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Chapter 9

Health Insurance and Payment System Reform in China

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9.1 INTRODUCTION

The Chinese healthcare system has experienced three different consecutive periods of reform since the establishment of communist China in 1949: the central planning era (1949–78), the market-based era (1978–2002), and the healthcare reform era (2003 to the present). The structures of health insurance and healthcare delivery systems varied in different periods. [Wagstaff et al. \(2009a,b\)](#) and [Ma et al. \(2008\)](#) have provided detailed reviews of system changes during these periods.

Between 1949 and 1978, the Chinese economy was governed by a command and control model. Both health insurance and healthcare delivery systems were under direct control of the government. Health insurance was determined based on people's working status and residence. In urban areas, the Government Insurance Scheme (GIS) covered government officials and staff, and the Labor Insurance Scheme (LIS) covered employees at state-owned enterprises (SOEs). In rural areas, the Cooperative Medical Scheme (CMS) covered much of the population. All programs were government-based. No private insurance was available in that period. As for the delivery system, all healthcare facilities, including village clinics, township health centers, and county and city hospitals, were owned and operated by the government, at different levels. Providers were subsidized by the government. Prices of healthcare services were kept low by regulation, with the aim—"equal access to the healthcare system for all."

In 1978, China implemented economic reforms, and the healthcare system quickly transformed to a market-based system. Due to the breakup of communes there has been a lack of funding, which resulted in an almost total collapse of CMS in rural areas. As many SOEs faced financial difficulties, a large number of SOE employees in urban areas lost insurance coverage. In 2003, 78% of the population was uninsured ([Ministry of Health, 2008](#)).

Private health insurance was introduced in the early 1980s, but its development was limited. As for the delivery system, subsidies received by healthcare institutions decreased dramatically. Since hospitals had become financially autonomous, they had incentives to oversupply healthcare services in order to increase revenues. Although private hospitals and clinics were permitted to enter markets, the percentage of private providers was relatively low. In 2003, there were only 2037 private hospitals, compared to 15,727 public hospitals (National Health and Family Planning Commission, 2015). The percentage of number of visits in private institutions was even smaller.

In 2003, because of increasing social discontent about the accessibility and affordability of medical care, and triggered by the severe acute respiratory syndrome (SARS) outbreak, the Chinese government implemented a series of healthcare reforms. From 2003 to 2008, reforms focused on building an insurance system with universal coverage. In the process, public medical expenditure kept increasing, and several insurance programs were launched. In 2008, the uninsured rate dropped dramatically to 12.9% (Ministry of Health, 2013), which was regarded as an outstanding achievement for the government. Since 2009, the government launched a new round of reforms focusing on institutional features, such as reforms of the public hospital management and payment systems.

The rest of this chapter is organized as follows. Section 9.2 introduces the current health insurance system in China, which serves as a basis for reforms going forward. Section 9.3 describes the payment system and how it is changing, focusing on the role and potential of capitation payment. Sections 9.4 and 9.5 evaluate and discuss ongoing issues and policies related to payment system reform.

9.2 HEALTH INSURANCE SYSTEM

As mentioned above, following economic reforms, much of China's population had lost insurance coverage in the 1990s. During that time, most people were paying their medical bills out-of-pocket. Catastrophic medical spending became one of the leading reasons behind the impoverishment of low- and middle-income households. In 2003, among households living below the poverty line, 30% claimed medical spending to be the reason behind their impoverishment (Ministry of Health, 2004). The population was generally dissatisfied with the health system; “Kanbingnan, kanbinggui” (expensive and poor access to medical care) had become a serious public concern.

