



Executive DBA, PSL University Paris-Dauphine

Discussion and Research on Medical Services Pricing Mechanism in Beijing Public Hospitals

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Applicant: YANG Xuezhi

Supervisor Name: FAN Yushun

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ABSTRACT

There are two main mechanisms for allocating social resources in traditional economics, namely the market and the government. However, the medical industry is featured with very strong specialties and natural market failure. Therefore, whether the traditional way to allocate resources can play a role in the medical industry has always been the focus of academic discussion and the concern of policy makers. In medical industry, medical services price is an important means for hospitals and doctors to get compensation (income) as well as the main economic incentive for hospitals and doctors. A reasonable price system plays an important role in improving the enthusiasm of medical personnel, reducing the total cost of medical treatment, standardizing doctors' behaviours, alleviating the contradiction between doctors and patients, allocating medical service resources and maintaining the sound operation of the entire medical system.

Due to the dual nature of Chinese public hospitals both being as the government department and enterprise, when setting prices of medical services, the government should both consider the availability of medical services from the point of a patient / citizen and the sustainability from the point of hospitals. In order to ensure the availability of basic medical services, the government set a lower price for basic medical services. Meanwhile, to ensure the income of public hospitals cover operational cost, the government set a higher price for laboratory test items, the price of which is higher than the cost for the hospital to provide such services. In addition, the government also allows public hospitals to charge 15% more than the cost of drugs. The government is trying to cross-subsidize price-cost gaps via different healthcare programs to make up for the loss of hospitals for offering basic medical services.

However, the distorted price system has changed economic incentives for the hospital / doctor and doctors' behaviours as well, resulting in the rapid growth of medical expenses, irrational allocation of medical resources and waste, and a series of issues such as "expensive medical bills and difficult access to quality medical services". The root cause of all these problems is the distorted pricing of medical services. Therefore, whether or not the government can reasonably price medical services is not only related to economic incentives for hospitals / doctors, but also changes the behaviour of hospitals / doctors and affects the allocation of medical resources, the growth of health care costs, patient satisfaction, and the overall efficiency of the medical industry. Therefore, it is very important to perform theoretical explanation and guide the government or medical authorities to reasonably price medical services.

This paper tries to analyze the theoretical basis of government adjusting medical services price by establishing a sequential game model (medical services price adjustment model) including three parties, namely the government, the supplier (hospitals / doctors) and the purchaser (patients). Based on statistical data and model parameters, the paper analyzes the current price level of medical services in public hospitals in China and the feasibility of medical authorities to adjust medical services price. In addition, this paper establishes an analytical framework for the multi-factor cost model of medical services, portrays model parameters through the survey data, case sample data and interview data, and estimates surgery cost (thoracoscopic lung tumor resection) of a specific type of cancer disease in a third-grade hospital in Beijing. Taking this as an example, this paper tries to explore a viable path for pricing other medical services.

According to the medical service price adjustment model, whether the government should raise medical services price depends on two factors, namely the government's trade-off between interests of suppliers and purchasers and the current relative price of medical services. If more focused on interests of suppliers, the government will increase the welfare of the whole society by raising the price of medical services. If more focused on the interests of purchasers and if current medical service prices are relatively low, then the government will increase medical services price so as to increase the welfare level of the entire society. Otherwise, if the current price of medical services is relatively high, then medical service prices should be appropriately reduced. This paper uses survey data and case data to estimate the current price level of the medical industry in China, and finds that the current price level of the medical industry in China is relatively very low, thus prices of medical services should be substantially raised. This conclusion remains unchanged after taking medical insurance into consideration.

In the medical services price calculation model, the paper calculates the personnel costs of a specific medical service (thoracoscopic lung tumor resection) by using the established multi-factor cost model, research data and case data, and performing adjustment according to the profit target of public hospitals. It is estimated that the reasonable price of this surgery should be 5,078 yuan, increasing by 142% compared with the current surgical costs, which is consistent with expectations of doctors interviewed.

