives to avoid contracting healthcare providers with good reputation of treating certain diseases. These problems are announced as the major problems to be solved by the Chinese healthcare reform (State Council of China, 2009). Based on the experiences in many settings with competitive health insurance markets, the regulations to prevent these problems should not be underestimated by the Chinese government.

This paper aims to: (1) raise the awareness of Chinese policymakers regarding the possible side-effects of allowing consumer choice among MHPs; and (2) discuss the principles and practice (including the international experience) of a risk equalization scheme, which is a method to ameliorate these side-effects.

The key research question is: *How could China solve the problems of unaffordability and inaccessibility that are likely to arise if consumer choice among MHPs is introduced?*

In addressing this research question, the following sub-questions are considered:

- What feasible ways of creating consumer choice among MHPs can be identified?
- What are the advantages and disadvantages of (these ways of) allowing consumer choice among MHPs in China?
- Which measures have been taken to address the side-effects of competition in the health insurance sector in other settings (i.e. countries) with a competitive health insurance market, such as, Belgium, Germany, Israel, the Netherlands, and Switzerland?
- What lessons can China learn from the international experience in order to create consumer choice among MHPs without the problems of unaffordability and inaccessibility?

Section 2 discusses the two potential options for creating consumer choice among MHPs in China, analyses their possible advantages and disadvantages and considers solutions to problems that are likely to arise. Section 3 reviews and analyses several other countries' experience of addressing the problems of unaffordability and inaccessibility of health insurance. Section 4 considers relevant lessons for the Chinese healthcare sector. Finally, Section 5 presents our conclusions and discussion.

POTENTIAL OPTIONS FOR, AND CONSEQUENCES OF, CREATING CONSUMER CHOICE AMONG MUTUAL HEALTHCARE PURCHASERS IN CHINA

Two potential options for creating consumer choice among MHPs

As mentioned above, the role of MHPs could be played by various entities. Government agencies are chosen to act as MHPs in the UK (local health authorities) and in countries with National Health Insurance such as Taiwan and Korea (health insurance bureaus). For profit or non-for profit private health insurance companies act as MHPs in countries such as the Israel, Germany, the Netherlands and Switzerland. Healthcare providers act as MHPs or are involved in purchasing care with various schemes, for example the fundholding Primary Care Trusts (PCTs) in England, and different Health Maintenance Organizations (HMOs) in the US.

Although all the above mentioned entities can become MHPs in theory, it would be difficult to introduce consumer choice of MHPs in China in any abrupt way. Because

healthcare is a semi-collective good, constituted on democratically established social rights, reform advocates not only have to overcome the various technical problems associated with any reforms, but also have to deal with substantial powers of veto against their reforms (Immergut, 1992). If the stakes of a policy program are high, as in the case of healthcare, actors may prefer to stick to their established institutions and policy programs in order to avoid uncertain and risky outcomes (path dependency) (Genschel, 1997; March & Olsen,1989). Because of the sunk costs of existing institutions and established policy programs, incremental changes in the system are much more frequent than fundamental ones (Wilsford, 1994). In this section, we discuss the following two (potentially complementary) options for creating consumer choice among MHPs that 1) allow the Chinese government to learn from international experiences; and 2) are incremental rather than fundamental reforms, and therefore seem to be promising options in terms of policy implementation (Xu & van de Ven, 2009).

Option 1: separating finance and operation of social health insurance and allowing private insurers to operate social health insurance

As mentioned in the "Opinions of the State Council of China on Deepening Health Care Reform", one potential option of creating consumer choice is to separate finance and operation of social health insurance and allowing private health insurance companies to be operators of social health insurance schemes (State Council of China, 2009).

Although a number of private insurance companies currently operate in China's health insurance market, they are only allowed to provide supplemental health insurance products. The social health insurance sector has not yet been opened to private insurers. If finance and operation of social health insurance is separated, consumer choice could be introduced in the social health insurance sector by allowing qualified private insurance companies to operatesocial health insurance, and to allow individuals to choose among the insurers that would be stimulated to act as MHPs, no matter their public or private nature.

If the Chinese government succeeds in creating a level playing ground to all the insurers/MHPs, they will face potential pressure from their competitors. Even the public MHPs (HIBs and local health authorities) will face this pressure because their position in the health insurance sector will be at risk if they keep losing enrolees, though they might not be fully exposed to the risks of exiting the market. In the long run, only those MHPs that operate efficiently will survive the market. In this way, MHPs are likely to be strongly motivated to be efficient and acting as prudent purchasers of care.

This option has its pros and cons. This option does not introduce a path-breaking reform by completely changing the role of the current HIBs and local health authorities. Instead, the role of the current insurers remains largely unchanged in the reform, at least at the beginning. Therefore, such a reform might face relatively less obstacles in

implementation. This option also gives equal opportunity and incentives for both public and private insurers/MHPs if implemented properly.

One issue concerning this option is that private health insurance companies in China are currently only third-party payers of care in supplementary insurance. They might need time to obtain experience and talents to be able to act as prudent purchasers of care.

Another issue lies in how the government will regulate the market. This option only works if private and public MHPs compete on a level playing ground. It would be a challenge for the Chinese government to avoid being influenced by public MHPs in regulating the market.

Option 2: consumer choice among fund-holding CHCs

Since early 2007, Community Health Centres (CHCs) have been emerged in the urban areas. CHCs are government-owned (with a few private-owned exceptions) and funded healthcare facilities in the urban areas. The primary intention is to encourage patients to seek primary healthcare at lower costs at CHCs, rather than in higher-level hospitals. They function similarly to the general practitioners (GPs) in many countries. The revenues of CHCs rely mainly on payments from HIBs and partly on OOPs from individual patients. As a result of China's recent massive investment in the healthcare sector, around 30 000 CHCs have been established in urban areas by November 2010 (Ministry of Health, 2010). Urban residents are encouraged, but not obliged, to register with CHCs that are close to their place of residence. They are generally allowed to choose freely among other CHCs in the city of their residence.

A capitation payment scheme, which constitutes an ex-ante payment from HIBs to CHCs based on the number of registered consumers, has been piloted in several cities, including Zhenjiang and Suzhou in Jiangsu Province, in order to stimulate the CHCs to be efficient in providing primary healthcare services (Anonymous, 2007). Under the capitation payment scheme, CHCs are reimbursed with a fixed amount of approximately 40 yuan per year per registered patient for providing primary healthcare services to these patients. This capitation payment is adjusted for patients with 11 specified types of chronic disease. This payment scheme aims to provide incentives to the CHCs to attract more registered patients, especially those suffering from one of the specified types of chronic disease, and to be cost-conscious in providing care. However, this scheme also gives incentives to CHCs to unnecessarily refer their patients to higher-level hospitals.

The second option for creating consumer choice among MHPs is that the HIBs transfer capitation funds to CHCs not only for the primary care provided by the CHCs themselves, but also for some secondary care delivered by higher-level hospitals (compare the GP-fundholders in England in the 1990s). This option is a step forward based on the current

capitation payment scheme. An important aspect of this option, which we refer to as 'fund-holding CHCs', is that individuals should be allowed to freely choose among CHCs.

CHCs are good candidate as MHPs because they have clinical knowledge and are at arms-length from the consumers. However, there are also pitfalls of this option: 1) the scale of registered patients of one CHC might be too small to satisfy the "law of large numbers" for being an MHP; 2) CHCs might lack necessary management skills, especially the skills regarding managing funds. These problems have been observed in the UK GP fundholders (Kay, 2002), and led to a reform in England from GP-fundholders to Primary Care Trusts (PCT) fundholders according to the recent UK government white paper Equity and Excellence: Liberating the NHS (UK Department of Health, 2010). In addition this option is not (yet) feasible in the rural areas in China because CHCs do not (yet) exist in rural areas.

Management skills could be obtained by CHCs over time. The problem of relatively small scale of CHCs raises the question whether it is feasible to pass the full risks of being MHPs to CHCs or it is better to pass only partial risks to CHCs. Exposure to the full risks might also become an obstacle in the implementation of such a policy. This problem could be addressed by various risk-sharing schemes and ex-post cost-based compensation between regulators or health insurers and CHCs. In this sense, option 1 and 2 are potentially supplementary to each other. If the management skills are obtained, and scales of CHCs grow over time, CHCs might be able to become independent MHPs in the long run.

Advantages and disadvantages of consumer choice among Mutual Healthcare Purchasers

There are a large bundle of literature that discussed the advantages and disadvantages of consumer choice among MHPs, as summarized below.

Advantages of consumer choice among MHPs

The main advantages of consumer choice among MHPs are as follows.

First, consumer choice can stimulate increased efficiency in the healthcare sector. When consumers are given the right 'to vote with their feet' and if they are provided with reliable information on benefit packages and price, they tend to choose the MHPs that provide the most favourable benefit package against the lowest price in the market (Enthoven, 1978). Thus, the market share of inefficient MHPs gradually shrinks. In option 2, even though fundholding CHCs are owned by the government, they are still under political pressure to operate efficiently. As a result of such market forces and political pressure, the healthcare system is likely to become increasingly efficient.

Second, MHPs are likely to respond to consumer needs. Competing MHPs are stimulated to meet their customers' needs and preferences in order to retain their existing customers and attract new ones (Enthoven,1978). In the case of China, if consumer

choice is created among MHPs, a likely direct outcome would be utilising the current huge unnecessary financial reserves held by HIBs to lower OOPs.

Third, consumer choice drives innovative activities among MHPs. MHPs are likely to be stimulated to initiate innovative activities in order to improve their efficiency or responsiveness to consumers' needs (Xu & van de Ven, 2009).

Disadvantages of consumer choice among MHPs

While the advantages of consumer choice described above are obvious, it is also true that, without proper regulation, consumer choice among MHPs can have serious side-effects.

First, there might be an unaffordability problem. In theory, competition could make the system more efficient, and the average premium will decrease, keeping quality constant. However, a lower average premium does not necessarily lead to lower premiums for everyone. In fact, without regulation, there might exist a wide variance among individual premiums, for example, extremely low premiums for young and healthy people, and extremely high premiums for old and sick people. In a competitive health insurance market, insurers attempt to breakeven on each contract as competition squeezes their profit per contract to the minimum. Without appropriate regulations, insurers adjust their premium per contract according to the expected costs of the consumers (risk rating), or adjust their products according to the risks that they accept (risk segmentation), or simply refuse high-risk individuals (risk selection). If the benefit package is standardized, risk-rated premiums could range from less than V400 to 40 000 or more per enrol per year (van de Ven, 2011). Thus, high risks either pay an excessive premium, or remain uninsured if they cannot afford the premium or are rejected by the insurers (van de Ven, 2000). Similarly to health insurers, fundholding CHCs either pass on excessive OOPs to the high risks or demand an excessive capitation payment from the insurers, who in turn charge the high risks excessive premiums. Without proper regulation, consumer choice cannot be combined with equity, because the high risks cannot afford the health insurance or healthcare they need.

Second, there might be an inaccessibility problem. Many countries with competing MHPs attempt to solve the problem of unaffordability by regulating premiums and benefit packages (for example, community rating and standard benefit packages). These measures, however, create the problem of inaccessibility. An example could be that MHPs refuse to enrol those individuals who will lead to predicted loss. The most commonly used regulation to solve the inaccessibility problem is open enrolment, i.e. insurers are obliged to accept all applications for the benefit package in question (Enthoven, 1978). However, with open enrolment and community rating MHPs incur a predictable loss when they contract with a high-risk and make a predictable profit when they contract with a low-risk customer, which results in incentives for risk selection.

Although straightforward risk selection is forbidden by means of the open enrolment requirement, there are many forms of subtle risk selection, such as selective marketing and intentionally avoiding a good reputation for managing chronic diseases, which are difficult to identify and prevent (Ackerlof, 1970). These risk selection strategies lead to market segmentation in the health insurance/MHP sector, i.e. high risks and low risks are insured with different MHPs. In the case of community rating per insurer/MHP the MHPs that are "specialized" in covering high risks have to charge higher than average premium. This is again may result in an unaffordability problem. If a flat premium across all MHPs is required, the MHPs with a concentration of high risks will eventually be driven out of the market. Anecdotal evidence of subtle forms of risk selection by CHCs has already been observed in China (Anonymous, 2010). As competition gives incentives to MHPs to avoid high-risk customers (risk selection), it becomes difficult for the latter to access health insurance or healthcare services (inaccessibility problem).