With a view to addressing this problem, the Chinese government started to rebuild its insurance system gradually. In 1998, Urban Employee Basic Medical Insurance (UEBMI) was introduced to cover urban employees. In the period 2003–2008, the New Rural Cooperative Medical Scheme (NRCMS) was piloted in certain local areas and then expanded nationwide to cover rural residents. In 2009, Urban Resident Basic Medical Insurance

(URBMI) was formally introduced nationwide to cover urban residents who were not eligible for UEBMI. The above programs, which covered over 95% of the population, remained the three basic insurance programs in China. In 2012, Catastrophic Health Insurance (CHI) was also introduced to provide coverage for enrollees in URBMI and NRCMS who had catastrophic medical spending. In recent years, private insurance was also allowed and encouraged to act as a supplement to public insurance. Fig. 9.1 illustrates the structures of the five types of insurance programs.

Since CHI is most relevant to the theme of this volume, the following description largely focuses on the implementation of CHI. The government had gathered much experience by implementing previous programs, but faced problems in the process. It was risky and expensive to reform the existing system. CHI is the latest program, and has provided the government with an opportunity to design alternative policies. The scheme has a smaller budget than the other programs. As the financial risk is smaller, the government has been willing to pilot new policies. A significant difference between CHI and other programs is that the private insurance firms involved participated more actively in the system. This was due to the fact that there were mechanisms designed to incentivize private firms. We also briefly discuss the other four types of insurances.

Information about the three basic insurance programs is summarized in Table 9.1. UEBMI provides coverage to urban residents who are either working in the formal sector or are retired. The scheme covers employees but not their spouses or dependents. In 2014, the program covered 283 million enrollees, or 20.7% of the population. The total claims amounted to 670 billion RMB. The program provides the most generous coverage to its enrollees,

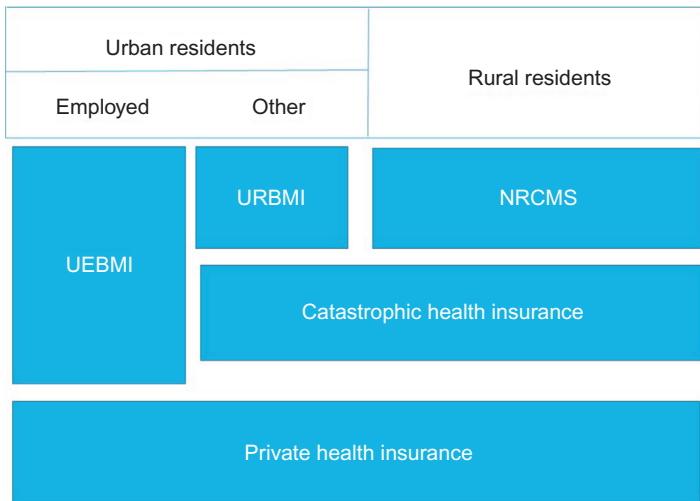


FIGURE 9.1 Structure of five types of insurance in China.

with the mean per-person claims at 2367 RMB (or about \$385) in 2014, which was four to five times the claims made in the other two programs. The premiums are contributed jointly by employees and employers. The employers' contribution is about three-fourths of the total premiums.

URBMI provides coverage to urban residents who are not eligible for UEBMI, including children, students, the elderly without previous employment, and the unemployed. In 2014, the program covered 315 million

TABLE 9.1 Summary of Three Social Health Insurance Programs

| | UEBMI | URBMI | NRCMS |
|--------------------------------|---|--|------------------------|
| Who is eligible? | Formal sector employees and the retired | Urban residents who are not eligible for UEBMI (children, students, the elderly without previous employment, and the unemployed) | Rural residents |
| Is enrollment mandatory? | Yes | No | No |
| Individual or family contract? | Individual | Individual | Family |
| Minimum contract period | No | 1 year | 1 year |
| Maximum contract period | No | 1 year | 1 year |
| Number of people covered | 283 million (2014) | 315 million (2014) | 736 million (2014) |
| Total claims | 670 billion RMB (2014) | 144 billion RMB (2014) | 289 billion RMB (2014) |
| Total claims relative to GDP | 1.05% (2014) | 0.23% (2014) | 0.45% (2014) |
| Mean per person claims | 2367 RMB (2014) | 457 RMB (2014) | 393 RMB (2014) |

Source: Statistical report on health and family planning development in 2014; Health and family planning statistical yearbook, 2014; Annual report on social insurance development, 2014.

enrollees, or 23.0% of the population. The total claims were 144 billion RMB. The mean value of per-person claims in 2014 was 457 RMB (or about \$74), a little higher than the claims in NRCMS, but much lower than that in UEBMI. The government heavily subsidizes the program, and individuals only pay a proportion of the total premiums.

