Kai Liu

The Effects of Social Health Insurance Reform on People's Out-of-Pocket Health Expenditure in China

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Foreword

The new healthcare reform in China has entered its seventh year. Despite the earlier debate on the direction of healthcare reform towards marketization or public welfare, social health insurance (SHI) has become a central measure in response to the plight of "difficult access to and unaffordable cost of healthcare". With the coverage of social health insurance gradually expanding to include almost the entire population, research in recent years has attempted to evaluate the effectiveness and efficiency of the health insurance scheme as a key strategy of reform. However, systematic research with rigorous data and theoretical discussion about the operation and implementation of social health insurance are still rare.

This book distinguishes itself among all researches of China's healthcare reform with four prominent strengths. First, it asks an important but insufficiently studied question: Why does the application of social health insurance in China turn out to work against its original will to reduce the cost of healthcare, but instead lead to the inflation of medical expenditure, especially individuals' out-of-pocket spending (OOPS)? The book is devoted to deciphering this paradox through comprehensive analyses and thoughtful interpretation of empirical data. Second, it attempts to understand the mechanism of the actual operation of social health insurance via a unique angle, the theoretical perspective of institutional arrangements. Through investigation of the mediating role of reimbursement, behavior management and purchasing mechanism of the social health insurance, the book clearly demonstrates the paths by which participation in social health insurance leads to increased out-of-pocket spending of patients. Third, it employs a mixed-methods design to delineate the full picture of the operation of social health insurance. In addition to the sophisticated quantitative analyses using the nationally representative data, China Health and Retirement Longitudinal Study (CHARLS), what makes this book outstanding is the rich qualitative data collected from the author's immersion in the daily practice of health facilities for four months of intensive fieldwork. The observation of everyday administration of social health insurance agencies and

health facilities, as well as the communications with multiple stakeholders with regard to their various experiences in the process, provides convincing explanations of why this unintended cost-inflating effect of social health insurance actually happens as a result of malfunctioned purchasing mechanism. Last, the book proposes a single payer model which provides valuable insights to the next stage of healthcare reform in China. Given the complicated interactions among multiple stakeholders revealed in the study, it suggests establishing a strong and unified social health insurance purchaser to overcome the drawbacks of fragmented small-scale social health insurance agencies and to mobilize greater resources for raising the benefits of reimbursement. Eventually, the reform shall lead to a healthy and active social health insurance governance system.

As the supervisor of Mr. Kai Liu's doctoral study, I had the privilege to witness the entire process of this research. I can say with definite confidence that this is a work that condenses the author's original thoughts, strong commitment, and full dedication to the field of health policy research. It is with great enthusiasm that I recommend this book to you, and believe that you will learn a lot from it, be you a researcher, educator, student, health practitioner, policy maker, or just anyone who is interested in what is going on with our healthcare system and reform.

August 2016

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Acknowledgements

What makes me be me? I have been thinking of this bizarre but stimulating question throughout my academic career. In the toughest moments of my doctoral study, I built a mental kingdom in my mind where I decided my future growth. I called it "the awakening of self-consciousness." However, the expansion of this kingdom smashed numerous invaluable things, including friendship, sympathy, happiness, and life. I began to revisit the question. What indeed makes a better self? I found an answer that I firmly believe cannot be wrong any longer—it is people. I am indebted to people around me who talk to me, make friends with me, and give me my second life.

This book was developed using a revised version of my doctoral dissertation. First and foremost, I thank my dissertation supervisors, Prof. Wu Qiaobing and Prof. Wong Chack-Kie. It is interesting that I am the last doctoral student of Prof. Wong and the first of Prof. Wu. It is very fortunate for me to act as the connection between their academic lives. Prof. Wu must be the first person to whom I have to give all my thanks. She is either my supervisor, or one of my best friends. Her never-ending support helps me find my path onto the broad academic road. She and her outstanding work have introduced me to the world of genuine scientific research. Professor Wong, my former supervisor, acted as both a most learned theorist and a strict father. He inspired me with a great interest in social welfare theories as well as their application. His challenging comments always pushed me to constantly rethink my ideas and research framework. My habit of critical thinking must be bestowed to him.

