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## Feasibility of Introducing Investor-Owned Hospitals in Korea

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FEASIBILITY OF INTRODUCING INVESTOR-OWNED HOSPITALS IN KOREA

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## **ABSTRACT**

Since 2002, there has been active debate regarding the introduction of for-profit hospitals in South Korea: the advocates highlight the multiplication of economic value after the introduction of for-profit hospitals, whereas the opponents voice their concern about the possible negative consequences for-profit entities can create within the health care system. Various stakeholders including doctors' associations, hospital associations, and civic groups have been for or against the introduction of for-profit hospitals, according to their interests. The government has tried to develop the national health and medicine system based on the positive and negative impacts of their introduction. In December, 2015, the government gave permission to establish Greenland International Hospital, the nation's first for-profit hospital, on Jeju Island. This suggests that the government has decided that private for-profit hospitals will do more good than harm mainly because of the presence of private hospitals in the market on improved quality of medical services, development of medical industry, and creation of jobs rather than emphasizing the negative effects like rising medical expenditures and weakened access to medical services for low income populations. In South Korea, the medical system has largely developed around the private sector which are sanctioned as not-for profit hospitals. There are many different types of governmental regulations in place which assumes that medical care is not a market commodity and medical service providers are not supposed to be for-profit entities. This view has affected the development of the health sector in Korea and facilities tend to register themselves as not-for-profit because

of regulatory reasons. To prepare for the introduction of advanced foreign medical services, to increase the demand for advanced medical services, and to strengthen the competitiveness of the medical industry as a new industry sector, the Korean government has tried to introduce for-profit hospitals as a means of policy. The survey conducted in this study shows that 90% of survey respondents had a positive opinion about the introduction of for-profit hospitals in South Korea, with the remaining 10% foreseeing that their introduction would be impossible. The survey results also show that respondents believed the introduction of for-profit hospitals should come after the revision of Medical Service Act and the abolishment of obligatory insurance authorization systems. A high percentage of respondents mentioned the positive effects of introducing for-profit hospitals: creation of jobs, improved quality of medical service, and active investment of private capital. The biggest reported negative effect was differences in access to medical services between the rich and the poor. In addition, the present study conducted meta-analysis of previous studies on patient satisfaction, financial performance, and social contribution (community benefits, charitable contribution, or commitment to the public interest) of for-profit and not-for-profit hospitals. The meta-analysis results showed that patient satisfaction in for-profit hospitals was lower in comparison with not-for-profit hospitals. Financial performance was better in for-profit hospitals in comparison with not-for-profit hospitals. Moreover, social contribution in for-profit hospitals was lower in comparison with not-for-profit hospitals.

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## LIST OF ABBREVIATIONS

DRG .....	Diagnosis-related Group
FFS .....	Fee for Services
GDP .....	Gross Domestic Product
HIRA .....	Health Insurance Review and Assessment Service
IDN .....	Integrated delivery networks
KHA .....	Korean Hospital Association
KMA .....	Korean Medical Association
KNA .....	Korean Nurses Association
KOMA .....	Korean Oriental Medicine Association
LCI .....	Long-term Case Insurance
MHW .....	Ministry of Health and Welfare
MSF .....	Ministry of Strategic Finance
MRP .....	Medical Relief Program
NGO .....	Non-Governmental Organization
NHI .....	National Health Insurance
NHIC .....	National Health Insurance Corporation
OOP .....	Out of Pocket

# **CHAPTER 1**

## **INTRODUCTION**

Health care systems are dependent on the norms and values prevailing in their respective societies (White, 2015) and vary around the world. Each country has developed its own distinctive health care system based on its history, traditions, and political system (Lameire et al., 1999). Therefore, no two health systems are identical and each system represents its own specific characteristics and peculiarities based on the social contracts between citizens and their respective governments (Lameire et al., 1999).