Keywords: Medical services price; sequential game model; cost calculation; multi-factor pricing model

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TABLE OF CONTENTS

DECLARATION OF CONFIDENTIALITY AND AUTHORIZATION	I
ABSTRACT	0
ACKNOWLEDGEMENT	2
TABLE OF CONTENTS	3
Chapter I Introduction	1
1.1 Nature and Governance Structure of Chinese Public Hospitals.....	3
1.2 Market Structure of Medical Services in China.....	4
1.3 Evolvement of Medical Services Pricing System of Chinese Public Hospitals	5
1.4 Current Income Composition of Chinese Public Hospitals.....	9
1.5 Purpose and Significance of the Research	11
1.6 Main Contents, Methodologies and Research Results.....	12
1.7 Innovation and Suggestions	12
1.8 Theoretically Framework.....	13
Chapter II Review of Related Literature	14
2.1 Basic Theories of Regulation on Medical Services Pricing.....	14
2.1.1 The Public Interest Theory	14
2.1.2 The Interest Group Theory	15
2.2 Research on Medical Pricing System	16
2.2.1 Research on Mainstream Pricing of Medical Services at Home and Abroad.....	16
2.2.2 Research Status of Domestic Medial Service Price	20
2.3 Research on Payment of Medical Services.....	30
2.3.1 Common Payment Methods.....	31
Chapter III Research Design and Theoretically Framework.....	35
3.1 Using Mathematical Statistics Analysis to Reveal Problems in China’s Medical Industry.....	35
3.1.1 Questionnaire Module Design.....	36
3.1.2 Questionnaire Scale Design	37
3.1.3 Questionnaire Distribution and Processing.....	38
3.1.4 In-depth Interview Design.....	38
3.1.5 Case Data Collection and Processing.....	38
3.2 Using Economic Modelling Method to Establish the Theoretical Model of Government Adjusting Medical Services Price	39

3.3 Using Management and Accounting Methods to Calculate the Reasonable Price of a Specific Medical Service	39
Chapter IV Analysis of Questionnaire Results and Patient Expenses Composition	41
4.1 The Analysis of Questionnaire Results	41
4.1.1 Respondent Information Distribution	42
4.1.2 Related Issues about Surgery and Medical Services	46
4.1.3 Other Issues Related About Price of Medical Services	59
4.2 The Analysis of Patient Expenses Composition.....	66
4.2.1 Patient Basic Information and Patient Expenses Composition Analysis.....	66
4.2.2 Expenses Distribution	72
4.3 Interview Summary and Analysis.....	78
Chapter V Theoretical Basis for Government Regulating Medical Services Price	80
5.1 Assumptions of the Model	83
5.2 Solving the Model.....	88
5.3 Discussion on Model Solutions.....	91
5.3.1 Supplier Behaviours in Response to Medical Services Price.....	91
5.3.2 Supplier Utility Function in Response to Medical Services Price	91
5.3.3 Purchaser Utility Function in Response to Medical Services Price	92
5.3.4 Government Utility Function in Response to Medical Services Price	93
5.4 Model Summary.....	95
5.5 Significance of the Model and Suggestions	96
Chapter VI Medical Services Price Calculation Model	98
6.1 Traditional Calculation Methods for Medical Services Cost	98
6.1.1 In Accordance with Hospital Level Cost.....	98
6.1.2 In Accordance with Department Cost	98
6.1.3 In Accordance with Medical Services Cost.....	99
6.1.4 In Accordance with Disease Categories	100
6.2 Traditional Pricing Mechanism for Medical Services.....	100
6.2.1 Cost-based Pricing Method	100
6.2.2 Demand-oriented Pricing Method.....	102
6.2.3 Competition-centric Pricing method	102
6.3 Multi-factor Model of Medical Services Cost.....	102
6.4 Using Interview Data to Roughly Estimate the Cost of a Surgical Procedure	104
6.4.1 Human Cost Calculation Formula.....	105
6.4.2 Using Investigation and Interview Data to Roughly Estimate	105

6.4.3 Discussion on Calculation Results	106
6.5 Calculation on Other Costs	107
6.5.1 Material cost calculation formula.....	107
6.6 Calculation Model Summary	108
Chapter VII Summary and Prospects	109
7.1 Status Quo of Medical Services Price.....	109
7.2 Medical Service Price Adjustment Model.....	110
7.3 Medical Service Price Calculation Model.....	110
7.4 Research Limitations	111
7.5 Prospects	113
7.5.1 Improvement on Medical Service Price Adjustment Model	113
7.5.2 Big Data and Medical Service Price Calculation Model.....	113
Appendices.....	2
Appendix A Questionnaire about Price Adjustment Mechanism of Public Hospital Medical Services	2
Appendix B Expense Statement of Inpatient of a Third-grade A-level Hospital in Beijing	8
Appendix C Interview Outline.....	10
References	11
Declaration.....	20
CV and Academic Achievements during the Academic Period.....	21