Third, there might be other unfavourable effects of risk selection. The potential problem of risk selection has various other effects that are unfavourable for the society. For example, efficient MHPs who do not engage in risk selection may lose market share to inefficient risk-selecting MHPs, resulting in a welfare loss to society. Risk selection also wastes resources because investment purely aimed at attracting low risks through risk segmentation or selection produces no net benefits to society (van de Ven, 2011).

Solving problems in a healthcare sector with competitive mutual healthcare purchasers

In order to solve the problems of unaffordability and inaccessibility, it is important to reduce (if not remove) the MHPs' incentives for risk selection. This can be done by implementing an adequate system of risk equalization, which is a system of cross-subsidies among individuals with high- and low-risk profiles. For risk equalization it is essential to (1) calculate the expected health expenditures of individual consumers over a fixed period (e.g. month, quarter or year) based on relevant information, and (2) granting subsidies to consumers or health plans to equalize the risk profiles of the potential insured (van de Ven & Ellis, 2000). In a health insurance sector with premium and benefit-package regulation, a risk equalization scheme can be implemented to reduce the incentive for risk selection. Without such regulation, a risk equalization scheme can be adopted as a form of subsidizing the high risks and solving the problem of unaffordability.

China is not alone in facing these potential problems; in fact, many countries with a competitive health insurance sector face similar problems. Among these countries, 5 countries are selected for discussion in this paper because governments in these countries have explicitly chosen to implement consumer choice among MHPs and to regulate the competition among MHPs: Belgium, Germany, Israel, the Netherlands, and Switzerland. In addressing the problems of unaffordability and inaccessibility, it is important to draw lessons from these countries. Netherlands is the only country, according

to our knowledge, that has explicitly adopted the model of regulated competition in the healthcare sector and has been consistently working on this model for more than two decades. Therefore, the experience of the Dutch healthcare system was given more emphasis in this paper.

INTERNATIONAL EXPERIENCE IN ADDRESSING THE PROBLEMS OF UNAFFORDABILITY AND INACCESSIBILITY

The problems of unaffordability and inaccessibility

The number of competing insurers in Belgium, Germany, Israel, the Netherlands and Switzerland ranges from four in Israel to around 400 in Germany. In most of these countries the insurers are fully financially responsible for their business. The exception is Belgium, where insurers have very low financial responsibility. New entrants to the health insurance market are allowed in all settings, except Belgium and Israel.

In order to solve the problems of unaffordability and inaccessibility, especially for the high risks, regulations such as risk equalization, community rating per insurer, benefit package regulation (i.e. a uniform or minimum benefit package) and open enrolment are enforced in all these five countries. Because the risk equalization systems in these countries are still imperfect, these regulations create incentives for subtle forms of risk selection, in particular in Israel and Switzerland.

In these countries risk selection is indeed widely observed. The tools for selection differ according to local policy constraints and regulations. In Belgium and the Netherlands, where basic and supplemental health insurance packages are usually provided by the same insurer, supplemental insurance is used as a tool for selection (Schokkaert&VandeVoorde,2003; vandeVen, Beck,VandeVoorde, Wasem,& Zmora, 2007). In the Netherlands, where a discount on the premium is allowed for group insurance, identification of whether an individual is a member of a group insurance scheme is a tool for selection (van de Ven et al., 2007). In the Netherlands and Switzerland, where a differential deductible is allowed, a high deductible and a bonus to customers is used to attract favourable risks (Holly, Gardiol, Eggli, Yalcin, & Ribeiro, 2004; van de Ven et al., 2007). Other risk selection tools, such as selective marketing and avoiding a good reputation for managing chronic illnesses, are observed in Germany (Buchnerk &Wasem, 2003).

Implementation of risk equalization schemes

Risk equalization in theory

There are two main types of variance of individual health expenditure: random and systematic (van de Ven & Ellis, 2000). Insurers are assumed to deal with the random

variation by having a large number of enrolees ('Law of the Large Numbers'). In a risk equalization scheme, the factors that are used to predict the systematic variance of individual health expenditure are known as 'risk adjusters'. Systematic variance can be attributed to two types of risk adjuster: subsidy type (S-type) and non-subsidy-type (N-type) (van de Ven & Ellis, 2000). Age, gender and health status are generally considered to be S-type risk adjusters in most countries, whereas N-type risk adjusters may include insurers' efficiency and health providers' practice style and price. It is unnecessary for the sponsor (i.e. government, employers, or other entities that are willing and able to ensure efficiency and equity of the healthcare sector) to organize cross subsidization for all systematic variance: only variance caused by S-type risk adjusters should be cross-subsidized. N-type variation is assumed to be reflected in the premiums. The effectiveness of a risk equalization scheme is often judged by its power to predict the systematic variance of contract-level health expenditure.

Risk equalization in practice

Risk equalization schemes differ in complexity from country to country. Among those with risk equalization schemes, Belgium and the Netherlands have the most sophisticated set of risk adjusters. In Belgium, age, gender, employment status, disability, income, mortality, area of residence (urban or rural) invalidity, eligibility for social exemption, and chronic illness are used as risk adjusters (Schokkaert & Van de Voorde, 2003). In the Netherlands, age, gender, region, socioeconomic status, source of income, pharmaceutical cost group and diagnostic cost group are used as risk adjusters (van Kleef & van Vliet, in press). In most countries, age, gender and health-status indicators are used as risk adjusters (Holly et al., 2004; Nuscheler & Knaus, 2005).

Of the five countries reviewed, Israel has the simplest risk equalization scheme: there, age is the only risk adjuster used. Obviously, this scheme has low predictive power; and indeed, the health insurers in Israel are actively engage in risk selection activities. The insurer that is least active in risk selection, which is a publicly oriented insurer, incurs huge losses each year and relies heavily on ex-post government subsidies (Shmueli, Chernichovsky, & Zmora, 2003).

Even in those countries with the most sophisticated set of risk adjusters, risk equalization schemes are not effective enough to remove insurers' incentives for risk selection. In the countries reviewed, various methods of risk sharing are implemented to further reduce the insurers' incentive for risk selection. For example, in Israel there is 100% risk sharing for five specific chronic conditions (Shmueli et al., 2003); in the Netherlands, the government shares a certain (and decreasing) percentage of the insurers' loss (van de Ven & Schut, 2011); in Germany, insurers can voluntarily participate in risk-sharing schemes organized by the government (Nuscheler & Knaus, 2005).

Risk sharing not only reduces insurers' incentives for risk selection, it also reduces their incentives for efficiency. Therefore, all countries reviewed are making efforts to improve their risk equalization schemes and reduce the extent of risk sharing. However, there are several major obstacles to implementing an effective risk equalization scheme.

Practical obstacles to implementing a risk equalization scheme

In the countries reviewed, we have observed two main practical obstacles to the process of implementing a risk equalization system. The first obstacle is a lack of consensus among stakeholders, either on the desirability of competition in the health insurance sector or on the necessity of an effective risk equalization scheme. In some countries, this is seriously hampering the implementation of a risk equalization system. Resistance may come from various sources. In Belgium, there is no political consensus on the need for competition and a risk equalization scheme (Schokkaert & Van de Voorde, 2003). In Israel, there is a lack of public interest in a risk equalization scheme (Shmueli et al., 2003). In Switzerland, the implementation of a risk equalization scheme is resisted by certain insurers who engage in risk selection (Holly et al., 2004). The second practical obstacle is that the necessary data on the health status of individuals is not available, either because of legally enshrined confidentiality principles or because of the high costs of collecting such data. The latter obstacle can be observed in all the five countries.

Potential obstacles to creating consumer choice and implementing a risk equalization scheme in China

There are at least four potential obstacles to creating consumer choice among MHPs and implementing a risk equalization scheme in China.

There is a lack of political consensus on the need for competition among MHPs

Although the Chinese government, in the 2009 blue print of healthcare reform, declared its intention to introduce competition in the health insurance sector (State Council of China, 2009), that cannot be achieved overnight.

In government reports and statements on organization of the three social health-insurance schemes, 'efficiency' is a frequently used term, rather than 'competition' or even 'consumer choice'. Indeed, policymakers in the healthcare sector tend to avoid the term 'competition' because they naturally link competition to the problem of unaffordability. This linkage is based on unfavourable experiences with unregulated competition in China's healthcare system since the 1990s.

Stakeholders in the healthcare system hold various and often contrasting opinions on a system with competitive MHPs. As previously stated (Eggleston, Li, Meng, Lindelow, &Wagstaff, 2008), there are at least six major stakeholders: (1) the MOH, which represents the insurer of NRCMS and all public healthcare facilities; (2) the MOHRSS, which represents the governmental agencies that operate the UEBHI and the URBHI; (3) the

Ministry of Finance (MOF), which is responsible for granting subsidies to the MOH and the MOHRSS; (4) private healthcare facilities; (5) private health insurers; and (6) patients. The three most influential stakeholders e the MOH, the MOHRSS and the MOF e rarely cooperate with each other in making policies.

The MOH's attitude towards competition is heavily influenced by the opinions of the public healthcare facilities, especially large public hospitals, which often oppose competition due to their dominant position in the market and the perceived threat of being challenged by new entrants to the envisaged competitive market. This makes it difficult for the MOH to openly allow competition among CHCs (or alternatively, to give consumers a choice among CHCs). However, as governmental subsidies account for only 10% of the revenues of public healthcare facilities on average, care providers are in practice competing for market share and revenue (Eggleston et al., 2008). Furthermore, the MOF can also powerfully influence the MOH's decision-making processes because it channels huge subsidies for public healthcare facilities and the NRCMS to the MOH. As a result of these influences, the MOH's opinion on competition remains equivocal.

The MOHRSS is currently making a great effort to enhance the efficiency of the local HIBs. As the MOF finances both the MOH and the MOHRSS, the concept of 'internal competition' may be attractive to both of these ministries. Allowing private health insurers to step into the social health insurance sector and creating a 'level playing field' for them to compete with the HIBs entail entitling them to the same level of subsidies from the MOF. As this challenges the dominant position of, and therefore the benefit for, the MOHRSS, it may be difficult to achieve in the near future. Against this complex background, the Chinese government has not yet determined a roadmap for introducing market mechanisms in the health insurance sector.

Policymakers largely neglect the problem of risk selection

Chinese policymakers often assume that because social health insurance agencies and CHCs are not-for-profit organizations, there is little incentive for them to engage in risk selection (Anonymous, 2009b). Although current policies emphasize the not-for-profit nature of the potential MHPs, this does not necessarily exclude their incentives for risk selection.

In China, social insurance agencies do not pursue profits but political achievements such as the number of insured covered or the financial reserves held by an HIB or local health authority. Therefore, even social insurers are motivated to engage in risk selection, because the more affluent or healthy their risk pool, the greater the financial reserves they can accumulate, and more "sustainability" the officers can claim.

Fund-holding CHCs can spend the revenue that they obtain - after deducting the costs - on improving equipment and awarding bonuses to their staff. Thus, even as not-for-profit organizations, the CHCs are strongly motivated to maximise their revenue and

minimize their costs. The most straightforward way for fundholding CHCs to achieve a large difference between revenue and costs is to register low-risks and avoid high-risks. Without in-depth knowledge of risk equalization schemes, policymakers tend to be conflicted between, on the one hand, providing incentives to CHCs to increase efficiency and, on the other hand, sacrificing efficiency for equity. In most cities, the problem of risk selection is largely neglected by policymakers.

It is difficult to implement the 'English PCT budget' model in China

In China, CHCs are owned and managed by district-level health authorities. Most secondary hospitals are owned and managed by city-level health authorities, and most tertiary hospitals are owned and managed by provincial-level health authorities or the MOH. If CHCs are empowered to use the risk equalized capitation budgets of their registered patients to purchase healthcare, and if these capitation budgets are to (partially) account for the patients' expenditures in higher-level hospitals e as in the English PCT budget model e this will potentially pose a threat to the power of higher-level health authorities. Therefore, adoption of this model might face political obstacles in China.

In Zhenjiang, vertical integration of CHCs, secondary hospitals and tertiary hospitals has recently emerged (Anonymous, 2009a). Two medical groups, each composed of various CHCs, several secondary hospitals and a tertiary hospital, were established in November 2009. However, in addition to the administrative contract between health facilities and medical groups, the former are still officially owned and managed by various tiers of local government. Therefore, this kind of integration does not provide a solid base for implementing the English PCT budget model.