Health care systems worldwide can be classified using a number of dimensions and criteria. In general, four different basic health care models are defined based on the source of funding of the system (Reid, 2015). These four models are: the Beveridge model, the Bismarck model, the National Health Insurance, and the out-of-pocket model. In the Beveridge model, health care services are provided to all citizens funded through the governmental budget or tax revenue. This model has been adopted by countries like United Kingdom, Finland, Sweden, Norway, Italy, Canada and New Zealand.

The Bismarck model is funded mainly by premium-financed social/mandatory insurance and is found in countries such as Germany, France, Austria and Switzerland. Later, a number of countries(e.g.,Japan,Taiwan) also adopted similar social insurance based systems. This model results in a mix of private and public providers, and allows more flexible spending on health care.

In the insurance model, funding of the system is based on premiums, paid into private insurance companies, and in its pure form actually exists only in the US among the developed countries of the world. In this system, the funding is predominantly private, with the exception of social programs targeting selected demographic and social groups. In the USA, government funds a large proportion of health care expenses of elderly (through Medicare), disabled, and households in poverty satisfying a number of other criteria (for Medicaid, the criteria for enrollment depends on state policy). Because the emphasis of the system is on private provision and funding of health care services, a majority of health care providers in this model belong to the private sector.

The out-of-pocket model is what is found in the majority of countries of the world, mainly in developing nations. This system is in place in countries that are too poor or disorganized to provide any kind of national health care system. In these countries, those who have money can pay for health care services they get and those who are not able and/or willing to pay for health care remain outside the health care market. In rural regions of South America, Africa, and Asia, hundreds of millions of people spend their lives without ever seeing a doctor. (Mbeki Moeletsi, 2009; Gudwani et al., 2012; Barber & Yao, 2010)

A variety of factors like the financial system, health care delivery system, medical fee system and compulsory social insurance are tightly connected to each other and the macro performance of the health care system (e.g., health care expenditures, quality of medical services, equity) appears to vary widely depending upon the combination of these factors. Thus, understanding the characteristics and development of the health care

system is needed before deciding whether the health care delivery system should encourage development of for-profit providers.

In recent years discussions on the necessity and advantages/disadvantages of introducing domestic commercial hospitals have been discussed (Lee, 2002; Jung,2003; Gam,2004; Woo,2004).The administration of President Lee Myung-bak (2008-2013) officially investigated whether reforming the Korean health system by allowing investor owned hospitals would help strengthen the existing National Health System. In South Korea, all private hospitals are sanctioned as not-for profit hospitals by law. The regulation denies the commercial activity of a medical institution and competition mechanism. Public hospitals in Korea are under strict price control, and even if a deficit occurs, they are subsidized. Therefore, there is lack of consciousness of management crisis. Private hospitals which are not-for profit are not able to raise money from the market. Under the law, a private company that wants to operate a hospital is required to set up a nonprofit corporation, which must reinvest any gains it earns in the operation of the hospital. The government has tried to introduce for-profit hospitals open to private investment as a means to promote medical tourism. Still, investor-owned hospitals are not allowed in South Korea, except on Jeju Island, which is designated as a free economic trade zone. Incheon Free Economic Zone should be included in this category as well. In spite of this first step to open health care market for investors, debates on pros and cons of this movement are still continuing.

The purpose of this study is to review the advantages and disadvantages of the investor-owned hospital system, as well as its appropriateness and impact on the Korean

health care industry. To address this issue, this study will explore the following aspects related to the development of private for-profit hospitals:

1. Advantages and disadvantages of allowing investor-owned hospitals, from the point of view of health care providers/administrators and consumers,
2. Case studies of this type of hospital in other countries,
3. Barriers in introducing investor-owned hospitals in Korea,
4. Feasibility of establishing investor-owned hospitals in the National Health System

## CHAPTER 2

### LITERATURE REVIEW

#### 2.1. Health Care System in South Korea

Currently, South Korea has universal health insurance coverage (100% of population) through programs for the employed population (self or employer-based) and their dependents, and those covered through Medic Aid Program (low-income citizens). Medic Aid Program is a public program funded by the government. As is shown in Table 2.1, Medic Aid Program covers a relatively small proportion of population in South Korea.