NRCMS provides coverage to rural residents. In 2014, the program covered 736 million enrollees, or 53.8% of the population. It is the largest insurance program not only in China, but around the world. The total claims were 289 billion RMB. The government heavily subsidizes the program. Again, individuals only pay a proportion of the total premiums. Though both government subsidies and individual premiums kept increasing, financing of the program has continued to be limited. The mean per-person claims were 393 RMB (or about \$64) in 2014, which is the lowest among the three programs.

As the coverages of URBMI and NRCMS are limited, enrollees in the two programs have continued to face a risk of high out-of-pocket medical spending. Since 2012, the government started to implement the CHI, with the aim of providing additional financial protection for individuals facing catastrophic spending. The program was initially piloted in some regions, and was then rapidly extended to the entire nation. Enrollees of URBMI and NRCMS automatically enroll in the CHI, without paying additional premiums. CHI plays the role of a supplemental insurance coverage. It reimburses enrollees when their medical spending reaches the ceiling stipulated for the two basic programs.

Indeed, the introduction of the CHI is equivalent to extending the coverages of URBMI and NRCMS in terms of reimbursements to enrollees. However, it is difficult for the government to predict the magnitudes of the enrollees' responses to changes in reimbursement policies. The government is concerned that the program funding could become insufficient for compensation, if the coverage becomes too generous. This was the reason for initiating a separate program, CHI, with a limited budget. Even if the reimbursement rate was inappropriately designed, the program would have only borne limited financial risk. In addition, the government has been encouraging private firms to manage CHI and to share in the risks associated. This is another benefit of the separate implementation of the CHI.

The risk pools of all three basic insurance programs and CHI are at the county or city levels, so the programs are all administered by the local government. Most of the basic programs are directly undertaken by the government, which collects premiums and makes payments to hospitals. There are only a few exceptions where private insurance firms participate in managing the public programs. However, experience has indicated that the government is inefficient in managing the insurance in terms of controlling medical cost and improving quality of care. In many places the objective of the local governments seems to be balancing the budget and to achieve a small surplus. The authorities have little incentive to spend funds efficiently. Many

government employees in charge of the programs have lacked the professional skills needed to engage in insurance administration. Hence, in CHI, instead of direct management, a large portion of local governments have been choosing to contract out their reimbursement processes to private insurance firms, or they have been purchasing catastrophic insurance from private firms and providing it to the population.

Each local government selects one insurance firm among competing candidate insurers, and contracts with the firm on insurance services for a given period. The government determines the level of funding, designs the reimbursement policy, and supervises the work of the private insurer. The firm is given the responsibility of implementing the insurance program, and it mainly undertakes four types of tasks. First, it provides consulting services for enrollees and explains the insurance policy to them. Second, it constructs an electronic system to collect and manage the medical claims information of the enrollees. Third, it reviews medical bills, controls unnecessary care, and tries to detect fraudulent behaviors on the parts of the enrollees or providers. Fourth, it implements the reimbursement procedures and makes payments to providers. In some areas, the insurance firms in question do not take the risk of loss from excess payment. In some regions, the private firms share financial risk with the government. The model depends on communication and negotiation between the government and insurance firms in local areas.