There is a lack of necessary data in China

Data deficiency is a major problem faced by most countries that have a risk equalization scheme or are considering implementing such a scheme. In China, data on the individual health expenditure of the insured population has been available since early 2000 (in some cities since mid-1990s), whereas data on the health status of individuals is limited to information on a dozen chronic diseases and around five severe diseases (the numbers of chronic and severe diseases differ from city to city).

Another major problem with the data on individual health expenditure is that Chinese citizens currently pay a large portion of their medical expenditure out-of pocket. OOPs are not always recorded in insurers' databases and can only be obtained from healthcare facilities. It is extremely difficult to obtain the OOP of a specific individual over a fixed period of time: individuals may switch from one provider to another for different episodes of treatment, and it is as yet technically impossible to link expenditures incurred by a single individual in different healthcare facilities, especially for OOP and for uninsured people.

CONCLUSIONS AND DISCUSSION

Conclusions

The Chinese government is considering creating competition within its health insurance sector (State Council of China, 2009). It is important that the government considers seriously not only the advantages, but also the disadvantages of allowing consumer choice among health insurers, including the key problems of unaffordability and inaccessibility, as well as potential methods to solve these problems.

Because a major advantage of a competitive health insurance market is that insurers can act as well-motivated prudent purchasers of healthcare on behalf of their enrolees, we analysed in this paper potential ways of allowing consumer choice among 'Mutual Healthcare Purchasers' (MHPs) in China, including the advantages and disadvantages. MHPs need not only be insurers, but can also be provider organizations that fulfil the insurance function, e.g. fundholding Community Health Centres (CHCs). We also examined the experiences of five countries in addressing the unaffordability and inaccessibility problems posed by competitive health insurance markets and highlighted some lessons that are relevant for China.

Our main conclusion is that although allowing consumer choice among MHPs presents clear benefits, negative side-effects such as the unaffordability and inaccessibility problems should not be underestimated. One way to attempt to address these problems is by implementing premium regulation, benefit-package regulation and open enrolment. However, such measures provide incentives for MHPs to indulge in risk selection, which is a severe problem because it may harm the accessibility of health insurance and in some cases healthcare, especially among high-risk individuals. In theory risk selection can be counteracted by an effective risk equalization scheme, but in practice most equalization systems appear to be still imperfect. In five reviewed countries with competitive health insurance markets, we have found that risk selection occurs in practice, albeit to different extents. In Israel and Switzerland, where the predictive power of the risk equalization scheme is poor, risk selection is a serious problem. In three other countries - Belgium, Germany, and the Netherlands – more sophisticated risk equalization schemes have been implemented, but all three countries still experience the risk selection problem to some extent. China is not likely to be an exception if a competitive health insurance system is allowed and encouraged. In addition, practical difficulties and obstacles are also likely to be encountered in the context of China. Ex-post risk sharing is widely used to compensate for the ineffectiveness of risk equalization schemes. In addition, in all these five countries that operate risk equalization schemes, political and technical obstacles have been encountered during or before their implementation. Similar obstacles exist in China. For successful implementation of a risk equalization scheme, relevant data at the level of the individual consumer must be made available. This seems to be a big

challenge for China because the availability of such data is not clear, and even if the data is available, the stakeholders' willingness to share such data is unknown. If China is going to create consumer choice of MHP, the improvement of the data and the development of a sufficiently refined risk equalization scheme is a major challenge. The implementation of an effective risk equalization scheme in practice, which is a necessary precondition to create competition among MHPs, may be a politically and technically complicated issue in the context of the Chinese healthcare sector.

Discussion

Creating consumer choice among MHPs in the Chinese healthcare sector and implementing an effective risk equalization scheme may take years or even decades. Three key issues in the implementation would be: 1) who is the regulator of the health insurance market; 2) who organizes the risk equalization scheme; and 3) who collects the funds. As the governmental agencies, i.e. the local HIBs and the health authorities, have been intensively involved in the social health insurance market in China for more than a decade, they are good candidates to be the regulator of the (local) health insurance market. If the Chinese government adopted option 1 for the reform, the entity that is responsible for financing health insurance (which was a part of the previous HIB before the separation of finance and operation) would be the best candidate to act as both regulator of the market as well as the organizer of risk equalization schemes. If option 2 was adopted, the HIBs and the local health authorities can cooperate with each other and become the regulator of the market. The HIBs can also act as the organizers of the risk equalization schemes. The answer to the question "who collects the funds" depends to a large extent on how the premiums are calculated. If premiums are calculated according to the income of the enrollees, it would be difficult for the private health insurers to collect funds because they normally do not have income information about their enrolees. In this scenario, local health authorities or the entities that are responsible for financing social health insurance could act as funds collectors and distribute the funds among operators of health insurance. Because there are currently two major social MHPs (namely local HIBs and local health authorities) in China in basically any specific administrative areas, it would be difficult to implement a risk equalization scheme in one area without intensive cooperation between these two MHPs (which would be difficult) or combining them into one single entity. In several cities, there have been signs of combining different social health insurance schemes into one universal one in an administrative area. This would be a helpful pre-step of implementing risk equalization schemes in the future.

Given the complex nature of the Chinese healthcare system, policymakers need to adopt a strategic approach in designing reforms that envisage a healthcare system with competitive MHPs. For example, in the potential option of gradually introducing competition of allowing qualified private health insurance companies to enter the social health

insurance market and compete with the existing operators of social health insurance schemes (MOH, MOHRSS, and their local branches), it is unnecessary to give them full financial responsibility in the early stages. Initially, they could be given 10% financial responsibility, and the percentage could be increased gradually as they adapt to a competitive market and master the necessary skills to become prudent purchasers of care and efficient administrators. Such risk sharing provides a safety net to insurers/MHPs. In China, a combination of these methods may succeed in reducing fear-based opposition to competition among MHPs, and thus smoothen the process of stimulating competition. For UEBHI, with which premium is to a large extent income-related, one part of the current HIB could be turned into an independent entity that is responsible for collecting premium because it will be difficult for private MHPs to collect income-related premium. The HIB could then organize a risk equalization system that provides payments to both public and private MHPs. The current HIBs and local health authorities are also good candidates to organize risk equalization schemes because they have more than 20 years' experience of operating social health insurance and have rich data about the historic individual level health expenditure and to a certain degree individual's health status.

Consumer choice among MHPs may be effective in terms of reducing unnecessarily excessive financial reserves of the current social health insurance agencies. However, if healthcare providers are not motivated to compete with one other, competing MHPs will have little room to negotiate with them over the price and quality of care. Thus, the benefit of consumer choice among MHPs will be limited. In China, although healthcare providers are legally owned and managed by the government, in practice they are largely financially independent. Providers are given incentives to generate revenue. However, due to inappropriate price regulation and reimbursement policies, the current competition is not increasing efficiency. The Chinese government is aware that the wrong incentives have been given to public hospitals and has declared its intention to implement reforms geared to efficiency and public interest in the public hospital sector (State Council of China, 2009). As yet, there is no clear roadmap for reform of the public hospital sector, which indicates a need for further research.

To the Chinese government, consumer choice among MHPs seems to be an attractive proposition (State Council of China, 2009). Yet without well informed and carefully considered regulation, unaffordability and inaccessibility may arise as major obstacles to the socially desirable goal of equity in the healthcare system. As the problems of unaffordability and inaccessibility are the two major problems that need to be tackled by the Chinese government, an effective risk equalization scheme is necessary if consumer choice among MHPs is allowed. It is also desirable because solidarity has been a deeply rooted value in China, considering the historical Cooperative Medicine in China during 1950s and early 1980s. Theoretically at least, with an effective risk equalization scheme, both solidarity and efficiency can be achieved in a competitive health insur-

ance sector. However, establishing and consolidating such a scheme is a technically and politically complicated procedure. Potential modules of organizing risk equalization schemes are to a large extent a political choice. For example, the choice of risk factors and their weights depends on both data availability and political decisions. To overcome the potential obstacles of creating consumer choice among MHPs and implementing an effective risk equalization scheme, the Chinese government needs to be well prepared - both technically and politically.

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Chapter 8

Summary and conclusion

1. BACKGROUND

In this chapter we answer the central research question: "What are the prospects of competition in China's healthcare reform?", and offer policy recommendations.

The reform from a centrally-planned government-funded healthcare system to a market-oriented system during 1980s and 1990s was considered a failure by the Chinese government because it resulted in serious problems with affordability and accessibility (Ge 2005). The government announced huge amounts of additional investment in the healthcare system in 2009 to expand basic health insurance coverage and strengthen public health (State Council of China 2009). It is not yet clear whether the investment has realized systemic efficiency and equity.

Competition in the health delivery and even health insurance sectors has been mentioned as an option to reform the Chinese healthcare system (State Council of China 2009). The prospects of competition in the Chinese healthcare system, however, requires understanding of its advantages and disadvantages by policy makers, and whether necessary pre-conditions for effective competition are (potentially) fulfilled in China.

Competition could take place in different sectors in a healthcare system. The model of van de Ven et al. (Table 1) categorizes healthcare systems according to whether price competition exists among healthcare providers and insurers (van de Ven, Wynand P.M.M, Schut & Rutten 1994). This model provides an appropriate analytical framework for investigating the consequences of adopting market mechanism (the same notion as competition in most official statement in China) in the Chinese healthcare system, as is being considered by the government.

The current healthcare system in China is very close to model 2, where no price competition exists among health insurers but some is allowed among healthcare providers, although in practice such competition is rare. Model 3 is theoretically unsound because the disadvantages of competition among insurers cannot be ignored (explained in Chap 1). As explained in chapter 1, Models 1, 2, and 4 are thus relevant to future healthcare reform in China.

Table 1 Models in organizing the healthcare system

		Health Providers	
		Price competition	No price competition
Health Insurers	Price competition	1	3
	No price competition	2	4

Source: van de Ven, W.P.M.M., Schut, F.T., and Rutten, F.F.H., "Forming and reforming the market for third-party purchasing of health care", *Social Science & Medicine*, 1994, 39(10): 1405-1412.

Theoretically speaking, the Chinese healthcare system could transit from model 2 to either model 1 or 4, or it could move closer to prototype model 2.

2. RESEARCH QUESTIONS AND ANSWERS

In this thesis, the central research question is: "What are the prospects of competition in China's healthcare reform?"

This question is addressed in two separate parts. In Part I, healthcare reform in England (model 4 to 2), Russia (model 4 to 1) and the Netherlands (model 4 to 1) are analyzed. Advantages and disadvantages of each prototype models 1, 2, and 4 are discussed based on country experiences. Experience and lessons of the reforms are learned from these countries. A list of necessary pre-conditions for model 1 and 2 are summarized.

In Part II, three selected pre-conditions were investigated in-depth. The prospects of fulfilling these pre-conditions in China are discussed.

Part I: International experience of healthcare reforms in three countries

Advantages and disadvantages of prototype model 1, 2, and 4
We analyzed the experiences of the pre- and post-reform English healthcare system (models 4 and 2, respectively) as well as the post-reform Dutch system (model 1). (See chapter 2.)

Model 4. The National Health Service (NHS) of England before the 1991 reform was funded through general taxation, provided mostly by government facilities and free at the point of service. This is basically a government provision model with no competition between any actors in the system (model 4). It was strong in controlling healthcare expenditure, had relatively low transaction costs, and required relatively simple legislation. The pre-reform English NHS experienced financial pressure from the outset. Such a system is financially vulnerable especially under the pressure of increasing healthcare expenditure. In addition to that, it is also difficult for the government to gain quality and cost information. The English government was criticized for being bureaucratic in decision making and inefficient in providing care. Providers had little incentive for efficiency; indeed they were in fact punished for efficiency because thus they attracted more patients with constant resources. There were not sufficient incentives for providers of care to provide high quality care, be responsive to consumers' need, be innovative in providing care, and be accountable to the consumers. Because physicians were allowed to work in both public and private sectors, they had incentives to reduce quality of the care they provided in the public sector and increase waiting list, so that they could in-

duce patients to their private practice. In this system, as rationing mechanisms, waiting list and waiting time are notorious.

