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

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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 the necessary pre-conditions for reaping the benefits of regulated competition in the health care sector. We indicate to what extent these conditions are being fulfilled in the post-reform Russian and current Chinese health care systems. We draw lessons from the Russian experience for the 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.

Keywords Regulated competition, health care reform, Russia, China

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 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 government, thus still state-owned legally, the subsequent chronic underfunding has led to widespread ‘profit-seeking’ behaviours 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

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 regulation (to name but three), must be fulfilled for such reform, and implementation strategies must be carefully considered.
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 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 (Hsiao 2007; Yip and Hsiao 2008). 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’, i.e. health insurance (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 different subgroups, 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 learnt 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 systems. In fact, China copied almost all aspects of society from the Soviet Union after founding 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 pace and strategies. Between the 1950s and the 1980s, the health care systems 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 an 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’, occurring 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 possible side effects, the new capacity needed and the implementation 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 analyse 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 will 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, which 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, successful implementation of regulated competition in the health care system requires the fulfillment 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/health care provision market.** In principle there should be open entrance to the health insurance market and health care 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. For example, it would be unfair competition if government subsidizes an inefficient hospital that otherwise would go bankrupt. This pre-condition of ‘open exit’ may be hard to fulfil in the case of a 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 actively search for insurance products that meet their need 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 to purchase health care services from all the providers in order to attract consumers and avoid unacceptably long waiting times.

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 market dominant position must be prohibited from abusing their dominant position. Competition-reducing mergers must be forbidden.

7. **Standardized benefit package.** Health insurance packages are complex products. It is hard for consumers to understand the details of an insurance contract. If different insurers offer different insurance packages, it is hard for consumers to compare them. To increase transparency and thereby increase competition in the health insurance market, it is necessary that the health insurance benefits are more or less standardized and can be compared and understood easily by consumers.

8. **Effective product classification in 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 consumers to compare the price of 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 will 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 insurers can make because of the different risks of their enrollees. Such a scheme (or other subsidy scheme) is necessary to compensate the insurers for their high-risk enrollees. 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, 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 consumers. Consumers need to be aware of their entitlements and the freedom to choose. Effective consumer information in terms of the price, products and customer service of different insurers needs to be generated by independent entities and disseminated among individual consumers. Information about the quality of different health care providers is also essential so that individual patients and insurers can make prudent choices.

12. **Appropriate government regulation.** The government needs to find a careful balance between government regulation and market forces. Government intervention such as detailed planning of health care resources together with regulating the payment of 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 to health care. Organizing 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 the 1920s, 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. The Federal level Ministry of Health set the funding for health care and then allocated explicit budgets to sub-national governments. Budgets 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 length of work experience and specialty. Private practitioners were almost non-existent. Medical care services were free at the point of service, or at least in theory they should have been. Each citizen was appointed to a polyclinic according to their 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 for hospitals and allocated the budget accordingly. Therefore, hospitals had strong incentives to increase bed numbers and fill the beds as much as possible in order to reach (or even exceed) the government target; and then asked for increased government budget in the following year. Rate of admission therefore was around 25 per 100 residents (Sheiman 1995). In comparison, average discharge from 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 patients themselves; they frequently referred patients to specialists and hospitals. The referral rate was around 30%; much higher than 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 average of 6.95 in the same period (Twigg 1998; European Community 2002). The number of licensed physicians in Russia was on average 4.21 per 1000 population, higher than the EU average of 2.83 in 1998 (European Community 2002).

To cope with inherent structural inequalities, 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 three 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 escalation of funding shortages intensified efforts to find 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 for specific population groups (Fotaki 2006).

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

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

The contribution rate for employers is low by the 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 the non-working population (pensioners, the unemployed, etc.), but the law does not specify the specific rate of contribution. Although the federal government sets contribution targets per capita, most of the regional governments do not follow them; some of them cannot (due to their 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 at a time of serious financial constraint, with public health expenditure limited to 2.8–3% of GDP. Only over the last 3 years has this share increased to 3.5% (mostly due to increasing funding from the federal budget).