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style encouraged me to revisit many theories and to find the real interesting points. Professor Xiong met with me in California. Despite such a short meeting, I was convinced by his academic and humanistic feelings.

Thanks must also be extended to the Department of Social Work at The Chinese University of Hong Kong, where I grew from beginner to academic researcher. The Department is like a mother ship, in which I am deeply rooted. I am indebted to all the professors, lecturers, as well as staff there, especially Prof. Ngai Ngan-Phum, Prof. Chen Ji-Kang, Prof. Mok Bong-Ho, Prof. Lam Ching-Man, Prof. Joyce Ma, Prof. Steven Ngai, Prof. To Siu Ming, Prof. Xu Ying, Stephanie, Heman, Joey, and Carol. I also thank the School of Social Welfare, University of California, Berkeley and Harvard Medical School, both in the United States, where I spent over one year as a visiting student under the supervision of Prof. Julian Chow and Prof. Chunling Lu. Prof. Chow generously offered to help admit me to UC Berkeley, which was my first time visiting another country. Moreover, he was tolerant, nice, and inspiring, which created a comfortable surrounding for my research. Professor Lu opened my eyes to health economics and the healthcare systems worldwide. She offered me most valuable multidisciplinary training.

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I have had a notion in mind for a long time. If translated directly from Chinese, it reads that "I own the earth with my parents and the sky with my wife." I grew up in a poor peasant family. My parents, Liu Fuyuan and Guo Jingrong, fed the hungry family by relying on farming. It has been them who gave me the greatest courage to discover the world. My wife, Danni, opened a new and colorful world for me. The unexpected meeting with her is the sweetest thing. I hope that the next sweet thing is growing old with her by my side. I also thank my younger brother, my mother-in-law, and my father-in-law. I am never alone in the company of them.

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About the Author

Dr. Kai Liu is an Assistant Professor of the Department of Social Security, School of Labor and Human Resources, Renmin University of China. His areas of expertise lie in health policy, social policy in China, and the comparative social security system. He obtained his Ph.D. degree from The Chinese University of Hong Kong. In 2013, he visited the University of California, Berkeley in the United States to study health policy and health economics. He won a Fulbright Scholarship and from 2014 to 2015 visited Harvard University in the United States to conduct a comparative study of catastrophic health spending.

Abbreviations

BHRSS	Bureau of Human Resources and Social Security
BoH	Bureau of Health
CHARLS	China Health and Retirement Longitudinal Study
CHC	Community Health Center
DHRSS	Department of Human Resources and Social Security
DoH	Department of Health
DRGs	Diagnosis-Related Groups
GMI	Government Medical Insurance
NCMS	New Cooperative Medical Scheme
OOPS	Out-of-Pocket Health Spending
SEM	Structural Equation Modeling
SHI	Social Health Insurance
THC	Township Health Center
UEBMI	Urban Employee Basic Medical Insurance
URBMI	Urban Resident Basic Medical Insurance

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Summary

This study examines and explains the relationship between social health insurance (SHI) participation and out-of-pocket spending (OOPS), as well as the mediating role that the institutional arrangement of SHI plays in this relationship, in China.

Accordingly, this study embraces a new institutionalist approach and develops a theoretical framework that involves two perspectives: of determination and of strategic interaction. From the perspective of determination, we identify three mechanisms of SHI; that is, reimbursement, behavior management, and purchasing. From the perspective of strategic interaction, we adopt a calculus approach to explore the interaction between SHI agencies, healthcare providers, and patients, and the role that SHI and other institutions play in shaping that interaction.