Model 2. The British government implemented an internal market reform in 1991, aiming at 'regulated competition' among healthcare providers and setting the role of health authorities as non-competing purchasers of care. With competing healthcare providers and non-competing third party purchaser(s) (TPPs), the post-reform English system belongs to model 2 in our typology. One major reform measure was splitting the responsibility of purchasing care from providing care. General practitioners (GPs) were first given the opportunity to become GP fund holders, and then organized into local Primary Care Groups (PCGs), and later into Primary Care Trusts (PCTs). Furthermore, hospitals began to operate as independent entities, though the financial incentives were still soft because of their governmental-owned nature. In whatever forms GPs were organized, the principle of 'money follows the patients' remained. It was intended to take away the previous perverse incentives with respect to efficiency, quality, and responsiveness to consumer preferences, and encourage innovation and accountability. Though shorter waiting lists and times were observed, such a system required more complex regulations than the pre-reform NHS. Transaction costs rose as a share of health expenditure. Consumers still had no choice among TPP(s). Few evidence showed that purchasers of care had incentives for stimulating efficient care provision, purchasing high quality care, being responsive to consumer preferences, being innovative, and being accountable. Never the less, model 2 requires relatively complex regulation and stewardship, including competition policy, quality supervision, and consumer information compared with model 4. It has been criticized that the internal market reform resulted in incentives too weak for efficiency and constraints too strong.

Model 1. For more than two decades, the Dutch healthcare system has been transiting from a central price- and capacity-controlled model towards a 'regulated market with competing third-party purchasers and competing providers of care'. Since 2006, the Health Insurance Act has obliged each legal resident to buy individual private health insurance with a legally described benefits package from a private insurance company. Consumers are fully price sensitive and encouraged to shop among health insurers. Competition among health insurers is encouraged. In the meantime, competition among healthcare providers is being introduced by allowing insurers and providers to selectively contract, and gradually removing governmental price controls of some healthcare services. The Dutch system is thus moving towards model 1. The major advantages of model 1 include consumer choice among both insurers and healthcare providers, as well as in theory motivated prudent purchasers. Above that, incentives are given to insurers and providers of care in terms of efficiency, quality, consumer-preference responsive-

ness, innovation, and accountability. The model, however, is technically complicated, requiring relatively complex regulations (risk equalization and competition policies, for example) to avoid market failure, and leads to relatively high transaction costs of contracting. There are potential risks for risk rating and/or risk selection in such a model.

The advantages and disadvantages of the three relevant models are summarized in Table 2.

Table 2 Relative advantages and disadvantages of the three prototype models

	Advantages	*Disadvantages*

Model 4	- Strong ability to contain costs;
	- Low administrative costs;
	- Relatively simple legislation.
		- Fiscal pressure faced by the government, which may result in underfunding and a two-tier-system;
		- Lack of incentives for
		  - Efficient care;
		  - High quality care;
		  - Consumer responsiveness;
		  - Innovation;
		  - Accountability.
		- Long waiting lists and times;
		- Bureaucracy;
		- Perverse incentives for private practice physicians to reduce quality and increase waiting lists in the public system;
		- Difficulty gaining central information.

Model 2	Because 'money follows the patient', providers have incentive for
	- Efficient care;
	- High quality care;
	- Consumer responsiveness;
	- Innovation;
	- Accountability.
		- Relatively high transaction costs of contracting;
		- No consumer choice among purchasers;
		- Relatively low incentive for purchasers for
		  - Stimulating efficient care provision;
		  - Purchasing high quality care;
		  - Responsiveness to consumer preferences;
		  - Innovation;
		  - Accountability;
		- Relatively complex regulation / stewardship (competition policy, quality, consumer information).

Model 1	- Donsumer choice;
	- Motivated prudent purchasers;
	- Because of 'voting by feet' incentives for purchasers and providers for:
	  - Efficient care provision;
	  - High quality care;
	  - Consumer preference responsiveness;
	  - Innovation;
	  - Accountability.
		- Relatively high contracting costs;
		- Relatively complex regulation / stewardship (risk equalization, competition policy, quality, consumer information);
		- Potential for "risk rating" and/or "risk selection", depending on the regulation.

Pre-conditions for competition in the healthcare system

Model 1 allows competition among both health insurers and healthcare providers. Model 2 allows competition only among healthcare providers. Thus, model 1 is in theory more complicated than model 2, and requires more pre-conditions. In this section, pre-conditions for model 1 will be discussed based on the experiences of Dutch and Russian healthcare reform. Those relevant to model 2 will be listed out at the end.

In model 1, without proper regulations, both insurers and providers are likely to adopt strategies, which may or may not be in the interest of the consumers, to pursue profits or survival. Strategies include (among others) risk rating, risk selection, market segmentation, product differentiation (raising information costs), coverage discontinuity, refusal to insure certain individuals, coverage exclusions for pre-existing conditions, biased information regarding coverage and quality, and creating barriers to entry. It is difficult, if not impossible, for individual consumers to counteract these strategies. Regulations in the healthcare sector need to be carefully implemented to avoid the above-mentioned market failures. There needs to be a powerful, willing, and active 'collective sponsor' to regulate the health care market and counteract market failure on behalf of the demand side (Enthoven 1988).

Chapter 3 and 4 discussed the experience of the Russian and Dutch healthcare reform towards model 1, respectively.

Lessons from Russia (chapter 3). Before 1993, the Russian healthcare system is centrally-planned and government-funded with no competition (model 4). Though it made great strides in improving the health of the Russian population, low quality care and inefficiency were problematic. In 1993, the Russian Health Insurance Law introduced mandatory health insurance (MHI) in the Russian Federation with the aim of dramatically changing the healthcare system from model 4 to model 1. Healthcare purchasing and provision were separated by setting up health insurers, which were expected to become prudent purchasers of care with motivation and leverage to influence providers' performance.

The implementation produced a mixed-model. Purchasers of care are insurance companies, regional MHI funds, or a mixture of the two, depending on employment status and geographic area. Employers choose insurers on behalf of their employees; regional governments choose insurers for MHI on behalf of the non-working population. Thus, individual-level consumer choice among health insurers is very limited and consumer price-sensitivity is non-existent. The government covers the financial risks of providing MHI and health care services. Neither insurers nor providers of care face financial risks. To make things worse, a large share of total health expenditure is channeled from the government directly to the providers of care. This mechanism makes the health insurers an additional layer in the financial flow without much function. The Russian

government is not prepared to let the market force work in the healthcare sector, it still regulates heavily on the healthcare market. Barriers to enter the market are high for private healthcare providers because of limitation on licenses and the premature capital market. In practice, the government protects existing providers from exiting the market. Hospitals are highly regionalized and often have natural monopoly positions, which seriously harm insurers' negotiating power. A standard contract is used by all insurers and providers. The benefit package is not clearly defined by the Health Insurance Law. Product classification varies across regions. Age and gender are used as risk adjustors in allocating funds, indicating a long way from an effective risk equalization scheme. Effective quality measurement is lacking. Consumers are generally unaware of their entitlements under the law. Consumer information about services of health insurers and providers does not exist.

Not surprisingly, health insurers in Russia are not given proper incentives to be prudent purchasers of care, and competition does not come naturally to the Russian healthcare system. After 17 years of reform in the direction of regulated competition, there is still no apparent evidence of competition: insurance companies do not compete for consumers; healthcare providers do not compete for contracts from insurers.

The Dutch Experience (chapter 4). During the past two decades, the Dutch government has also gradually reformed its healthcare system from model 4 to model 1.

In 1992 sickness funds were permitted to operate in larger areas, enrollees were allowed to choose a different sickness fund annually. The health insurance market was also gradually opened to private health insurance companies. Consumer choice among health insurers was thus gradually created. Since 2006, all legal residents of the Netherlands have been obliged by law to buy individual health insurance, which is a legally prescribed standard benefit package, from a private insurance company. The difference between sickness funds and private insurance companies was abolished. Open enrollment and community-rated premiums are required. Consumers are expected to be sensitive to the price of their insurance because they pay the premium directly to their chosen insurance companies at various prices. Since 1993, health insurance companies (including the previous sickness funds) have increasingly borne financial risks for their operation, from 3% in 1993 to 92% in 2012. Insurers are by regulation allowed to selectively contract with providers of care. Negotiation of prices of healthcare services has also been allowed since 1992. The Dutch government has gradually loosened control over price of healthcare services since 2005, especially in some specific healthcare services. In 2009, insurers and hospitals were allowed to freely negotiate prices and selectively contract for a range of products, accounting for about 34% of hospital revenues. This figure was increased to 70% in 2012, which suggests increasing financial risks for hospitals. The Dutch government has been making efforts toward developing

a risk equalization scheme since 1993. From 1993 to 2002, the risk equalization scheme was primarily based on age, gender, indicators of disability, and social-economic status. In 2002 and 2004, Pharmacy-based Cost Groups, Diagnostic Cost Groups, and the self-employed were added as risk adjustors. Along with the improvements of the risk equalization scheme, financial risks borne by health insurers have been gradually increased. The Inspectorate for Health Care obliges hospitals to collect data on indicators of quality of care, such as mortality after myocardial infarction or stroke and wound infections. The results are publicly reported on a freely accessible website (www.kiesbeter.nl). Information about health insurance companies, such as their price and services is available from this website, and is monitored by the Netherlands Healthcare Authority (NZa). Competition regulations are applicable to the health insurance and health provision markets, aiming to prohibit cartels and abuse a dominant position.

The current Dutch healthcare system is not yet a perfectly regulated competitive healthcare system; it is, however, intending to approach this model in practice.

From both the Russian and Dutch experience of transition from model 4 to model 1, we conclude that some pre-conditions need to be fulfilled to achieve effective competition, and thereby achieve efficiency and equity in the healthcare system, including the health insurance sector and the health provision sector. If any of these necessary pre-conditions are not fulfilled, competition will not come naturally to the system, and may not result in efficiency and equity. The Russian experience provides valuable lessons. Some of these pre-conditions are not relevant for model 2 because there is no competition among health insurers in model 2. Table 3 presents a list of necessary pre-conditions for model 1, among which some are also relevant for model 2.

Table 3 Necessary pre-conditions for model 1 and 2

Pre-conditions / relevancy for	Model 1	Model 2
Consumer choice among insurers	√	
Open entry and exit of the health insurer/provider markets	√	√
Price-sensitive consumers	√	√
Contracting freedom	√	√
Sufficient number of healthcare providers	√	√
Regulations on competition	√	√
Standardized benefit package	√	
Effective product classification in the health provision market	√	√
Risk equalization schemes	√	
Effective quality measurement	√	√
Consumer information	√	√
Appropriate government regulation	√	√

Relevancy for the Chinese healthcare reform. All the pre-conditions are examined against the background of the current Chinese healthcare system. There is very limited consumer choice among the three major health insurance schemes in China, namely New Cooperative Medical Scheme (NCMS) for farmers, Urban Employees' Basic Health Insurance (UEBHI) for urban employees and retirees, and the Urban Residents' Basic Health Insurance (URBHI) for urban unemployed residents. Consumer choice among healthcare providers is allowed. However, this is restricted among public hospitals, which normally have contracts with the major health insurers. Furthermore, as public hospitals are legally owned by the government, consumer choice among providers is not effectively transformed by the opening/closure of hospitals. In the health insurance market, there is no open entry and exit to the market. Thus, social health insurers have limited incentives to be efficient in purchasing care. Private investment faces high entry barrier of the hospital market. Even if private hospitals enter the market, they face difficulties in surviving because of no level playground between them and public hospitals. For UEBHI, one of the major health insurance schemes, premiums are a certain percentage of the enrollees' salary and deducted from the gross salary of the enrollees. Consumers are therefore not sensitive with respect to their premium. As the government sets the price for public hospitals and allows little room for differentiated pricing, health insurers have very limited contracting freedom while negotiating with healthcare providers over price and quality of care. Moreover, a large share of healthcare expenditure is paid out-of pocket by individual patients; the negotiation power of the insurers is further harmed. Because the government strictly regulates the number of healthcare providers, there is not sufficient number of healthcare providers to generate competition, especially among public providers of care. Pro-competitive regulations are to a large extent unavailable in the current Chinese healthcare sector. There exist large discrepancies among the benefit package of the three major health insurance schemes, and even within the same scheme across regions. Effective product classification in the hospital market hardly exists, with a few early attempts of diagnosis-related groups in some areas. Risk equalization scheme is a brand new concept in China. Skills and data are still to be gained. Health insurers do not have official authority to organize effective quality measurement among healthcare providers. Currently, quality measurement is mostly taken by the healthcare providers themselves, results of which are rarely publicized. Consumer information about quality and price of healthcare providers and health insurers is scarce.