Even though the private firms do not determine the premium levels or design the insurance policy, they still actively participate in the CHI program. In places where the private insurers share risk with the government, the insurers could earn profits if the funding is managed efficiently. In addition, the private firms have other considerations. In the course of administering the insurance, firms could collect abundant medical information concerning the enrollees. This information could be used to support the design and management of supplemental private insurance. Furthermore, recognition by the enrollees and the government is important for the reputation of private insurers. Enrollees are more likely to purchase private insurance plans provided by the same insurer, if they are satisfied with their CHI services. The same insurer is more likely to be selected to undertake the three basic medical insurance programs, in the case that the service-purchase model continues to be applied by the government in the future. The markets for the basic programs are much larger than the CHI, and are more attractive to the private firms.

There are no statistics on the number or fraction of CHI programs administered by private firms nationwide, but financial reports of private firms are available. Between January and September, 2014, the total premium revenue of private insurance firms from public programs was 22.48 billion RMB, of which 64% was from CHI and the rest was from URBMI (27%), UEBMI (3%), NRCMS (4%), and medical aid (1%) (Yan, 2015).

A good example of how a private firm can become involved successfully in the public insurance sector is from the city of Zhanjiang in Guangdong province. In 2008, the government combined URBMI and NRCMS into a single insurance program, namely, the Urban and Rural Resident Basic Medical Insurance (URRBMI). In 2009, the government made a contract with a private insurance firm to manage URRBMI, including making payments, reviewing medical bills, and managing financial risk. The firm—the PICC Health Insurance Company—was the first health insurance company in China. It was founded jointly by the People’s Insurance Company of China (PICC) and the DKV in 2005. The former has continued to be one of the top comprehensive insurance companies in China, and the latter is the largest commercial insurance company in Europe. The firm was given permission to sell supplemental private insurance plans in the market. In 2012, the city implemented the CHI, and the firm continued to manage the associated CHI services. In that year, over 86% of the population in Zhanjiang was being served by the private firm.

In 2014, the individual premium for CHI was 15.8 RMB. Individuals were reimbursed by URRBMI, if the spending was below 20,000 RMB. Spending above the threshold was compensated by CHI. In Zhanjiang, the insurer shared financial risk with the government under a symmetric risk corridor policy and a ceiling design. The range of profit/loss rate was 3%. Within this range, the insurer took full responsibility for the profit or the loss. In the case that the profit or loss exceeded 3%, the insurer only took half of the profit/loss, and the other half was shared by the government. At the same time, CHI had a ceiling on coverage. The programs were only responsible for compensating for medical spending under 500,000 RMB. Spending above that amount should be paid out-of-pocket or by supplemental private health insurance, if applicable.

Though there has been little academic research on the impact of private participation in the public insurance system, there is some evidence in public reports that private insurers have been performing well (Chen, 2013). Insurers have comparative advantages while providing professional services. For example, in Zhanjiang, about 700 employees would be hired to implement the CHI if the program was directly provided by the government. Instead, by purchasing services from private firms, no additional positions were added to the government.¹ In addition, the electronic system and office equipment are provided by the private firms, which has also saved the government from providing funding.² For instance, in Zhanjiang, this privatization was estimated to have saved the government about 8 million RMB in relevant investment. While collaborating with the government, the insurer has to make an effort to provide high-quality services while controlling the medical costs, such as helping the enrollees to understand the insurance policy, reviewing the medical bills to reduce fraud, and improving the information system to speed up the reimbursement process. Per capita inpatient

medical spending decreased from 8851 RMB in 2007 to 3869 RMB in 2011 in Zhangjiang (Chen, 2013). As a result, the work conducted by the private insurer has been applauded by the government, and the Zhanjiang model is being considered for expansion to other areas.

Besides public insurance, consumers could also purchase private health insurance in commercial markets, though the markets are less developed. Not only is there little information on private health insurance in public reports, but there is almost no academic research on private insurance markets, probably because almost no data are available. In 2011, only 0.3% of the population, or about 4.0 million people, were covered by private insurance (Ministry of Health, 2013). The majority were urban residents with relatively higher incomes. In 2013, the total claims of private insurance only accounted for 1.3% of total healthcare expenditure (Yan, 2015). In general, private insurance is much more expensive than public insurance and the coverage is usually more generous. Both adverse selection and moral hazard appear to be at work in the market for private insurances. The average medical spending for the population with private insurance is therefore much higher than that for the population without it.

