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Payment reform and changes in health care in China

Chen Gao [a,b,*], Fei Xu [c,a], Gordon G. Liu [d,a]

[a] China Center for Health Economics Research, Peking University, China
[b] Novo Nordisk (China) Pharmaceuticals Co., Ltd, China
[c] School of International Pharmaceutical Business, China Pharmaceutical University, China
[d] National School of Development, Peking University, China

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ABSTRACT

This paper is intended to assess the primary effects on cost, utilization and quality of care from payment reform of capitation and open enrollment in Changde city, Hunan Province of China. Open enrollment policy was introduced to deal with possible cream skimming associated with capitation. Based on the longitudinal Urban Resident Basic Medical Insurance (URBMI) Household Survey, this study analyses the URBMI data through a set of regression models. The original data included over five thousand inpatient admissions during the study period between 2008 and 2010. The study finds the payment reform to reduce its inpatient out-of-pocket cost by 19.7%, out-of-pocket ratio by 9.5%, and length of stay by 17.7%. However, the total inpatient cost, drug cost ratio, treatment effect, and patient satisfaction showed little difference between Fee-For-Service and capitation models. We conclude that the payment reform in Changde did not reduce overall inpatient expenditure, but it decreased the financial risk and length of stay of inpatient patients without compromising quality of care. The findings would contribute to the health care payment literatures from developing countries and open further research tracks on the ability of open enrollment to compensate for capitation drawbacks.

1. Introduction

By the end of 2011, the social health insurance programs covered 95% of the total Chinese population (Sun, 2011). The total payment from these programs was estimated to account for over 50% of provider revenues (Yao, 2011), and over 25% of total health expenditure (NHFPC, 2013; MoHRSS, 2013). Individual out-of-pocket payment, on the other hand, is on the decline as percentage of total health expenditure since 2001 (Fig. 1). As the health care safety net continues to grow even further in both depth and breadth, the payment system will play an increasingly important role in cost-containment and resource allocation of health care in China.

China's total health expenditure is about 24 times greater in 2009 than in 1980 after controlling for inflation, deflated using consumer price index (Pan et al., 2013). Improper provider payment incentives are largely responsible for these cost escalations (Eggleston et al., 2008). Chinese payers primarily use a "Fee-For-Service" (FFS) payment method, which incentivizes providers to induce unnecessary demand at the expense of more cost-effective treatment, because a higher volume, especially on expensive drugs and equipment tests with high profit margins, means a higher profit. This overuse of expensive drugs and tests results in runaway cost inflation, waste resources, and may lower quality of care (Yip et al., 2012).

Many countries including China have begun moving away from the FFS payment model and experimenting with alternative payment plans. The payment reform is on the political agenda for China's health care system reform (CPC Central Committee and the State Council, 2009; The State Council, 2009). The two major payers in China, the Ministry of Human Resources and Social Security (MOHRSS) and the National Health and Family Planning Commission (NHFPC) have both issued official documents on payment reform, in 2011 and 2012, respectively, which identified the use prospective payment methods including capitation as apriority of payment reform (MoHRSS, 2011; NHFPC, 2012).

In this paper, we focus on a local payment reform of capitation experiment for inpatient beneficiaries from Urban Resident Basic Medical Insurance (URBMI) program in Changde city, Hunan Province, China. Capitation system is thought to incentivize providers to contain cost, and if the contract is long-term, keep the population as healthy as possible. But it is vulnerable to cost-

* Corresponding author. China Center for Health Economics Research, Peking University, Beijing, China.
E-mail address: gaochenterry@gmail.com (C. Gao).

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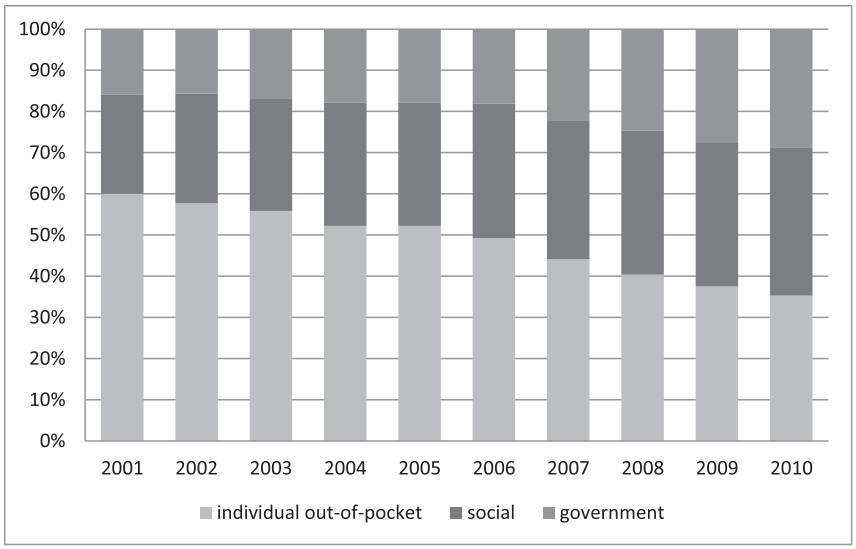