In either model 1 or model 2, third-party payer(s) need to have sufficient motivations and tools to become a prudent purchaser of care on behalf of their members.

China is obviously not well prepared for a transition towards model 1 because most of the pre-conditions for model 1 are not fulfilled. The prospects of model 1 in the Chinese healthcare system heavily depend on the willingness and capacity to fulfill these

pre-conditions of the government. A major challenge for China, no matter which model China will choose, is to set up powerful agencies that have the incentive and ability to be cost-conscious third-party purchasers of care on behalf of individual consumers.

Part II: three selected pre-conditions for a competitive healthcare system in the Chinese context

Regulations on competition (chapter 5)

Competition has been allowed and encouraged in the Chinese hospital market for more than two decades. However, effective competition is still very limited among public hospitals, which take a major share of the hospital market in China. Competition does not arise naturally in the market without proper regulations.

The Chinese anti-monopoly law (AML) has come into force since August 2008. By examining the key elements of competition laws in several other countries, such as the United States (US) and the Netherlands, and their enforcement in the hospital sector, we conclude that the goals and key definition of the Chinese AML are consistent with those of the US and the Netherlands. However, the major challenges lie in the enforcement, rather than the issuing of the law. Public hospitals in China are in practice exempted from this law.

Besides this, there exist several anti-competitive regulations in the Chinese hospital market. Public hospitals do not have sufficient autonomy regarding capacity and pricing. A top-down and static plan is made every five years by the government and determines the number of beds per hospital and even per department of a hospital. High-tech medical devices or equipment are also under similar control of the government. Price of healthcare services is determined by the government under a screwed structure that favors drugs and high-tech examinations over basic healthcare services. In recent years, entrance regulations have been loosened for private and foreign investments in the hospital market. However, public hospitals face exit barriers, and this leads to an uncontestable market which has limited room for new enterers. Even if private hospitals succeeded in entering the market, they face difficulties in surviving it. Public hospitals have advantages in taxation, contracting with major (public) third party purchasers, favorable pricing-scheme with the major insurers, and advantages in attracting top-level talents. There is no level playground for private and public hospitals.

Pro-competitive regulations largely do not exist in the current Chinese hospital market. Without proper product classification, major health insurers have very limited purchasing techniques. Consumer choice is restricted among contracting hospitals, which are mostly public ones, and within an administrative region. The government pays insufficient attention in creating and disseminating consumer information about quality and price of healthcare providers and health insurers. Valid consumer information about quality and price of health care providers is also rarely publicized.

To summarize, room for competition in the Chinese hospital market is currently limited despite the government's allowance for competition. There is prevailing regulated monopoly supported by the government in the current hospital market in China. The government showed, however, willingness to change in several pilot reforms such as the reform of changing public hospitals into shareholder-owned hospitals in Luoyang city.

If the Chinese government decides to further encourage competition in the hospital market, it needs to eliminate regulated monopoly in the hospital market, transit its role from the owner and administrator of public hospitals into a regulator who sets the rules of the game, and remove the hospital sector's exemption from the AML enforcement. International experience shows that quality of care might be harmed if price competition is allowed in a health provision market without sufficient information about healthcare quality. Because quality of care is poorly measured and publicized in the current Chinese healthcare system, it is important for the Chinese government to be aware of the potential negative impacts of pure price competition in the health provision market.

Consumer information (chapter 6)
In 2009, a survey on the level of consumer information about health insurance in Nanjing, the capital city of Jiangsu Province was conducted. A total number of 1175 insured people filled in a questionnaire, by which information about their insurance types, self-assessed health status, previous healthcare service utilization, understanding of their insurance, their perceived importance of relevant information, and their perceived difficulties in finding relevant information are collected.

The distribution of this sample is consistent with that of the whole population in terms of type of health insurance schemes. Consumer information about a health insurance scheme is grouped in five categories: price of health insurance scheme (premium), copayment of healthcare service, content of the benefit package (services/medications covered by the scheme), right of free choice among healthcare providers, and consumer service of the health insurance (hot-line, user-friendly website, etc). The answers of the respondents were compared with the official policies of the health insurers to judge whether the respondents were correct.

Results of the survey show that the current level of consumer information about their health insurance schemes is low. Only 25% of the respondents know correctly about their premiums, and only 36.8% know correctly about whether they have choice among healthcare providers. The level of consumer information is positively correlated with the subscribers' motivation. For example, those enrolled in a mandatory health insurance scheme know much less about their insurance than those enrolled on a voluntary basis. The level of consumer information is also positively correlated with the availability of such information. Those who report having reliable sources of information know more about their insurance than those without such sources.

The respondents are also not active in searching relevant information. Only around 15% of the respondents tried to search any type of information including out-of-pocket pharmaceutical costs, other healthcare copayment, and information about the health insurance scheme itself. The difficulties in finding relevant information might explain their inactiveness in searching: among those who searched, only around 25% actually found the information they looked for.

The attitude of the respondents towards the importance of relevant information is quite different from what they behave in terms of searching and knowing. Most of them considered all five categories of information somewhat or very important.

Comparing to the results of several similar surveys in the Netherlands, the level of consumer information is currently low in Nanjing. If, however, consumers are given the chance to choose freely among insurance plans, we expect that they will be motivated to obtain relevant information about their price and quality.

If the Chinese government is determined to move to a regulated competitive health-care system, it should take the lead in making valid and reliable information publicly available and accessible.

Risk equalization schemes (chapter 7)

Allowing consumer choice among health insurers might lead to risk rating and/or risk selection, depending on the regulations. An effective risk equalization scheme is essential to remove the insurers' motivation to risk rating and selection. Besides the implementation of a risk equalization scheme, allowing consumer choice among health insurers itself is a complicated issue in China.

In chapter 7, potential ways of allowing consumer choice among health insurers are discussed. The consequences of an unregulated competitive health insurance market are analyzed. International experiences of implementing risk equalization schemes and its relevancy for China is analyzed.

Potential and practical pathways of allowing consumer choice in the health insurance sector are: (i) separating financing and operating of social health insurance, and allowing consumer choice among operating private insurers, and (ii) allowing consumer choice among fund-holding community health centers. Two other options were mentioned in the discussion part of chapter 2, including (iii) splitting the single insurer in a urban area into several local branches and allow them to be independent and competing agencies when they acquire necessary management skills and data, and (iv) allowing currently local insurers to operate nationwide and/or to allow new insurers, including private ones to enter the insurance market. In chapter 7, option i and ii were replaced by option iii and iv. The reason is that chapter 2 is more focused on theoretical pathways of transition, while chapter 7 is more focused on practical feasible ways in China, and option i and ii were considered as difficult to be implemented because of administrative obstacles due

to conflict of interest among different levels of local governments (provincial, city-, and county-level government) and the complexity in financial flow in China.

Unaffordability and/or inaccessibility are important negative consequences of an unregulated healthcare system with competing health insurers. We reviewed the experiences of competitive health insurance markets in Belgium, Germany, Israel, the Netherlands, and Switzerland. Regulations such as community ratings, benefit package regulations, and open enrolment are enforced in almost all countries to solve the problems of unaffordability and inaccessibility. Such regulations create incentives for risk selection, some of which are quite subtle. In practice, various forms of risk selection are widely observed. To avoid negative consequences of a competitive health insurance sector (unaffordability and inaccessibility), risk-equalization schemes and open enrolment are proposed. Lack of stakeholder consensus and data are main obstacles in implementing risk equalization schemes in the reviewed settings. If the Chinese government is determined to introduce competition in the health insurance sector, a strategy to implement a competitive health insurance market is needed. It is also essential to be technically and politically prepared for an effective risk equalization scheme.

POLICY RECOMMENDATIONS

Three years have passed since the Blue Print of the Chinese healthcare reform was published in 2009. Some major reforms have already been implemented (Li, 2011), which (potentially) fulfill some pre-conditions for a regulated competitive healthcare system. First, the coverage rate of basic social health insurance schemes has been significantly expanded. 95% of the population is currently covered by NCMS, URBHI, or UEBHI. Besides the increased coverage rate of basic health insurance, the share of healthcare expenditure financed by social health insurers has also been significantly increased. Private expenditure, which is paid directly by individuals at the point of service, as a share of total health expenditure has been reduced. Second, the number of physicians and healthcare facilities has been substantially increased, especially for primary healthcare. Besides these achievements, other pro-competitive policies have been initiated and gradually implemented. For example, in July 2012, the State Council of China issued a policy that aims at encouraging the development of private hospitals (State Council of China, 2012). The government intends to help private healthcare facilities to obtain a market share of 20% (in terms of sickbeds or healthcare service provided) by 2015. Compared to a market share of less than 10% of the private healthcare facilities in terms of sickbeds before the reform, this would be a substantial increase. Along with this policy, the Ministry of Health issued several other policies to lower the entry barriers of the market for private investment, and to create a level playing field for the private and

public healthcare facilities in the market (Ministry of Health of China, 2012). For example, private healthcare facilities will be given priority when there is room for expanding healthcare facilities (either in terms of the number of healthcare facilities or in terms of sickbeds) in local healthcare planning. Private healthcare facilities will be given priority in hospital starring. Physicians are encouraged to work in private healthcare facilities.

As analyzed in this thesis, more pre-conditions are necessary to ensure that regulated competition could achieve both efficiency and equity in a healthcare system. The three major social health insurance schemes still differ from each other in terms of premium and benefit package. Even if health insurers are motivated to be prudent purchasers of healthcare, they are not yet prepared to take such a role mainly because there is no effective product classification system in the health provision market so far. Risk equalization schemes are still a brand new concept. Consumer information regarding healthcare providers and insurers is far from sufficient. The enforcement of anti-monopoly law in the healthcare system is problematic. All these call for huge efforts by policy makers and for further research.

If the Chinese government is determined to move towards a healthcare system with regulated competition, it is necessary to fulfill all the necessary pre-conditions in Table 1. Some policy recommendations, especially about the implementation of such a reform, (see the conclusions of chapters 2 through 7) are summarized below:

(1) It is essential for the Chinese government to create prudent third-party purchasers, who have both the incentives and ability to act on behalf of individual consumers, no matter China will chose model 1 or 2.
(2) It is important for the Chinese government to understand not only the advantages, but also the disadvantages that may arise from a competitive healthcare system, such as market failures and equity problems. In the case of a healthcare system with none-competitive insurers and providers of care (model 4), where the government takes the responsibility of directly providing healthcare to the citizens, government failures may be a problem.
(3) If China chooses for a competitive healthcare system, the Chinese government should be fully aware of all the necessary pre-conditions as mentioned in Table 3. The lack of any one of these pre-conditions may harm the effectiveness of competition. It is important for the government to be conscious of the technical and political difficulties in fulfilling the pre-conditions. If the government is determined to go for model 1 or 2, it needs to take the lead to fulfill the pre-conditions progressively and strategically.
(4) If China chooses for a competitive healthcare system, the Chinese government must change its role, in a gradual transition, from a player in the market to a referee who sets the rules of the game. It must keep itself at a reasonable distance from major interest groups such as public hospitals and governmental insurance agencies. It is

also essential to treat public and private entities equally to ensure that all entities compete on a level playing ground.

China is a large country, with diverse levels of economic development, local regulations, and culture. A 'one size fits all' model will not work well in every region. Competition among healthcare providers and among health insurers is only possible if there are enough providers and insurers in the market. Therefore, model 1 and 2 can be feasible in large parts of China with major metropolitan areas, but may not be feasible in rural areas of China where population density is too low and where the number of healthcare facilities and insurers is very limited. Necessary pre-conditions must be analyzed within the context of different regions.

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SAMENVATTING

ACHTERGROND

De hervorming van een centraal geleid en door de overheid gefinancierd gezondheidszorgsysteem naar een marktgericht systeem tijdens de jaren ’80 en ’90 werd door de Chinese overheid als een mislukking beschouwd omdat het resulteerde in ernstige problemen met betrekking tot betaalbaarheid en toegankelijkheid van zorg. In 2009 kondigde de Chinese overheid enorme extra investeringen aan in het gezondheidszorgsysteem om de dekking van de basisverzekering uit te breiden en de volksgezondheid te verbeteren.

Concurrentie in de zorg en ook in de zorgverzekeringsector zijn genoemd als een mogelijke optie om het Chinese gezondheidszorgsysteem te hervormen. Het vooruitzicht van concurrentie in de Chinese zorgsector vereist echter inzicht van beleidsmakers in de voor- en nadelen hiervan alsmede een idee in hoeverre aan noodzakelijke voorwaarden voor effectieve concurrentie in China voldaan is.