Private insurance is allowed if individuals and households perceive the need for getting additional supplemental coverage, but private insurance must be purchased individually.

Table 2.1 Population by Insurance Coverage Type in Korea (2015.06)

		Population (thousands)	Proportion (%)
Health Insurance	Employer-based	36,080	69.6
	Self-employed	14,376	27.7
	Total	50,456	97.3
Medic Aid Program		1,422	2.7
Total		51,878	100

Source: <http://www.nhis.or.kr/menu/retrieveMenuSet.xx?menuId=B2220>

### 2.1.1. Demography and Health Status

#### Demography

In 2015, the population of Korea was approximately 51 million (NHIC, 2015). After rapid population growth during the industrialization phase of 60s and 70s, growth rate has slowed considerably and has stabilized around 50 million since 2000 (Table 2.2). The increasing elderly population and decreasing birth rate now characterizes the demographic changes happening in South Korea (Table 2.2). The demographic changes will have significant impact on the health system and health system organization.

Table 2.2 Population and Demographic Indicators (Selected Years)

	1960	1970	1980	1990	2000	2010	2013	2014
Population (million)	25	32	38	43	47	49	50	50
Population growth (annual %)	–	2.21	1.57	0.99	0.84	0.47	0.43	0.41
Life expectancy (age)	52.4	62.1	65.9	71.4	75.9	80.6	81.8	82.16
Population >65 (annual %)	2.90	3.07	3.82	5.12	7.22	11.04	12.22	12.66
Birth rate (crude/per 1000 people)	–	31.2	22.6	15.2	13.5	9.5	8.6	8.6
Fertility rate (births per woman)	–	4.53	2.83	1.59	1.47	1.23	1.19	1.20
Dependency ratio	15.52	14.39	13.18	11.50	8.79	5.96	5.43	5.25

*Sources: OECD(2016). An em dash indicates that the level was not investigated.*



Countries are classified into three groups based on the proportion of their population in the elderly age bracket. For example, countries with  $\geq 7\%$  of the population aged 65 or older are categorized as an “ageing society”. If the percentage of elderly exceeds 14% or 20%, the countries are called “aged society” and “super-aged society”, respectively (Lee, 2009; Tahara, 2016). South Korea became an “ageing society” in 2000 based on the data obtained from the Organization of Economic Cooperation and Development(OECD)(Korean Statistical Information Service, 2015). The percentage is expected to rise to 14.4% in 2018, implying that it will become an “aged society” in 2018. Population projections indicate that Korea will become a “super-aged society” after 2026 (OECD, 2015). The rate of increase in the number of elderly persons in South Korea is faster than the growth of elderly persons in many other OECD countries (Park, 2015). The challenge of increasingly elderly populations is increased demands for health care and associated medical expenses. With low fertility, the ratio of pension age persons(>65) to working age persons (20~64) is also likely to decrease over the years, implying that working group persons will have to support an increasingly higher number of non-working persons with the increasing number of elderly. This could be a burden in maintaining the macroeconomic sustainability of the financing of health care.

### Health Status

The health status of the population of South Korea has improved steadily since 1975 (Table 2.3). The crude death rate decreased from 8 persons per 1000 in 1970 to 5.3 in 2013. Meanwhile, life expectancy at birth increased quite rapidly to become one of the best in the world. Female life expectancy at birth was 67.9 years in 1975, which increased

to 84.1 in 2010, much higher than the world average (Table 2.3). For males, life expectancy grew from 60.2 years in 1975 to 85.1 years in 2013.