In China, private insurance is largely provided by comprehensive insurance firms. Such firms provide not only health insurance, but also other types of insurance, such as life insurance, property insurance, and auto insurance. Premium revenues on health insurance account only for a small fraction of the total premium revenue. For example, the fraction was 1.74% in 2012 in the PICC (China Insurance Regulatory Commission, 2013). Further, commercial insurance markets are highly fragmented. For example, there were 62 nationwide insurance firms providing health insurance plans in 2012, and different firms focus on services in different regions.

As the coverage of basic insurance is limited, there is an increasing demand for supplemental insurance coverage for the population. Fig. 9.2 shows the premium revenue and growth rate of private health insurance for the period 2006–15.³ Though the magnitudes are limited, it is clear that private insurance has been growing rapidly in recent years; growth rates have been above 20% since 2012. In 2014, the government issued an administrative document to encourage private insurance in the healthcare sector, which largely stimulated the private insurance markets (State Council, 2014). The growth rates in premiums in 2014 and 2015 were around 40% and 50%, respectively. It is anticipated that the private insurance markets will continue to grow.

9.3 PROVIDER PAYMENT DESIGN

In China, payment largely takes the form of public funding transferred from the government to providers. As the participation of private insurance firms in the insurance system in China is quite limited at present, a major concern

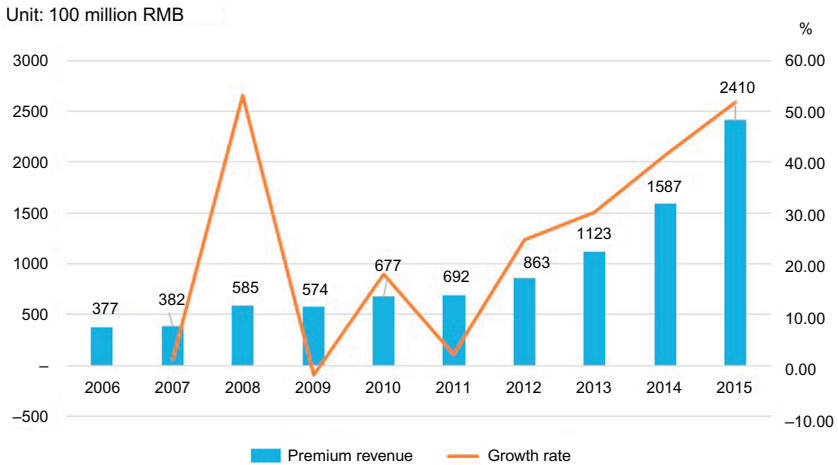


FIGURE 9.2 Premium revenue and growth rate of private health insurance between 2006 and 2015. Note: Data are taken from page 76 of China Insurance Market Report 2016, written by Sun and Zheng (2016).

of the government is how to make payments to providers, most importantly, to hospitals. In the US Medicare system and in some European models, payment methods are tools for the government to regulate private insurers. In China too, the government, represented by public insurance authorities, uses payment tools to influence providers' behavior with the same targets of cost control and efficiency improvement.

It is worth noting that the issue of payment methods arises only after the government has rebuilt its public insurance system. Prior to 1998, as there was almost no public insurance, there were no payments transferred from public insurance to providers. A large proportion of hospital revenues come from patients at the time of service use, and only a small fraction comes from government subsidies. The amount of subsidy was not large enough to influence providers' behavior. Along with the expansion of the insurance system, hospital revenues have relied more and more heavily on payments from public insurance, so payment methods have become an important tool to regulate provider's behavior. Also, as government's funding of the healthcare sector keeps increasing, the government has incentives to use payment methods to control the growth of medical costs.