Gezondheidszorgsystemenkunnen worden gecategoriseerd naar gelang er al dan niet prijsconcurrentie bestaat onder zorgaanbieders en onder verzekeraars (Van de Ven et al., 1994). Deze categorisering biedt een geschikt analytisch kader om de gevolgen van het toepassen van een marktmechanisme in het Chinese zorgsysteem te onderzoeken.

Het huidige gezondheidszorgsysteem in China staat dichtbij model 2, waarin geen prijsconcurrentie bestaat tussen ziektenkostenverzekeraars maar er wel enige concurrentie toegestaan is tussen zorgaanbieders, hoewel in de praktijk zulke concurrentie zeldzaam is. Model 3 is theoretisch onjuist omdat de nadelen van concurrentie tussen verzekeraars niet genegeerd kunnen worden. Zoals uitgelegd in hoofdstuk 1, zijn modellen 1, 2, en 4 dus relevant voor toekomstige hervormingen in de Chinese gezondheidszorg.

Theoretisch gezien zou het Chinese gezondheidszorgsysteem dus van model 2 naar model 1 of 4 kunnen overgaan, of het zou het prototype model 2 kunnen benaderen.

ONDERZOEKSVRAGEN EN ANTWOORDEN

In deze thesis is de centrale onderzoeksvraag: ***Wat zijn de vooruitzichten voor concurrentie bij de hervorming van de gezondheidszorg in China?***

Deze vraag wordt behandeld in twee afzonderlijke delen. In Deel I worden de hervormingen van de gezondheidszorg in Engeland (van model 4 naar 2), Rusland (van model 4 naar 1) en Nederland (van model 4 naar 1) geanalyseerd. Voor- en nadelen van elk van de prototype modellen 1, 2, en 4 worden besproken op basis van deze landervaringen. Uit de hervormingen van deze landen worden ervaring en lessen geleerd. Noodzakelijke voorwaarden voor modellen 1 en 2 wordt samengevat.

In deel II worden drie vooraf geselecteerde voorwaarden grondig onderzocht en wordt besproken in hoeverre aan deze voorwaarden is voldaan dan wel kan worden voldaan.

DEEL I: INTERNATIONALE ERVARING VAN GEZONDHEIDSZORGHERVORMINGEN IN DRIE LANDEN

We analyseerden de ervaringen van het Engelse gezondheidszorgsysteem voor en na de hervorming (respectievelijk modellen 4 en 2), evenals het Nederlandse systeem na de hervorming (model 1).

Model 4. Voor de hervorming in 1991 werd de National Health Service (NHS) van Engeland gefinancierd door algemene belastingen, vooral verleend door overheidsinstellingen en was gratis voor de gebruiker van zorg. Dit is in principe een model met overheidsvoorziening zonder concurrentie tussen de spelers in het systeem. De sterke punten van dit model waren de controle van de gezondheidszorg uitgaven, de relatief lage transactiekosten en de relatief eenvoudige wetgeving. De Engelse NHS voor de hervorming ondervond vanaf het begin financiële druk. Zo'n systeem is financieel kwetsbaar, zeker onder de druk van stijgende uitgaven in de gezondheidszorg. Daar boven op kreeg de Engelse regering de kritiek bureaucratisch in de besluitvorming te zijn en inefficiënt in het proces van zorgverlening. Er waren niet voldoende stimulansen voor zorgverleners om efficiënte zorg van hoge kwaliteit te verlenen, om in te spelen op de behoeften van de consumenten, innoverend te zijn in de zorgverlening en om verantwoording af te leggen aan de consumenten. In dit systeem zijn wachtlijsten en wachttijden berucht als reguleringsgsmechanismen.

Model 2. In 1991 voerde de Britse overheid een interne markthervorming uit, gericht op een 'gereguleerde concurrentie' tussen zorgverleners waarbij de regionale zorgautoriteiten optreden als niet-concurrerende zorginkopers. Met concurrerende zorgverleners en niet-concurrerende zorginkoper(s) als derde partij (TPPs), behoort het Engelse systeem na de hervorming tot model 2 in onze typologie. Eén belangrijke hervormingsmaatregel was het opsplitsen van de verantwoordelijkheid voor het aankopen van zorg en het verlenen van zorg. Huisartsen kregen de gelegenheid budgethoudende huisarts te worden en werden daarna georganiseerd in lokale Primary Care Groups (PCGs), en later in Primary Care Trusts (PCTs). Voorts begonnen ziekenhuizen als onafhankelijke entiteiten te werken, hoewel de financiële stimulansen nog zwak waren vanwege hun aard als overheidseigendom. Hoe huisartsen ook georganiseerd waren, het principe 'het geld volgt de patiënten' bleef bestaan. Hoewel kortere wachtlijsten en –tijden vastgesteld

werden, vereiste zo'n systeem een meer ingewikkelde regelgeving dan de NHS voor de hervorming. Transactiekosten groeiden als deel van de uitgaven voor gezondheidszorg. Consumenten konden nog steeds niet kiezen tussen TPP(s). In vergelijking met model 4 vereist model 2 relatief ingewikkelde regelgeving en management, inclusief mededingingsbeleid, toezicht op kwaliteit en consumenteninformatie. Er was kritiek dat de hervorming van de interne markt resulteerde in te zwakke stimulansen en te sterke beperkingen voor de efficiëntie.

Model 1. Gedurende meer dan twee decennia transformeerde het Nederlandse gezondheidszorgsysteem van een centraal model met gecontroleerde prijzen en capaciteit, tot een 'gereguleerde markt met concurrerende zorginkopers en concurrerende zorgverleners. Sinds 2006 verplicht de Zorgverzekeringswet elke legale inwoner een individuele particuliere ziektekostenverzekering met een wettelijk omschreven basispakket af te sluiten bij een particuliere verzekeringsmaatschappij. Consumenten ondervinden sterke prijsprikkels en worden aangemoedigd te shoppen onder de verschillende verzekeraars. Concurrentie tussen zorgverzekeraars wordt aangemoedigd. Ondertussen wordt concurrentie tussen zorgverleners geïntroduceerd door zorgverzekeraars en zorgverleners toe te staan selectief contracten af te sluiten en door geleidelijk overheidscontrole op de prijzen van sommige gezondheidszorgdiensten af te schaffen. Het Nederlandse systeem gaat dus in de richting van model 1. De belangrijke voordelen van model 1 zijn o.a. de keuze van de consument tussen zowel verzekeraars als zorgverleners, als mede in theorie prijsbewuste consumenten. Daar bovenop worden stimulansen gegeven aan verzekeraars en zorgverleners in termen van efficiëntie, kwaliteit, inspelen op de preferenties van de consument, innovatie en verantwoording. Maar het model is technisch ingewikkeld, vereist relatief ingewikkelde regelgeving (bv. risicoverevening en mededingingsbeleid) om het mislukken van de markt te vermijden en leidt tot relatief hoge transactiekosten van contracteren. Er bestaat het risico van risicoselectie in zo'n model.
De voor- en nadelen van de drie relevante modellen zijn samengevat in Tabel 2.

Voorwaarden voor concurrentie in het gezondheidszorgsysteem

In model 1, zonder gepaste regelgeving, zijn zowel verzekeraars als zorgverleners geneigd strategieën aan te nemen die wel of niet in het belang van de consumenten kunnen zijn, om winsten of overleving na te jagen. Voor individuele consumenten is het moeilijk, zo niet onmogelijk, in te gaan tegen deze strategieën. Er moet een krachtige, bereidwillige en actieve 'collectieve sponsor' zijn om de gezondheidszorgmarkt te reguleren en marktfalen tegen te gaan namens de vraagzijde.

Lessen uit Rusland (hoofdstuk 3). Voor 1993 was het Russische gezondheidszorg systeem centraal georganiseerd, gefinancierd door de overheid en er was geen concurrentie (model 4). Hoewel het systeem grote vooruitgang boekte in het verbeteren van

de gezondheid van de Russische bevolking, waren lage kwaliteitszorg en inefficiëntie problematisch. Met de invoering van de Russische Ziektekostenverzekeringswet in 1993 werd de verplichte ziektekostenverzekering geïntroduceerd in de Russische Federatie met als doel het gezondheidszorg systeem drastisch te veranderen van model 4 naar model 1. De aankoop en de verlening van gezondheidszorg werden van elkaar gescheiden door het opzetten van ziektekostenverzekeraars, van wie werd verwacht dat ze goede zorginkopers zouden worden met motivatie en nodige invloed om de prestaties van de zorgverleners te beïnvloeden.

De implementatie zorgde voor een gemengd model. Zorginkopers zijn verzekeringsmaatschappijen, regionale verplichte ziektekostenverzekering-fondsen, of een combinatie van beide, afhankelijk van de werksituatie en de regio. Werkgevers kiezen verzekeraars namens hun werknemers; regionale overheden kiezen verzekeraars voor verplichte ziektekostenverzekering-fondsen namens de niet-werkende bevolking. Zodoende is de consument zeer beperkt in zijn persoonlijke keuze tussen ziektekostenverzekeraars en is er geen sprake van prijsgevoeligheid bij de consument. De overheid dekt de financiële risico's van het verstrekken van verplichte ziektekostenverzekering-fondsen en gezondheidszorg. Verzekeraars noch zorgverleners worden geconfronteerd met financiële risico's. Nog erger, een groot deel van de totale uitgaven voor gezondheidszorg gaat rechtstreeks van de overheid naar de zorgverleners. Dit mechanisme maakt van de ziektekostenverzekeraar een extra laag in de financiële stroom, zonder echte functie. In de praktijk beschermt de Russische overheid de bestaande zorgverleners tegen het verlaten van de markt. Ziekenhuizen zijn zeer regionaal georganiseerd en hebben vaak een natuurlijke monopolie positie die ernstige schade toebrengt aan de onderhandelingspositie van verzekeraars. Zorgverzekeraars en zorgverleners gebruiken allemaal een standaard contract. Het zorgverzekeringspakket is niet duidelijk gedefinieerd door de Ziektekostenverzekeringswet; product classificatie verschilt per regio. Leeftijd en geslacht worden gebruikt als risicofactoren voor het toekennen van fondsen, wat erop wijst dat er nog lang geen effectieve risicovereveningssysteem is. Effectieve kwaliteitsmeting ontbreekt. Consumenten zijn over het algemeen niet bewust van hun rechten binnen deze wet. En er bestaat geen consumenteninformatie over de diensten van zorgverzekeraars en zorgverleners.

Het wekt geen verwondering dat in Rusland de ziektekostenverzekeraars geen fatsoenlijke stimulansen krijgen om goede zorginkopers te zijn en concurrentie is niet natuurlijk voor het Russische gezondheidszorg systeem. Na 17 jaar van hervormingen gericht op gereguleerde concurrentie, is er nog steeds geen duidelijke bewijs van concurrentie: verzekeringsmaatschappijen strijden niet om klanten en zorgverleners strijden niet voor contracten met verzekeraars.

*De Nederlandse ervaring (hoofdstuk 4).*In de afgelopen twee decennia heeft de Nederlandse overheid haar gezondheidszorg systeem ook geleidelijk hervormd van model 4 naar model 1.