The system is operated by the Federal MHI Fund and 83 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 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, 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 in only 45% of Russian regions, though since then—mostly due to pressure from the federal government—it's coverage has increased to 77% regions. At the start of the reform, many regional governments were opposed to insurance companies and made the Regional MHI Fund (and its local branches) the insurer. This was the case in 26% of regions in 1998, but has since decreased 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 of 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 for 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 health insurers is very limited. Employers choose the insurers on behalf of their employees. Starting in 2007, regional governments select insurers for MHI on behalf of the non-working population on a competitive basis, but with no role for individual-level consumer choice. Sometimes competition among insurers takes the form of competing on kickbacks to the managers and officials who have the power to choose (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 its spending exceeds the pre-set target. If all insurers spend more than expected, the capitation rate that the insurers pay the providers is adjusted downwards (or tariffs for services become lower).

A large share of 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 the incentives of 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 insurers to improve the quality of care and efficiency, even if they are motivated to do so.

The Russian government is presently making efforts to direct 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 a license, and the premature capital market. The exit of poorly performing public hospitals is also rare largely because of the protection by local governments (Sheaf 2005). The MHI system is basically a cartel. Tariffs are negotiated collectively by regional insurers’ associations, providers’ associations 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 or 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 the large 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 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 regionalized 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 visit/fee-for-service basis. Some regions (around 15%) use capitation payment and three regions have implemented policlinic fund-holding. For inpatient care, there is a general trend to a ‘finished case’ payment: the tariffs are set for a 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 diagnosis-related groups. 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 a global budget for hospitals. In recent years, there has been a trend towards

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**Table 1** Percentage of Russian regions with a specific Mandatory Health Insurance (MHI) model

<table>
<thead>
<tr>
<th>Organizations acting as insurers in regional MHI systems</th>
<th>1998 (%)</th>
<th>2005 (%)</th>
<th>2006 (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Regional MHI Fund and its local branches</td>
<td>26</td>
<td>10</td>
<td>5</td>
</tr>
<tr>
<td>Branches of Regional MHI Fund and medical insurance companies</td>
<td>23</td>
<td>36</td>
<td>18</td>
</tr>
<tr>
<td>Only medical insurance companies</td>
<td>45</td>
<td>53</td>
<td>77</td>
</tr>
</tbody>
</table>

* The data for specific years refers to 83–88 regions (the number of regions changed due to mergers).

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 has successfully separated the provision and purchasing of care. A multi-insurer health insurance system has been set up. Providers are paid mostly for the actual volumes of care. However, the implementation of regulated competition has not been completed. Insurance companies are not competing for the insured, and health care providers are not 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 that in pre-reform Russia. Government funding (especially from the central government) was the major financing source. 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 the Cooperative Medical Scheme (CMS). During the 1970s, the CMS covered more than 90% of the rural population. Urban residents were covered by different health insurance schemes, such as the Labour Insurance Scheme (LIS) for employees and their dependents, and the 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 shrank a lot. For instance, government subsidization to the 2nd Hospital of Wuxi City, Jiangsu Province shrank from 25.4% to 3.3% of their total revenue during 1978–2007 (Cao et al. 2004). Further, in order to enhance providers’ awareness of efficiency, subsidies were changed from open-ended subsidization to fixed budgets. A study showed that with an inflation rate of 20% for the cost of health care services, the increase in 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 staff, which are far below basic living costs, and usually contributed less than 30% of the full costs of health care providers (Hesketh and Zhu 1997). At the