Note: data source is 2012 Health statistics year book (NHFPC, 2013).

Fig. 1. Dynamic trend of health care financing of health care from 2001 to 2010.

shifting to the uninsured or services not covered by capitation, under treatment in the interest of cost-containment, or less responsiveness to population needs (Hu et al., 2008). Changde also introduces an open enrollment policy to incentivize providers to compete over both cost and quality to attract beneficiaries. Therefore, cost, utilizations and quality of care are important aspects when evaluating the reform policies in Changde.

While it is generally accepted that the way providers are paid affects their performance, and that this response can be very large (McClellan, 2011; McGuire, 2010), the empirical studies on the impacts of changes in payment systems are limited in the following three ways: One, although there are several important exceptions, the existing literature is largely focused on the effects of payment reform within the United States. Some exceptions include evaluation of cost reduction associated with prospective payment reform in Hainan, China (Yip and Eggleston, 2001), study of the effects on hospital admissions and length of stay from DRGs reform in Hungary (Kroneman and Nagy, 2001), and experiment of payment reform in rural China to study its impact on efficiency and cost (Wang et al., 2011). Two, previous literates are limited in data and methodologies (Moreno-Serra and Wagstaff, 2010; Eggleston et al., 2008). There are only a few studies using survey data or claims data based on differences-in-differences (DID) model to control for the confounding effects. Three, the existing literature largely concentrates on provider-centric outcomes rather than patient-centric outcomes (Schmidt et al., 2011; Dafny, 2005; Shmueli et al., 2002).

This paper tries to avoid the aforementioned limitations in the following three ways: one, we evaluate the policy impact of payment reform in China, adding to the limited payment literatures from developing countries; two, we employ household survey data for the empirical investigation, based on a couple of regression techniques to isolate the payment system effect from other confounding factors; and three, we use a set of variables to track down the effects of the payment change on cost, utilizations, and quality of care.

This paper is organized as follows: Section 2 introduces the policy background of the evaluated local capitation experiment; Section 3 outlines the research design; Section 4 describes the study results; Section 5 is the conclusion and discussions.

2. Background

2.1. Reform rationales

Prior to 2007, there were two social health insurance programs: Urban Employee Basic Medical Insurance (UEBMI) for urban employed and New Rural Cooperative Medical System (NRCMS) for the rural population. Urban Resident Basic Medical Insurance (URBMI) was created in 2007 to cover the third population cohort without formal employment in urban areas. Changde was one of the 79 cities chosen in 2007 to participate in a URBMI pilot project.

Three main challenges emerged from the expansion of insurance in Changde city (Tan, 2009), including a disparity between the demand and ability to pay for health care from the URBMI population, the insufficient size of the Changde Health Insurance Bureau to manage URBMI under FFS model, and the continued inflation of city health care costs due to overprescribing. Cumulatively, the effects of these three challenges led Changde to pursue payment reform in order for a more smoothly implement of the URMBI policy.

2.2. Capitation policy

In response to these challenges, Changde introduced capitation payment system to reimburse inpatient expenditure concurrently with the introduction of URBMI, while maintaining FFS for other insurance programs and for the uninsured. The insurance fund in Changde URBMI was divided into three parts to reimburse inpatient care: capitation fund, the equalization fund, and the preservation fund.

The capitation fund makes up the large majority of the URMBI budget, accounting for 87% in 2008. The revenue and expenditure of URBMI insurance fund is operated by each districts in Changde, while the city bureau is responsible for management and regulations. Therefore, each district is responsible for paying hospitals, on a monthly basis, based on the same per capita base rate set by city bureau each year, but each payment differs according to the number of contracts. If the actual expenses are above the allocated budget, the hospital must bear the extra cost itself. If they are lower than the budget, the hospital may keep the surplus as a profit.