In 1992 mochten ziekenfondsen in grotere gebieden gaan werken, en de ingeschrevenen werd toegestaan jaarlijks een ander ziekenfonds te kiezen. De markt voor ziektekostenverzekeringen werd ook geleidelijk opengesteld voor particuliere ziektekosten verzekeraars. Zo ontstond geleidelijk consumentenkeuze tussen zorgverzekeraars. Sinds 2006 zijn alle legale inwoners van Nederland bij wet verplicht een individuele ziektekostenverzekering (dit is een wettelijk voorgeschreven standaard basispakket) te kopen bij een particuliere verzekeringsmaatschappij. Acceptatieplicht en verbod op premiedifferentiatie zijn vereist. Van consumenten wordt verwacht dat ze gevoelig zijn voor de prijs van hun verzekering, omdat ze de premie rechtstreeks betalen aan de gekozen verzekeringsmaatschappijen tegen verschillende prijzen. Sinds 1993 dragen ziektekostenverzekeringsmaatschappijen (met inbegrip van de vroegere ziekenfondsen) steeds meer de financiële risico's voor hun bedrijfsvoering, van 3% in 1993 tot 92% in 2012. Verzekeraars zijn door regelgeving toegestaan om selectief zorgverleners te contracteren. Onderhandelingen over de prijzen van gezondheidszorg zijn ook sinds 1992 toegestaan. De Nederlandse overheid heeft sinds 2005 de controle op de prijs van gezondheidszorg geleidelijk aan versoepeld. In 2009 mogen verzekeraars en ziekenhuizen vrij onderhandelen over prijzen en zich op selectieve wijze te contracturen voor een reeks van producten, voor een totaal van ongeveer 34% van de ziekenhuisinkomsten. In 2012 werd dit cijfer verhoogd tot 70%, wat wijst op toenemende financiële risico's voor ziekenhuizen. De Nederlandse overheid levert sinds 1993 inspanningen betreffende de ontwikkeling van een risicovereveningssysteem. De volgende risicofactoren werden geleidelijk toegevoegd: leeftijd, geslacht, sociaaleconomische status, farmaciekostengroepen, diagnose kostengroepen en al dan niet zelfstandig ondernemer. Samen met het verbeteren van het risicovereveningssysteem werden ook de financiële risico's voor de ziektekostenverzekeraars geleidelijk verhoogd. De Inspectie voor de Gezondheidszorg verplicht ziekenhuizen om gegevens te verzamelen voor indicatoren over zorgkwaliteit. De resultaten worden openbaar gemaakt op een vrij toegankelijke website. Informatie over zorgverzekeraars, zoals de prijs en aangeboden diensten, is ook beschikbaar op deze website, en wordt gecontroleerd door de Nederlandse Zorgautoriteit. De Mededingingswet is van toepassing op de zorgverzekering- en zorgverleningsmarkten, met als doel om kartels en het misbruiken van dominante posities te voorkomen.

Het huidige Nederlandse zorgsysteem is nog geen perfect geregeld concurrerend gezondheidszorg systeem maar beoogt dit model in de praktijk te benaderen.

Uit zowel de Russische als de Nederlandse ervaring met de overgang van model 4 naar model 1, concluderen we dat aan voorwaarden moet worden voldaan om een effectieve concurrentie te bewerkstelligen en daarmee doelmatigheid en solidariteit in

het gezondheidszorgsysteem te bereiken, met in begrip van de zorgverzekeraars sector en de zorgverleners sector. Sommige van deze voorwaarden zijn niet relevant voor model 2 omdat er in dit model geen concurrentie bestaat tussen ziektekostenverzekeraars. Tabel 3 geeft een overzicht van de noodzakelijke voorwaarden voor model 1, waarvan een aantal ook relevant zijn voor model 2.

Toepasselijkheid voor de Chinese stelselwijziging. Er is in China maar weinig mogelijkheid om te kiezen tussen de drie grote ziektekostenverzekeringen, dit zijn de "New Cooperative Medical Scheme"(NCMS) voor het platteland, de "Urban Employees' Basic Health Insurance" (UEBHI) voor stedelijke werknemers en gepensioneerden en de "Urban Residents' Basic Health Insurance" (URBHI) voor werkloze stadsbewoners. Er is wel keuzevrijheid tussen zorgverleners. Deze is echter beperkt tot de openbare ziekenhuizen, die meestal gecontracteerd zijn door de grote ziektekostenverzekeraars. Doordat de openbare ziekenhuizen eigendom zijn van de overheid leidt deze keuzevrijheid niet tot de opening en sluiting van ziekenhuizen. Er is geen vrije toetreding van zorgverzekeraars tot de markt. Hierdoor hebben sociale ziektekostenverzekeraars weinig prikkels om efficiënt zorg in te kopen. De drempel om toe te treden tot de ziekenhuismarkt is hoog voor particuliere initiatieven. Zelfs als zij deze markt betreden, is het lastig om overeind te blijven, omdat er geen eerlijke concurrentie is tussen hen en de openbare ziekenhuizen. Binnen één van de belangrijkste verzekeringen (UEBHI) zijn consumenten niet gevoelig voor wijzigingen in hun premie, omdat deze een vast percentage van hun salaris bedraagt. Omdat de overheid de prijs voor openbare ziekenhuizen vaststelt en weinig ruimte laat voor gedifferentieerde prijsstellingen, worden ziektekostenverzekeraars zeer beperkt in de ruimte die zij hebben om vrij over de prijs en de kwaliteit van de zorg te onderhandelen met zorgverleners. Bovendien wordt een groot deel van de zorgkosten rechtstreeks betaald door individuele patiënten; de onderhandelingsmacht van de verzekeraars wordt zo verder aangetast. Doordat de overheid het aantal zorgverleners strikt reguleert, zijn er onvoldoende zorgverleners om concurrentie te ontwikkelen, vooral in de publieke sector is dit een probleem. Concurrentie bevorderende regelgeving is grotendeels afwezig in de huidige Chinese gezondheidszorg. Effectieve productindeling op de ziekenhuismarkt bestaat nauwelijks. Er is in het verleden alleen in een aantal regio's geëxperimenteerd met een klein aantal diagnose-gerelateerde groepen in ziekenhuizen. Het risicoverveningssysteem is nog een zeer nieuw concept in China. Vaardigheden hiermee en gegevens over de effectiviteit ervan moeten nog worden verzameld. Ziektekostenverzekeraars hebben geen officiële toestemming om op een doeltreffende wijze kwaliteitsmetingen onder de zorgverleners uit te voeren. Op dit moment worden kwaliteitsmetingen meestal uitgevoerd door de zorgverleners zelf en worden de resultaten zelden gepubliceerd. Informatie voor consumenten over de kwaliteit en prijs van zowel zorgverleners als ziektekostenverzekeraars is schaars.

China is duidelijk niet goed voorbereid op een overgang naar model 1, zo blijkt uit het beperkte aantal voorwaarden waaraan is voldaan. De kansen op succesvolle invoering van model 1 in China zijn sterk afhankelijk van de bereidheid en de capaciteit van de overheid om alsnog aan deze voorwaarden te voldoen. Daarbij is een belangrijke uitdaging voor China, los van het model dat China zal kiezen, het opzetten van sterke instituties die de stimulans en het vermogen hebben om voor de consument als kostenbewuste zorginkoper op te treden.

DEEL II: DRIE VOORWAARDEN VOOR MARKTWERKING IN DE CHINESE GEZONDHEIDSZORG

Regelgevingen i.v.m. concurrentie

In augustus 2008 is de Chinese anti-monopolie wetgeving in werking getreden. We hebben de belangrijkste elementen van de mededingingswetgeving in verschillende andere landen bekeken en ook de uitvoering hiervan in de ziekenhuissector. Op basis van deze analyse concluderen we dat de doelen van en de definities gebruikt in de Chinese ANTI-MONOPOLIE WETGEVING te vergelijken zijn met die in bijvoorbeeld de Verenigde Staten en Nederland. De belangrijkste uitdagingen liggen echter in de uitvoering van de wet en niet in het opstellen ervan. Openbare ziekenhuizen in China zijn in de praktijk vrijgesteld van deze wet.

Daarnaast bestaat er een aantal concurrentie beperkende weten in de Chinese ziekenhuismarkt. Openbare ziekenhuizen kunnen niet zelfstandig beslissen over hun capaciteit en prijzen. Elke vijf jaar stelt de centrale overheid vast wat het aantal bedden per ziekenhuis en zelfs per afdeling zal zijn. Tussentijdse wijzigingen aan deze van bovenop opgelegde plannen zijn niet mogelijk. De overheid bepaalt de prijs van zorg binnen een totaal foute structuur, die zorgaanbieders perverse prikkels geeft om te kiezen voor geneesmiddelen en hightech onderzoeken in plaats van goedkopere basiszorg. In de afgelopen jaren is het makkelijker geworden voor particulieren en buitenlandse partijen om de ziekenhuismarkt te betreden. Openbare ziekenhuizen kunnen deze markt moeilijk verlaten, wat concurrentie beperkt en toetreding van nieuwe partijen bemoeilijkt. Als particuliere ziekenhuizen er al in slagen de markt te betreden, is het bovendien lastig voor hen om overeind te blijven.

Openbare ziekenhuizen hebben namelijk een aantal voordelen ten opzichte van particuliere ziekenhuizen. Zo betalen zij minder belasting; kunnen ze makkelijker contracten afsluiten met grote inkopers van zorg; vallen ze onder gunstigere regelgeving met betrekking tot prijsstelling; en is het voor hen eenvoudiger om toptalenten aan zich binden. Er is dus geen gelijke concurrentie tussen particuliere en openbare ziekenhuizen.

Momenteel is er nauwelijks wetgeving die concurrentie op de Chinese ziekenhuismarkt bevordert. Zonder een adequate indeling van zorgproducten kunnen zorgverzekeraars moeilijk efficiënt zorg inkopen. Consumenten kunnen alleen kiezen tussen gecontracteerde ziekenhuizen, die veelal openbaar zijn en zich allemaal binnen een bepaalde regio bevinden. De overheid besteed onvoldoende aandacht aan het verzamelen en verspreiden van informatie over de kwaliteit en de prijs van zowel aanbieders als verzekeraars.

Op de Chinese ziekenhuismarkt zijn kortom weinig mogelijkheden om te concurreren, ondanks dat de overheid dit officieel heeft toegestaan. De huidige ziekenhuismarkt in China blijft daardoor een gereguleerd monopolie dat wordt ondersteund door de overheid. De overheid heeft echter de bereidheid getoond om dit veranderen, wat blijkt uit verschillende pilot hervormingen die plaats hebben gevonden.

Als de Chinese overheid beslist de concurrentie in de ziekenhuismarkt verder aan te moedigen, dan dient zij een einde te maken aan het gereguleerde monopolie op de ziekenhuismarkt. Hiervoor moet ze stoppen met het beheren van openbare ziekenhuizen en moet zij zich nog uitsluitend richten op het opstellen van de regels waar binnen concurrentie plaats kan vinden. Bovendien moet ze de vrijstelling van de anti-monopoly wetgeving voor de ziekenhuissector intrekken. Internationale ervaring heeft uitgewezen dat de kwaliteit van zorg in het geding kan komen als er geconcurreerd wordt op prijs zonder dat er voldoende informatie beschikbaar is over de kwaliteit. Het is van groot belang dat de Chinese overheid zich bewust is van dit risico, aangezien de kwaliteit momenteel slecht wordt gemeten en beperkt beschikbaar is.

Consumenteninformatie

In 2009 is een enquête gehouden over de kennis van consumenten met betrekking tot ziektekostenverzekeringen in Nanjing, de hoofdstad van de provincie Jiangsu. In totaal vulden 1175 verzekerden een vragenlijst in.

De verdeling van deze steekproef komt overeen met die van de gehele bevolking ten aanzien van de type ziektekostenverzekeringen. Kennis van consumenten over een ziektekostenverzekering wordt gegroepeerd in vijf categorieën: de prijs van de ziektekostenverzekering (de premie), bijbetalingen door de patiënt, inhoud van het verzekeringspakket (dekking van diensten/geneesmiddelen door de verzekering), vrijheid in keuze voor zorgverleners, en de klantenservice van de ziektekostenverzekering (hotline, gebruikersvriendelijke website, enz.). De antwoorden van de deelnemers werden vergeleken met het officiële beleid van ziektekostenverzekeraars om te oordelen of de deelnemers het bij het rechte eind hadden.

De resultaten van het onderzoek tonen aan dat het huidige kennisniveau van consumenten ten aanzien van hun ziektekostenverzekering laag is. Slechts 25% van de deelnemers is correct op de hoogte van zijn premie en slechts 36,8% weet of ze vrij

zijn in hun keuze voor zorgverleners. Het kennisniveau van consumenten is positief gecorreleerd met hun motivatie. Ter illustratie, consumenten met een verplichte ziektekostenverzekering weten veel minder over hun verzekering dan degenen die zich vrijwillig aangemeld hebben. Het kennisniveau van de consumenten is tevens positief gecorreleerd met de beschikbaarheid van informatie. Personen die aangeven over betrouwbare informatiebronnen te beschikken, zijn beter op de hoogte van hun verzekering dan personen die niet over dergelijke bronnen beschikken.