Table 2.3 Birth/Death Rate and Life Expectancy by Gender at Birth in South Korea and World Average, 1970-2013

	Crude death rate (per 1000)	Life expectancy at birth			
		South Korea		World average	
		Male	Female	Male	Female
1975	7.7	60.2	67.9	56.1	60
1980	7.3	61.8	70	58.1	62.3
1985	6	64.5	72.8	59.7	63.5
1990	5.8	67.3	75.5	61.4	65.8
1995	5.4	69.6	77.4	62.3	66.9
2000	5.2	72.3	79.6	63.3	67.9
2005	5	75.1	81.9	64.9	69.2
2010	5.2	77.2	84.1	66.7	71.1

*Source: KOSIS(2015), OECD(2016)*

These improvements in the crude death rate and life expectancy are largely attributable to improved nutrition, hygiene and sanitation, increasing health knowledge, better access to health services, development of medical technologies and equipment, and advancement of the health care system.

The infant mortality rate (IMR) is frequently quoted as an index of health status of the population. Although the IMR was 13 per 1000 live births in 1985, which is higher than other advanced countries, it dramatically decreased to 3 in 2013, comparable to the average of infant mortality in other advanced countries (Table 2.4)

Table 2.4 Infant Mortality Rate (Per 1000 Live Birth) in South Korea and Selected Countries, 1985-2013

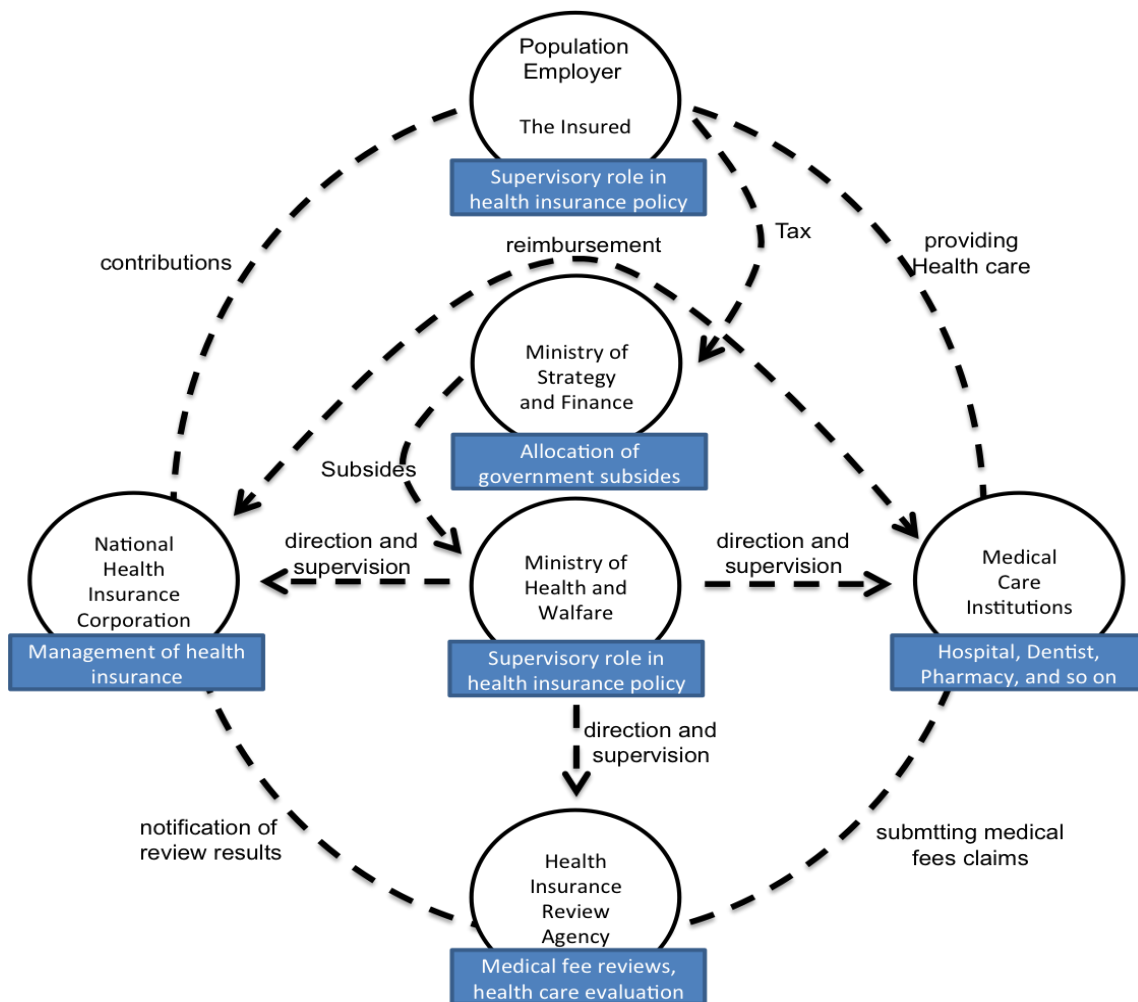
	South Korea	France	Japan	Germany	Sweden	US	Average (except for South Korea)
1985	13	8.3	5.5	9.1	6.8	10.6	8.06
1990	14.3*	7.3	4.6	7	6	9.2	6.82
1995	14.1*	5	4.3	5.3	4.1	7.6	5.26
2000	8.3*	4.5	3.2	4.4	3.4	6.9	4.48
2005	4.7	3.8	2.8	3.9	2.4	6.9	3.96
2010	3.2	3.6	2.3	3.4	2.5	6.1	3.58
2013	3	3.6	2.1	3.3	2.7	.	2.925