List of Tables

Table 4-1 Respondent Region Distribution	42
Table 4-2 Respondent Age Distribution	42
Table 4-3 Respondent Gender Distribution.....	43
Table 4-4 Respondent Job Title Distribution.....	43
Table 4-5 Respondent Education Background Distribution	44
Table 4-6 Distribution of Working Hours Declared by Respondent.....	44
Table 4-7 Respondent Income Distribution.....	45
Table 4-8 Number of Surgeries Participated Per Week	46
Table 4-9 Time Consumed by Each Surgery	46
Table 4-10: Interviewee's Role in Surgery	48
Table 4-11: Average Degree of Difficulty of Surgeries Performed by Interviewees	48
Table 4-12: Average State of Illness of Patients Interacted with Interviewees.....	49
Table 4-13: Average Surgery Risks for Interviewees	49
Table 4-14: Average Number of Medical Personnel in Each Surgery	50

Table 4-15: Number of Doctors in Interviewees' Surgery.....	51
Table 4-16: Average Number of Nurses in Each of Interviewees' Surgery.....	51
Table 4-17: Contribution Rate of Medical Equipment in Surgery in Interviewees' Opinion.....	52
Table 4-18: Contribution Rate of Medicine and Consumables in Surgery in Interviewees' Opinion ...	54
Table 4-19: Contribution Rate of Hospital Infrastructure in Surgery in Interviewees' Opinion.....	55
Table 4-20: Contribution Rate of Administrative Management in Surgery in Interviewees' Opinion..	56
Table 4-21: Contribution Rate of Medical Service Quality in Surgery in Interviewees' Opinion.....	56
Table 4-22: Contribution Rate of Doctor's Medical Knowledge in Surgery in Interviewees' Opinion	57
Table 4-23: Contribution Rate of Doctor's Medical Skills in Surgery in Interviewees' Opinion.....	58
Table 4-24: Contribution Rate of Doctor's Collaboration in Interviewees' Surgery.....	58
Table 4-25: Current Price of Medical Services from Doctors' Perspective.....	59
Table 4-26: Current Price of Medical Services from Patients' Perspective.....	60
Table 4-27: Reimbursement Rate of Medical Insurance from Doctors' Perspective.....	61
Table 4-28: Reimbursement Rate of Medical Insurance from Patients' Perspective.....	62
Table 4-29: Doctor's Ideal Income.....	63
Table 4-30: Ideal Adjustment Period for Price of Medical Services in Interviewees' Opinion.....	64
Table 4-31: Interviewees' Satisfaction for Current Income.....	64
Table 4-32: Reaching Satisfying Income in Interviewees' Opinion.....	65
Table 4-33: Doctor's Income Should be Multiples of Local Average Income in Interviewees' Opinion	65
Table 4-34: Patients Gender Distribution.....	66
Table 4-35: Patients Age Distribution.....	67
Table 4-36: Patient Discharge Diagnosis Distribution.....	68
Table 4-37: Expenses Statistical Description.....	69
Table 4-38: Statistical Description of Proportions of Expenses.....	71

List of Figures

Figure 4-1 Cancer Total Expense Distribution.....	73
Figure 4-2 Out-of-pocket Expense Proportion Distribution.....	74
Figure 4-3 Patient Medicine and Consumables Expense.....	74
Figure 4-4 Patient Medicine and Consumables Expense Proportion Distribution.....	75
Figure 4-5 Patient Examination and Laboratory Test Expense Distribution.....	75
Figure 4-6 Patient Examination and Laboratory Test Expense Proportion Distribution.....	76
Figure 4-7 Patient Service Expense Distribution.....	76
Figure 4-8 Patient Service Expense Proportion Distribution.....	77
Figure 4-9 Patient Surgery Expense Distribution.....	77
Figure 4-10 Patient Surgery Expense Proportion Distribution.....	78
Figure 6-1 Medical Services Cost Comprehensive Elements Model.....	104