Deelnemers zijn daarnaast niet actief op zoek naar relevante informatie. Slechts ongeveer 15% van de deelnemers heeft geprobeerd zelf te zoeken naar enige informatie, zoals bijbetalingen voor geneesmiddelen, bijbetalingen voor medische verrichtingen, en informatie over de verzekering zelf. Het feit dat relevante informatie lastig is te vinden zou deze houding kunnen verklaren: onder degenen die op zoek gingen naar de gewenste informatie, vond slechts ongeveer 25% de gezochte informatie.

Als de Chinese overheid vastbesloten is om over te stappen tot gereguleerde concurrentie in de gezondheidszorg, dan moet zij de leiding nemen in het publiek beschikbaar en toegankelijk maken van gedegen en betrouwbare informatie.

Risicovereveningssystemen

Het toestaan van vrije keuze voor ziektekostenverzekeraar aan consumenten kan leiden tot premiedifferentiatie en/of risicoselectie, afhankelijk van de regelgeving. Een effectief systeem van risicoverevening is essentieel om premiedifferentiatie en risicoselectie tegen te gaan. Naast de invoering van een risicovereveningsysteem, is het toelaten van vrije keuze voor ziektekostenverzekeraar aan consumenten op zich al een ingewikkeld onderwerp in China.

Mogelijke en praktische maatregelen voor het toestaan van vrije keuze voor gezondheidszorg aan consumenten in China zijn als volgt: (i) het splitsen van de enige verzekeraar in een stedelijk gebied in verschillende lokale afdelingen en deze onafhankelijke, concurrerende agentschappen te laten vormen als ze over de nodige management vaardigheden en gegevens beschikken en (ii) aan huidige lokale verzekeraars de mogelijkheid geven om op nationaal niveau werkzaam te zijn en/of het toelaten van nieuwe verzekeraars, met inbegrip van particuliere verzekeraars, op de verzekeringsmarkt.

Onbetaalbaarheid en/of ontoegankelijkheid zijn belangrijke negatieve gevolgen van een niet-gereglementeerd gezondheidszorg systeem met concurrerende ziektekostenverzekeraars. We hebben ervaringen van concurrerende verzekeringsmarkten in België, Duitsland, Israël, Nederland en Zwitserland beoordeeld. In de praktijk zijn verschillende vormen van risicoselectie op grote schaal waargenomen. Om de negatieve gevolgen van een concurrerende ziektekostenverzekering sector (onbetaalbaarheid en ontoegankelijkheid) te vermijden, wordt een risicovereveningssysteem en een acceptatieplicht voorgesteld. Gebrek aan consensus tussen belanghebbenden en een

gebrek aan gegevens zijn de belangrijkste belemmeringen voor de invoering van risico-vereveningsysteem in de genoemde landen. Indien de Chinese regering vastbesloten is om concurrentie in de gezondheidszorg te introduceren, is een strategie nodig voor de invoering. Het is ook essentieel om technisch en politiek voorbereid te zijn op effectieve risicoverevening.

BELEIDSAANBEVELINGEN

Drie jaar zijn verstreken sinds de blauwdruk van de hervorming van de Chinese gezondheidszorg werd gepubliceerd in 2009. Enkele belangrijke hervormingen werden al uitgevoerd, die (mogelijk) een aantal voorwaarden vervullen voor een gereguleerd concurrerend gezondheidszorgsysteem. Ten eerste werd de dekkingsgraad van de basis sociale ziektekostenverzekeringen aanzienlijk uitgebreid. 95% van de bevolking is op dit moment gedekt door NCMS, URBHI of UEBHI. Naast de verhoogde dekkingsgraad van de basis ziektekostenverzekering, is het aandeel van de zorguitgaven gefinancierd door sociale ziektekostenverzekeraars ook aanzienlijk verhoogd. Ten tweede is het aantal artsen en zorginstellingen aanzienlijk gestegen, vooral voor basis gezondheidszorg. Naast deze verwezenlijkingen werden ook andere concurrentie bevorderende maatregelen in gang gezet en geleidelijk ingevoerd; bv. In juli 2012 voerde de Raad van State van China een maatregel in die gericht is op het aanmoedigen van de ontwikkeling van particuliere ziekenhuizen. De regering is van plan particuliere zorginstellingen te helpen bij het verkrijgen van een marktaandeel van 20% (in termen van ziekenhuisbedden of medische dienstverlening) in 2015. In vergelijking met een marktaandeel van minder dan 10% voor de particuliere zorginstellingen op het gebied van ziekenhuisbedden vóór de hervorming zou dit een aanzienlijke stijging zijn. Samen met deze maatregel heeft het Ministerie van Volksgezondheid verscheidene andere maatregelen ingevoerd om de toetredingsdrempels voor particuliere investeringen op de markt te verlagen en om een gelijk speelterrein te creëren voor de particuliere en openbare zorginstellingen. Zo zullen particuliere zorginstellingen prioriteit krijgen wanneer er ruimte is voor uitbreiding van zorgvoorzieningen (het zij in termen van het aantal zorginstellingen of

Tabel 1 Modellen voor het indelen van een gezondheidszorgsysteem

		Zorgaanbieders	
		Prijsconcurrentie	Geen prijsconcurrentie
Ziektekosten-verzekeraars	Prijsconcurrentie	1	3
	Geen prijsconcurrentie	2	4

Bron: van de Ven, W.P.M.M., Schut, F.T., en Rutten, F.F.H., “Forming and reforming the market for third-party purchasing of health care”, *Social Science & Medicine*, 1994, 39(10): 1405-1412

in termen van ziekenhuisbedden) in de lokale gezondheidszorg planning. Particuliere zorginstellingen krijgen voorrang bij aanwervingen. Artsen worden aangemoedigd om te werken in particuliere zorginstellingen.

Zoals geanalyseerd werd in deze thesis, zijn meer voorwaarden nodig om ervoor te zorgen dat gereguleerde concurrentie zowel efficiëntie als solidariteit kan realiseren binnen de gezondheidszorg. De drie belangrijkste sociale ziektekostenverzekeringen verschillen nog steeds van elkaar op het vlak van premie en basispakket. Hoewel ziektekostenverzekeraars gemotiveerd zijn om te handelen als goede inkopers van gezondheidszorg, zijn ze nog niet voorbereid om een dergelijke rol te vervullen, vooral omdat er tot nu toe geen doeltreffend product classificatiesysteem bestaat in de zorgleveringsmarkt. Risicoverevening is nog een gloednieuw concept. Informatie voor de consument met betrekking tot zorgverleners en ziektekostenverzekeraars is verre van voldoende. De handhaving van de anti-monopolie wetgeving in het gezondheidszorgsysteem is problematisch. Al deze elementen roepen op tot enorme inspanningen van beleidsmakers en verder onderzoek.

Als de Chinese overheid vastbesloten is om over te gaan tot een gezondheidszorgsysteem met gereguleerde concurrentie, is het noodzakelijk aan alle nodige voorwaarden in Tabel 8-1 te voldoen. Een aantal beleidsaanbevelingen, in het bijzonder m.b.t. de uitvoering van een dergelijke hervorming, zijn hieronder samengevat:

(1) Het is belangrijk voor de Chinese overheid om effectieve zorginkopers te creëren, die zowel over de motivatie als het vermogen beschikken om te handelen namens de individuele consument, of China nu kiest voor model 1 of model 2.

(2) Het is belangrijk dat de Chinese regering niet alleen de voordelen, maar ook de nadelen begrijpt die kunnen voortvloeien uit een concurrerend zorgstelsel, zoals het falen van de markt en gelijkheidsproblemen. In het geval van een gezondheidszorgsysteem met niet-concurrerende ziektekostenverzekeraars en zorgverleners (model 4), waarbij de overheid de verantwoordelijkheid neemt over het direct verstrekken van gezondheidszorg aan de burgers, kan het falen van de overheid een probleem zijn.

(3) Als China kiest voor een concurrerend gezondheidszorgsysteem, moet de Chinese regering zich ten volle bewust zijn van alle noodzakelijke voorwaarden die vermeld zijn in Tabel 3. Het ontbreken van één van deze voorwaarden kan de doeltreffendheid van de concurrentie schaden. Het is belangrijk dat de overheid zich bewust is van de technische en politieke problemen voor het vervullen van de voorwaarden. Als de overheid vastbesloten is om over te gaan op model 1of 2, moet zij de leiding nemen om geleidelijk en op strategische wijze aan de voorwaarden te voldoen.

(4) Als China kiest voor een concurrerend gezondheidszorgsysteem, moet de Chinese regering haar rol geleidelijk veranderen van een marktspeler tot een scheidsrechter die de regels van het spel bepaalt. Ze moet zich op een redelijke afstand houden van

Tabel 2 Relatieve voor- en nadelen van de drie prototype modellen

	Voordelen	*Nadelen*

Model 4	- Sterke capaciteit om kosten te beperken;
	- Lage administratieve kosten;
	- Relatief eenvoudige wetgeving.
		- Fiscale druk voor de overheid wat kan leiden tot te weinig financiering en een systeem met twee lagen;
		- Gebrek aan stimulansen voor
		  - Efficiënte zorg;
		  - Zorg van hoge kwaliteit;
		  - Inspelen op de preferenties van de consument;
		  - Innovatie;
		  - Verantwoording.
		- Lange wachtlijsten en wachttijden;
		- Bureaucratie;
		- Ongewenste stimulansen voor particuliere huisartsen om kwaliteit te verminderen en wachtlijsten te vergroten in het publieke systeem;
		- Moeilijkheid om centrale informatie in te winnen.

Model 2	Omdat 'geld de patiënt volgt', worden zorgverleners gestimuleerd tot:
	- Efficiënte zorgverlening;
	- Zorgverlening van hoge kwaliteit;
	- Inspelen op de preferenties van de consument;
	- Innovatie;
	- Verantwoording.
		- Relatief hoge transactiekosten van contracteren;
		- Geen consumentkeuze;
		- Relatief lage stimulansen voor zorginkopers om
		  - Efficiënte zorgverlening te stimuleren;
		  - Zorg van hoge kwaliteit aan te kopen;
		  - Inspelen op de preferenties van de consument;
		  - Innovatie;
		  - Verantwoording;
		- Relatief ingewikkelde regelgeving/ management (mededingingsbeleid, kwaliteit, consumenteninformatie).

Model 1	- Consumentenkeuze;
	- Vanwege 'stemmen met de voeten', stimulansen voor zorginkopers en verleners voor:
	  - Efficiënte zorgverlening;
	  - Zorg van hoge kwaliteit;
	  - Zorgverlening van hoge kwaliteit;
	  - Inspelen op de preferenties van de consument;
	  - Innovatie;
	  - Verantwoording.
		- Relatief hoge contractkosten;
		- Relatief ingewikkelde regelgeving/ management (risicoverevening, mededingingsbeleid, kwaliteit, consument informatie);
		- Potentieel voor "premiedifferentiatie" en/of "risicoselectie", afhankelijk van de regelgeving.

belangrijke belangen groepen zoals openbare ziekenhuizen en overheidsverzekeringsmaatschappijen. Het is ook belangrijk om openbare en particuliere instanties gelijk te behandelen om ervoor te zorgen dat alle entiteiten concurreren op een gelijk speelterrein.

Tabel 3 Noodzakelijke voorwaarden voor modellen 1 en 2

Voorwaarden relevant voor	Model 1	Model 2
Consumentenkeuze tussen verschillende verzekeraars	√	
Vrije toe- en uittreding tot zorgmarkten	√	√
Prijsgevoelige consumenten	√	√
Contractvrijheid	√	√
Voldoende aantal zorgverleners	√	√
Regelgeving betreffende concurrentie	√	√
Standaard basispakket	√	
Effectieve product classificatie in de zorgleveraarssmarkt	√	√
Risicoverevening	√	
Effectieve kwaliteitsmeting	√	√
Consumenten informatie	√	√
Gepaste overheidsregelgevingen	√	√

China is een groot land, met verschillende niveau's van economische ontwikkeling, lokale regelgevingen en cultuur. Een 'one size fits all'model zal niet even goed werken in elke regio. Concurrentie tussen zorgverleners en tussen ziektekostenverzekeraars is alleen mogelijk als er voldoende verleners en verzekeraars op de markt zijn. Daarom zijn model 1 en 2 haalbaar in grote delen van China met grote stedelijke gebieden, maar misschien niet in de landelijke gebieden van China waar de bevolkingsdichtheid laag is en waar het aantal zorginstellingen en verzekeraars zeer beperkt is. Noodzakelijke voorwaarden moeten worden geanalyseerd binnen de context van verschillende regio's.

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CURRICULUM VITAE

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