*Source: OECD(2016), KOSIS(2016)*

## 2.2.The Structure of Health Care System

### 2.2.1.Administrative Structure

The major organizations involved in the health care system in South Korea include stakeholders such as the Ministry of Health and Welfare (MHW), the Ministry of strategic Finance (MOSF), the National Health Insurance Corporation (NHIC) and the Health Insurance Review and Assessment Services (HIRA) (Figure 2.1). These organizations were established with distinctive roles and responsibilities based on the National Health Insurance(NHI) Act (1999).



Source: Modified from Lim(2010)

Figure 2.1 The Structure of National Health Insurance Program

### Ministry of Health and Welfare

The Ministry of Health and Welfare (MHW) manages and supervises the operation of the NHI program through formulation and implementation of policies. Universal coverage through national health insurance has broad political support(Kwon, 2009). The MHW also has strategic oversight of health service delivery and administers health-

related regulation including insurance and basic living assurance, protection of low-income population, health industry, maternity and child care, and dental health (Korean code 2016). Key health legislations are listed in Table 2.5.

Table 2.5 Key Health Legislations of South Korea

Name of Act	Year
The Constitution of the Republic of Korea Act	1948
Pharmaceutical Affairs Act	1953
Medical Technicians Act	1995
Communicable Disease Control and Prevention Act	1954
Regional Public Health Act	1956
Medical Service Act	1962
Blood Management Act	1970
Prevention of Acquired Immunodeficiency Syndrome Act	1987
Emergency Medical Service Act	1994
National Health Promotion Act	1995
Mental Health Act	1995
National Health Insurance Act	1999
Internal Organs Transplant Act	1999
Framework Act on Health and Medical Services	2000
Medical Care Assistance Act	2001
Medical Devices Act	2003
Act on Long-Term Care Insurance for the Aged	2007

In addition to health service delivery policy, planning, regulatory frameworks, and social and public health safety nets, the MHW is responsible for fostering an environment where the market can be responsive to health and social needs.