In China's healthcare system, fee-for-service has remained the major payment method, as it is simple and easy to be implemented in practice. Take UEBMI as an example. In 2011, 77.1% of regions made payments based on a fee-for-service method.⁴ Recognizing that fee-for-service was inefficient, many regions have reformed their payment system to alternative methods, including global budget, capitation, bundled payment, and payment by inpatient days. For example, the UEBMI in Beijing started to pay some hospitals

under the Diagnosis Related Groups (DRG) in 2011, which is one of the earliest DRG pilots in China (Jian et al., 2015). Since the intention here is to discuss health plan payments which are usually based on capitation, the following description focuses on that method.

There are three types of capitation model applied in China. All vary according to their degree of risk-sharing and the use of risk adjustment in determining payments. The first is a simple capitation system with no risk sharing or risk adjustment. The capitation rate is calculated as the total premium divided by the number of enrollees. The second model is capitated global budget (CGB) combined with the notion of a risk corridor. The global budget is determined by a simple capitation rate. At the end of the compensation period, government and providers share the surplus or the loss of the fund. This method reduces the financial risk borne by providers. The third model is similar, but determines the capitation rate with a more sophisticated method. Similar to risk adjustment models in other countries using regulated competition in the health insurance sector, age and diagnoses are considered while determining the capitation rate for each enrollee.⁵ Different models are applied in different regions to suit the skills and policy choices of the local government. Eggleston et al. (2008) reviewed how local systems moved away from fee-for-service and the consequences. We mainly summarize findings of the reforms after 2007.

9.4 EVALUATION OF CAPITATION-BASED FINANCING PAYMENT REFORM

The capitation payments in China are made from the government to providers, or specifically, from the public insurance authority to hospitals. This section will review some of the policy initiatives and studies regarding capitation-based payment reforms.

Payment reform was part of a more comprehensive reform on the local health systems, and is of great policy relevance. Accompanied by insurance expansion, medical costs were escalating in China. Studies have shown that enrollees' out-of-pocket spending had not reduced (Wagstaff et al., 2009a,b; Lei and Lin, 2009). At the same time, there is no evidence showing that the quality of care has been improved. A key concern was overprescription of drugs, especially of antibiotics. The issue was particularly severe among primary healthcare providers, as they have limited training and capacity to perform examinations and tests and have a high incentive to overprescribe drugs. In view of this problem, Yip et al. (2014) conducted a payment reform in Ningxia province between 2009 and 2012. Yip et al. (2014) collaborated with the government and implemented the reform at township health centers and village clinics. After piloting the reform in two counties, the government of Ningxia province later expanded it to cover the entire province.

In the Ningxia case, the payment methods changed from fee-for-service to a capitated budget with pay-for-performance in the NRCMS. The capitated rate was set to cover the estimated cost of outpatient services for enrollees, and the capitated budget was estimated based on the rate and number of enrollees in each township health center and village clinics. Performance measures included antibiotic prescription rates and patient satisfaction. It is found that the policy change led to a reduction of 15% in antibiotic prescription and 6% in total spending per visit to village clinics. [Yip et al. \(2014\)](#) did not find a significant impact on total spending per visit to township health centers, or drug expenditure per visit to both types of institutions.

In Changde City, the URBMI scheme paid hospitals based on a capitation model for inpatient care since its implementation. Prior to 2007, there were only two public programs in the city, UEBMI and NRCMS. In 2007, the local government decided to implement URBMI to expand insurance coverage to urban residents who were not eligible for UEBMI. The new program faced great pressure to control medical costs, largely because the size of the funding was limited and the program was facing the risk of not being able to pay providers under fee-for-service.