This study uses a mixed-method design. The quantitative analysis draws data from a nationally representative dataset. It employs regression analysis using the instrumental variables method to test the impact of SHI participation on a series of medical expenditure indicators, and uses structural equation modeling to examine the performance of the three mechanisms of SHI. The qualitative analysis uses semistructured interviews to trace the interaction among stakeholders and between stakeholders and institutions in the healthcare sector. We conduct fieldwork in a Chinese province. We adopt thematic analysis to facilitate the data analysis.

The quantitative analysis finds that SHI schemes have a statistically positive effect on the rise of medical expenditures by increasing the use of treatment items, prolonging days of hospitalization, and increasing total medical expenditures. Structural equation modelling reveals that the reimbursement mechanism offers considerable benefits to insured patients; however, the behavior management and purchasing mechanisms perform poorly. SHI participants prefer to go to higher-level hospitals, use more medical items, and have a longer hospital stay compared with uninsured patients. As a result, SHI participation has a weak or no significant association with OOPS. It indicates that the malfunction of the behavior management and purchasing mechanisms undermines the performance of the reimbursement mechanism.

The qualitative analysis of the behavior management mechanism reveals that SHI agencies use the referral system and tiered copayment and deductibles to guide

patients' choices of health facilities. However, the magnitude of these strategies is offset by the inequitable allocation of healthcare resources and the benefits concern of patients. In addition, the reimbursement provided by SHI may stimulate patients to go to high-level health facilities.

Furthermore, the qualitative analysis of the purchasing mechanism reveals that SHI agencies use similar strategies of purchasing to restrain the improper prescription behaviors of doctors and the excessive demands of patients, including payment methods reform, and indicator management. However, these strategies are undermined by the strategic interaction between SHI agencies, doctors, and patients, which is further shaped by larger disenabling institutional surroundings. The inequitable allocation of healthcare resources, the poor compensation system of health facilities, the distorted price schedule, and the fragmented design of the SHI system induce SHI agencies to be weak purchasers, propel healthcare providers to be profit-driven, and are responsible for the moral hazard of patients.

This study is expected to contribute to theory and policy practice in the following ways. It implies that the institutional arrangement plays a mediating role in the relationship between welfare institutions and social outcomes; it also suggests that welfare institutions may be shaped and undermined by the larger institutional surroundings through the strategic interaction among actors. Finally, this study proposes a single payer model, profiling the process of establishing a strong and unified SHI purchaser.

Chapter 1
Understanding a Paradox in the Social Health Insurance Reform in China

For developing nations, there is a crucial issue of concern for health policy development: how to mobilize and manage financial resources for health systems. Among the major designs of health schemes, two stand out as competing options: social health insurance (SHI) and a tax-based system (e.g., the National Health Service in the United Kingdom). Nevertheless, a wave of SHI initiatives has swept across many developing countries in recent years (Hsiao and Shaw 2007; Wagstaff 2007). SHI, as an approach to financing the mobilizing of funds and the pooling of risk, is seen by many health planners as a "magic" solution to health financing and delivery problems (Hsiao and Shaw 2007).

1.1 Social Health Insurance in China

SHI has made remarkable progress in China from the end of the 1990s to the beginning of the 2010s, alongside the restoration of Chinese social security systems under economic transition from a planned to a market economy. The main efforts of SHI reform focus on replacing the traditional with new types of insurance schemes and expanding the new schemes to the population nationwide (Wong et al. 2006).

The SHI system has undergone a major transition since the foundation of the People's Republic of China in 1949. Before the large-scale health insurance reform starting at the end of 20th century, China implemented the Government Medical Insurance (GMI) for employees in government and public institutions, the Labor Insurance for workers in state-owned enterprises, and the Cooperative Medical Scheme for rural residents. These former schemes were established in accordance with collectivism and the planned economy that was implemented from 1949 to around 1978. As the emerging marketization reform ruined the political, social, and economic basis of these schemes, they gradually collapsed, leaving 47 % of all residents and 87 % of rural residents with no health insurance in 1998 (Wang 2005).

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