### National Health Insurance Corporation (NHIC)

In 2000, the administrative structure of the health care system was changed from a multiple health insurer model to a single insurer model. The National Health Insurance Corporation (NHIC) was established by the National Health Insurance Act in 1999, and plays a major role as the single insurer: managing qualification of the insured (employee, self-employed or dependent), imposing and collecting premiums, making payments to medical institutions, negotiation with providers associations to set the price of medical services and setting of medical fee schedules.

### Ministry of Strategic Finance (MOSF)

MOSF is involved in running the health care system through the allocation of government subsidies. In 2013, government subsidy was 17.3% of financial revenue of the National Health Insurance. Contributions by insured were from the employer-based (67.5%) and the self-employed (15.2%). In addition to health insurance subsidies, MOSF also transfers funds from general revenue for the NHIC management budget, which includes all administrative costs. MOSF can also influence health insurance policy through its involvement in the NHIC's highest level decision-making body, the Board of Directors. In fact, under the National Health Insurance Act, representatives from MOSF are entitled to be included in the Board of Directors in a non-permanent role. The Board plays an important role in making decisions related to the insurer's functions and responsibilities: for instance, setting the annual budget and determining which benefits NHIC include. MOSF's role is to comprehensively evaluate the NHIC's affairs to increase the efficiency and transparency of all public programs. In these terms, the Ministry evaluates the NHIC's annual projects in accordance with the Government Public

Agency Management Act (2005), which monitors performance of all public agencies’.

Based on the government Public Agency Management Act, the Ministry can control budget spending, personnel management and major projects, as well as assess the performance of NHIC operations.

Table 2.6 Functions and Roles of Regulatory Organizations

Function	Regulatory institution	Health care regulation
Standard setting	MHW	<ul style="list-style-type: none"> <li>• Sets benefit tariffs</li> <li>• Sets benefit provision standards</li> </ul>
	NHIC	<ul style="list-style-type: none"> <li>• Decisions on contribution rates</li> <li>• Fee schedule contracts with providers</li> </ul>
	HIRA	<ul style="list-style-type: none"> <li>• Health technology assessment</li> <li>• Claims reviews</li> </ul>
	Financial Supervisory Service	<ul style="list-style-type: none"> <li>• Regulates life and non-life insurance</li> </ul>
Monitoring	NHIC, HIRA	<ul style="list-style-type: none"> <li>• Quality of care</li> <li>• Utilization reviews</li> <li>• Safety of drug interactions</li> </ul>
	Red Cross	<ul style="list-style-type: none"> <li>• Safety of blood supply</li> </ul>
Enforcement	Korean Hospital Association, Korean Medical Association	<ul style="list-style-type: none"> <li>• Self-regulation of providers</li> <li>• Job training</li> </ul>
	Korean Food and Drug Administration	<ul style="list-style-type: none"> <li>• Approval of drug/medical equipment market authorization</li> </ul>
	NHIC, HIRA	<ul style="list-style-type: none"> <li>• Investigation of fraud and abuse</li> </ul>
	Local governments	<ul style="list-style-type: none"> <li>• Public ownership of medical facilities in rural areas</li> </ul>

Notes: NHIC: National Health Insurance Corporation; MHW: Ministry of Health and Welfare; NHIC: National Health Insurance Corporation; HIRA: Health Insurance Review and Assessment Service

### Health Insurance Review and Assessment Services (HIRA)

HIRA is responsible for reviewing medical fees as well as assessing quality of health care services provided to health insurance beneficiaries. HIRA reviews claims to evaluate the reasonableness of health care benefits. HIRA works to ensure the appropriate provision of health care through the fair and objective review and assessment of claims in the partnership with NHIS. In addition, HIRA develops statistics and information concerning clinical, social and economic implications of health care as policy-making resources for the government.

### Provider Associations

Provider associations in South Korea are involved in health insurance policies like those in other countries. Most providers associated with the Korean Medical Association (KMA), the Korean Hospital Association (KHA), the Korean Dentist Association (KDA), and the Korean Oriental Medicine Association (KOMA) accept the National Health Insurance and make a reimbursement claim for treatment costs. Providers accept new patients and there is no restrict which patients they accept.