<table>
<thead>
<tr>
<th>Necessary pre-conditions for regulated competition</th>
<th>Russia</th>
<th>China</th>
</tr>
</thead>
<tbody>
<tr>
<td>Consumer choice</td>
<td>Rarely</td>
<td>Rarely</td>
</tr>
<tr>
<td>Open entry/exit to market</td>
<td>No</td>
<td>No</td>
</tr>
<tr>
<td>Price-sensitive consumers</td>
<td>No</td>
<td>No</td>
</tr>
<tr>
<td>Contracting freedom</td>
<td>Rarely</td>
<td>No</td>
</tr>
<tr>
<td>Enough health care providers</td>
<td>Not enough high quality providers</td>
<td>No</td>
</tr>
<tr>
<td>Competition regulations</td>
<td>No</td>
<td>Current law may not be applicable</td>
</tr>
<tr>
<td>Standardized benefit package</td>
<td>No</td>
<td>No</td>
</tr>
<tr>
<td>Effective product classification</td>
<td>Not enough</td>
<td>Not enough</td>
</tr>
<tr>
<td>Risk equalization schemes</td>
<td>Not enough</td>
<td>No</td>
</tr>
<tr>
<td>Effective quality measurement</td>
<td>No</td>
<td>No</td>
</tr>
<tr>
<td>Consumer information</td>
<td>Not enough</td>
<td>Not enough</td>
</tr>
<tr>
<td>Appropriate government regulation</td>
<td>Mixed, not appropriate</td>
<td>Not appropriate</td>
</tr>
</tbody>
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same time, the central government still held the power to set the price of health services far below the real costs, with the goal being that basic health care is affordable for everyone. Responsibility to fill the deficits was assigned 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 health care services by setting prices of the ‘basic’ health care services low, but setting the ‘high-tech’ health care prices far above the real costs. Further, hospitals and clinics were allowed a 15–20% mark-up for drugs.

Since the 1990s, the income of physicians who work for public hospitals (the majority of hospitals) consists of at least three parts: basic salary paid by the government; performance bonus paid by the hospital; and informal payments from the patients. The basic salary for an ordinary physician is far below basic living costs. Informal or under-the-table payments, which are usually kickbacks from pharmaceutical companies or red-envelopes with cash from individual patients, are illegal. Many physicians therefore rely heavily on their hospital bonus. These bonuses relate to the revenue generated by the physicians or their department, which introduces an improper incentive for physicians and hospitals of inducing excessive demand from patients.

China’s Total Health Expenditure as a share of GDP was 4.67% in 2006. Of this, government health expenditure was 18.1%, social health expenditure 32.6% and out-of-pocket payments 49.3%. Per capita health expenditure in 2006 was 748.8 yuan (about US$93.6). There is a large disparity in health expenditure per capita of urban residents 3.45 times that of rural residents in 2007 (Ministry of Health, China 2007).

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

- The New Cooperative Medical Scheme (NCMS) is a voluntary health insurance scheme covering the 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 the NCMS in 2006 (Gao and Han 2007), though with some increase in more developed areas in recent years.

- The Basic Medical Insurance Scheme (BMIS) is a mandatory health insurance scheme for urban employees and retirees. Administered by the Ministry of Labour and Social Security (MOLSS) and its local offices [Health Insurance Bureaux (HIBs)], the BMIS covered 180 million people (13% of the total population) at the end of 2008 (Zhang 2008).

- The Urban-Resident Scheme (URS) is a voluntary health insurance scheme for children, students and urban residents who are unemployed. Implemented since 2007, the URS 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 for 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 scheme decided by their employment status. The MOH and its regional branches (local Department of Health) are in charge of the NCMS for those 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. 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 transformed by the 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 requirements involved in opening a hospital, there is a substantial obstacle to entering the health provision market. Private for-profit health care facilities have been emerging 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 providers. Exit from 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 to reach a certain percentage of insurance coverage of the population. The government sets a limited budget for the insurers. Although a HIB does not go bankrupt if it exceeds this budget (and thus exit the market), this will have a negative influence on the career of the government officers who are in charge of the Bureau. 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 those insured. This can be done through a higher co-insurance rate, and by manipulating the number and type of medications included in the drug formula.

Incentives faced by the HIBs are complicated. While they are motivated to shift the risk to their enrollees, the URS and NCMS are voluntary insurance schemes, so people can choose to be unsubscribed. The insurers cannot achieve their target of insurance coverage if the insurance is unaffordable or the...
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 for the Chinese government.

**Price-sensitive consumers**

China and Russia have similar ways of calculating health insurance premiums, being based on a certain percentage of the salary of the insured and 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 are prohibited from selectively contracting with health care providers, and are obliged to contract with all willing providers once the providers meet certain basic conditions. In rural areas, selective contracting would be difficult to achieve due to the natural monopoly position held by the health care providers, even if it was permitted.