Therefore the insurance authority of Changde City changed the traditional payment method and paid hospitals monthly on a per capita base rate. The rate was determined by city bureau each year, and payments to hospitals differed by the number of contracted enrollees. Two supplemental policies were implemented at the same time to support the capitation model. The first was an equalization fund, which constituted an additional fund used to compensate for the loss of small hospitals *ex post*. The second was open enrollment. Enrollees could freely choose any in-network provider as a gatekeeper when seeking care and were allowed to change the gatekeeper each year. Thus hospitals were incentivized to compete with each other to attract patients. Enrollees were able to get reimbursed only when they received services from or were referred by the gatekeepers. The gatekeeper was responsible for all costs related to the enrollees, including the referrals. [Gao et al. \(2014\)](#) found that the capitation payment had reduced out-of-pocket inpatient costs by 19.7% and length of stay by 17.7%. However, they found little impact on the overall inpatient expenditure.

In two counties of Shandong province, a payment reform was conducted between 2011 and 2012 for township health centers. Prior to this reform, all centers were being paid through the fee-for-service method. In the reform, some of the hospitals were paid by CGB, and the rest by a combination of CGB and pay-for-performance. There was a third group which would keep the original fee-for-service model and act as a control group. However, owing to pressure from the central government, the local government was not willing to retain the old model, and shifted away. The experiment was only able to compare the impacts of CGB with CGB combined

with pay-for-performance. Sun et al. (2016) found that, compared to the CGB model, the combined payment model significantly reduced inappropriate prescribing, but had no impact on out-of-pocket spending.

In Fengsan township of Guizhou province, a 5-year community-based rural health insurance program was conducted between 2003 and 2007. In the program, village doctors were paid a salary plus a bonus based on performance. The performance measures included service quality (such as appropriate drug use or intravenous injections), cost containment, and patient satisfaction. Wang et al. (2011) found that unnecessary care and prescription drugs were reduced. Medical spending was reduced at the village level, but patients were more likely to be referred to township or hospital facilities, where the costs were higher. Hence, total healthcare spending was not significantly reduced.

In summary, all studies found no significant impact of capitation payment on total medical expenditure. There are several possible reasons to explain why no significant impacts are found. First, providers may not change their behavior immediately. As stated in Yip et al. (2014), it takes almost a year for providers to understand the incentives embedded in the reform. It is possible that impacts might appear if studied over a longer time period, though current studies contain no evidence about this. Second, the reforms were implemented for some but not all insurance programs that made payments to providers, thus potentially diluting their effects. For example, the Ningxia reform only implemented NRCMS, and the Changde reform only implemented URBMI. It is possible that the share of revenue from the reformed programs, or the reformed services, was insufficient to change the behavior of providers. Third, some reforms imposed limits on policy designs. For example, in the Shandong reform, the comparison is between CGB and CGB combined with pay-for-performance, so the conclusion is that pay-for-performance had not significantly affected medical spending under the capitation payment system. The reason could be that the performance measures were not appropriately selected, at least, measures on total spending, or the incentives were not strong enough to influence physician behaviors.

In regions where pay-for-performance was implemented, unnecessary care, such as inappropriate prescription, was reduced. There were other regions that had implemented capitated payment reform in recent years, such as for outpatient care in Hangzhou, Zhejiang province, and in Dongguan, Guangdong province. Largely because of lack of data, there have been no rigorous research studies available evaluating the reform impacts.

Two lessons can be learnt from the reform experiences narrated above. First, reform can be successfully implemented only when the government, as the major payer, has an incentive to do so. In the sample described above, the reforms were either initiated by the government or were using policies designed by researchers, but with strong government support.

Payment system reform was first recognized as a direction for reform by the government in 2009, and its importance kept increasing since then (State Council, 2009). In 2011, the Ministry of Human Resources and Social Security issued a special document promoting payment system reform, stating that local governments were to be encouraged to explore alternative payment methods, including global budget, capitation on outpatient care, and bundled payment on inpatient care (Ministry of Human Resources and Social Security, 2011). In the government document issued in November 2016, payment system reform was one of the major tasks listed by the government, along with public hospital reform and referral system implementation. It is expected that there will be more reforms in the future, and the implementation would progressively become easier. Second, pay-for-performance works well, at least with respect to the designated performance measures. In most reforms where pay-for-performance was introduced, inappropriate prescribing was reduced. The change of incentives in this realm indeed changed the behaviors of providers. However, combined with the observation that total spending had not changed, it is difficult to draw a general conclusion that the quality of care had been improved or costs reduced. It is possible that the unnecessary prescribing had been replaced by unnecessary examinations and tests. Changes of provider behavior need to be assessed more comprehensively in future research.