#### 2.2.2. Health Care Financing

The South Korean health care system is a mix of public and private financing. Funds for health care are raised mainly from: mandatory health insurance contributions and out of pocket (OOP) payments.

OOP payment for outpatient service is 30% (clinics, pharmacy), 40% (hospitals), 50% (general hospitals), or 60% (tertiary care hospital). OOP payment for inpatient service ranges from 10% to 20%.

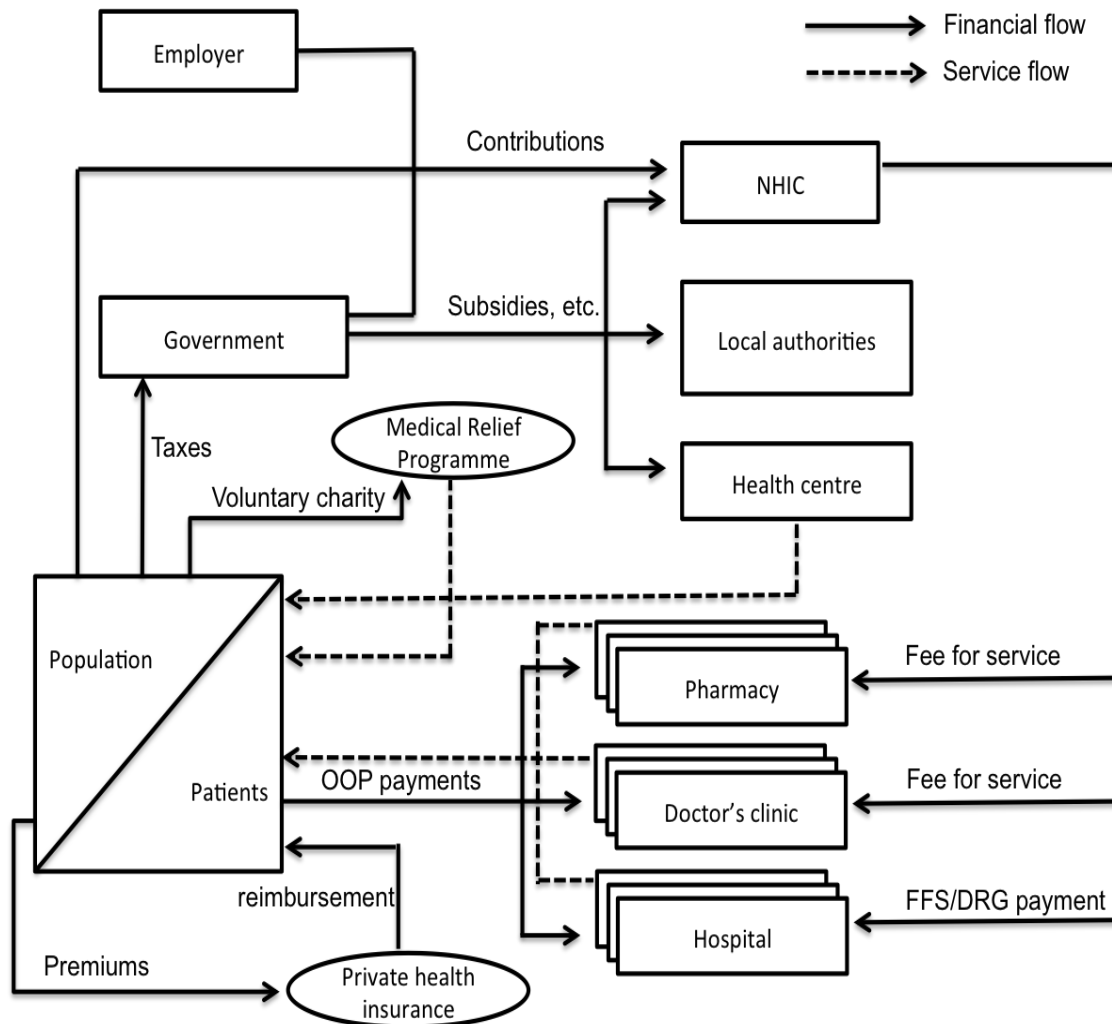


As the government is responsible for health care services, it subsidizes a substantial portion of health care funding. In 2013, government subsidy was 17.3% of financial revenue of the National Health Insurance. Contributions by insured were from the employer-based (67.5%) and the self-employed (15.2%). The contribution of the employer-based insured is calculated based on gross salary of employees, and equally shared by both employees and employers. Additional contribution has been collected from high-income population. The contribution of the self-employed is determined by annual average income, properties, vehicles, age, and gender.

The NHI program, which provides universal coverage, is predominantly funded through contributions by employees, employers and the self-employed (including contributions by the state for civil servants) (Kim, 2008)

In addition, there is the Medic Aid Program (MAP), which guarantees health care services to the poor with low-income and is financed by the central and local governments. The Public Health Service provides the whole population with health care services for prevention and health promotion. There is also the Medical Relief Program (MRP) that provides emergency medical services to foreign workers and homeless people.

Figure 2.2 illustrates the financial flows of the South Korean health care system.



Note: OOP: Out of Pocket; FFS: Fee for Services; DRG: Diagnosis-related group; NHIC: National Health Insurance Corporation;

Figure 2.2 Financial Flow of the Health Care System of Korea

Table 2.7 Health Care Coverage Program in South Korea

	Public			Mixed	Private
	NHI	MAP	PHS	MRP	VHI
Coverage/ entitlement	97.3%	2.7%	Whole Popula tion	Foreign workers and the homeless	Fund and cash
Benefits	Health care	Health care	Health promot ion/ prevent ion	Emergency care	In cash