Out-of-pocket payments comprise 60% of the revenues of the health care providers in China (Eggleston et al. 2008a), which is higher than for their Russian counterparts. In 2003, 70.3% of the population was still uninsured (Ministry of Health, China 2008). Since 2007, the Chinese government has been working on the URS, which covers urban residents who were not previously covered by health insurance. In rural areas, the NCMS is also covering more population due to 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 therefore is natural that the 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 not-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% of the health care provision ‘market’ in terms of the number of hospitalized patients (Ministry of Health, China 2008). Therefore, the pricing freedom of health care providers is very limited in China. In order to increase freedom in pricing, 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 number 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 was 1.56 in 2007 (Department of Health Jiangsu Province 2007), while the figure was only 0.95 in Gansu province, one of the least developed western provinces (National Bureau of Statistics of China 2008). Even in the more wealthy provinces, the number of licensed physicians per 1000 population is smaller than 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 the health care sector is not explicitly exempted from the AML, public hospitals are considered to be highly related to social welfare and thus may be exempted. Therefore, there may 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 HIB 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 entitlements of the insured vary by area and over time.

**Effective product classification**

Presently, product classification in health care services is not effectively implemented in China’s health care system. Nevertheless, the insurers are making progress. Traditionally, the HIBs pay the health care providers mostly on a fee-for-service basis. However, other payment schemes, such as capitation payment and global budget, have been used since the 1990s. Recently, attempts at diagnosis-related groups are being experimented with in some areas.

**Risk equalization schemes**

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

**Effective quality measurement**

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) programmes of this kind cannot contribute to more prudent purchasing behaviour 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.
Consumer information
Consumer information is scarce in China. Individual consumers know little about the services of the insurers and the quality of 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 staff’ 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 Russia. 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 for inducing 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 the weak financial ability of the central government compared with the local ones. Even in the same region, cross-subsidization among those of different socio-economic status is not well organized because people of low status, such as dependents of employees, migrants and informal sector workers, are not covered by any insurance schemes (Center of Statistics Information, Ministry of Health 2005). The good news is that with the recent implementation and development of URS, these populations are gradually being covered by health insurance with subsidies from local governments.

Discussion
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 pre-conditions 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 payments from insurers to providers should form a 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 providers. Insurance companies are therefore deprived of the power of effectively negotiating with health care providers for better care and lower prices, even if they are allowed to do so (Tompson 2007). In China, the share of out-of-pocket payments 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 market forces work in the health care sector. Furthermore, the central government must have adequate 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 health insurers and health care providers. It also shows that it is important to get support from the majority of 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 1993 Act, 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 the 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 the 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, and local governments are still budgeting health care providers in the 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 to organizing cross-subsidization across regions and across populations of different socio-economic status.

Fourthly, generating enough public resources is a must in implementing any health care system that aims to enhance 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 introduce in this context. Besides this, in the cases of Russia and China, where the
sponsoring is a public entity, enough public resources are needed
to organize cross-subsidization both among regions and among
sub-populations.

Fifthly, introducing proper incentives is as important as
structural reforms. Through introducing MHI funds and mul-
tiple 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 to an insurance-based one, and is going to
introduce effective competition among the health care pro-
viders, proper incentives for both insurers and providers are
needed.

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

Prospects for regulated competition in China’s
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 pre-conditions for
regulated competition. The culture of ‘the employer decides on
behalf of the employees’ of the Soviet-era has changed in
China, for more than three decades. Consumers are used to
being independent in making a choice. We can anticipate that
individual-level consumer choice of 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 operating under mixed motivations. Therefore, intro-
ducing effective competition among insurers is a great chal-

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 med-
cical 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.

The number of private health care providers is likely to increase
dramatically 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 not-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 3 years tax-exempt period (Hou and Coyne
2008). The fiscal policies regarding PFP hospitals might become
obstacles for new ones to enter the market. In urban areas, even if
no more PFP hospitals enter 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 just 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 disseminate effective information
about the 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 many alternatives for
organizing a health care system. However, a perfect model does
not seem to exist. In implementing each model, certain
pre-conditions must be fulfilled and trade-offs must 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 regulated competition model. 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 bottle-
necks 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 help the Chinese government to avoid repeating
mistakes and to 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
References


Xinhua Net. 2009. Talk with Yan Guo: Build the primary health care service system. Xinhua net.