9.5 ONGOING ISSUES AND REFORMS

Though the government has encouraged participation of private capital in recent years, there is an ongoing debate on whether this is the correct reform direction. The debate has concentrated not only on promotion of private investment in hospitals, but it has also influenced the insurance sector. On the one hand, compared to government bureaucracies, insurance firms are professional institutions with more up-to-date methods and skilled personnel. They have come up with incentives to perform well and reduce unnecessary care. On the other hand, as the goal of a firm is to earn profits, the quality of services may be affected if public supervision is insufficient. How the private insurance firms are managed and supervised remains an empirical question. Though many CHI programs are being operated by private insurers, there has been sparse analysis comparing privately operated and publicly operated models.

If it is found that private firms are more efficient in operating public insurance, a further question is how the government should structure competition in the market. At present, each region has chosen a single insurer to manage the insurance. The model is simple, and payment can be easily transferred. However, the disadvantage is that the government may have less negotiation power while purchasing services from a single firm. It may also

be hard to switch to another insurer, as those compensating services require a large amount of investment on fixed cost in early stages, such as equipment and staff training. If competition were introduced, perhaps in a way similar to the Medicare Advantage system of the United States, insurers would face competitive pressure and may have greater incentives in controlling costs.

When capitation is implemented in China, it would raise concerns about narrow provider selection. In the capitation model, patients are usually restricted to seeking medical care in contracted hospitals. In some models, referrals are allowed, but primary facilities have little incentive to do so as they have to bear the cost of transferred patients. This is the reason why a lot of capitation reforms were firstly piloted on outpatient services. Inpatient services involve more serious illnesses, and it may be inefficient to restrict patients to specific hospitals that may be able to treat them. However, even with regard to outpatient care, it remains a question whether it is appropriate to keep all or the majority of the care in one facility. Medical resources are unequally distributed, and there is a large portion of the population living away from their place of registration. An example is rural-to-urban migrants, usually registered in rural towns but working in cities. As they enroll in NRCMS, the capitation payments are more likely to be paid to the township hospitals. In such a scheme, they may have no access to hospitals where they live and work. Therefore, accessibility and quality of care are likely to be affected. Unfortunately, largely because of lack of data, little evidence is available on this issue.

Since 2009, the focus of Chinese healthcare reform has been shifting from universal insurance coverage to policy changes in delivery and financing. Payment system reform plays a crucial role in this transition. The reform is still at an early stage. Both payment policies and the Chinese healthcare system are large, complicated, and differ in different regions. The Chinese government is seeking to explore payment methods that better fit the Chinese environment.

It is commonly agreed that fee-for-service is not an efficient payment method. Different payment reforms have been piloted in different regions. Theoretically, payment methods, such as capitation and bundled payment, are likely to perform better than fee-for-service in cost control. However, according to the Chinese experience so far, none of the capitation reforms has reduced total medical expenditures. Careful research is needed to explain the gap between theoretical predictions and actual outcomes.

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ENDNOTES

1. In China, the number of government positions is highly regulated. Usually it is difficult to fire a government employee. So, for a position providing the same services, the cost is higher if it is provided by the government than by a private firm.
2. The fixed cost for the equipment is high for the private firms. However, as mentioned above, private firms have other considerations. So, in practice they are willing to make the investment.
3. Statistics are cited from Sun et al. (2016).
4. Each region represents a risk pool, which could be a county, a city, or a province.
5. No detailed information is available on the diagnoses used or the weights given to diagnoses for purposes of payment.

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