Organizati on	NHIC	NHIC/Loc al authorities	Health center	Local authorities	Insurance companies
Service provider	Public/private providers	Public/priv ate providers	Local health center	Public/private providers	Private/public providers
Finance	Contributions/ subsidies	Public sources/ge neral taxation	Public sources	Public/private sources	Premiums

Note: NHI: National Health Insurance; MAP: Medic aid Program; PHS: Public Health Service; MRP: Medical Relief Program; VHI: Voluntary Health Insurance; NHIC: National Health Insurance Corporation.

### 2.2.3. Health Care Delivery

#### Health Care Delivery Service

The health care service delivery system consists of tertiary hospitals, general (secondary) hospitals, clinics, and public health centers, which are corporate and university-based. The type of ownership is mixed, ranging from publicly owned and

operated to for-profit private ownership. The private sector which are sanctioned as not-for profit hospitals has been growing rapidly, and currently is the major provider of care in South Korean. More than 90% of hospitals (and 92% of beds) are private, as well as almost all outpatient clinics. Korean health care policies and financing encourage the development of the hospital sector, particularly inpatient beds which increased private payments for hospitalizing. The number of acute beds has been growing over the last decade of the twentieth century and continues to grow (OECD,2016) (see also Table2.1, OECD, 2016). While in most of the OECD countries the trend is reversed towards the dehospitalization of delivery systems (OECD, 2015). Still, there is need in more hospital beds, since the number of beds is below the average for OECD countries.

#### Resource Allocation and Contracting

The dominant method of reimbursement of hospital and outpatient services is fee-for-service (FFS). Diagnosis Related Group system-based payments to hospitals are being piloted, although there is resistance from the hospital side. The FFS method of payment is often favored by providers, but is potentially inflationary for the health care system since it offers opportunities for induced demand and overprovision. The fees are subject to regular reviews by the Health Insurance Review Agency (HIRA), who analyzes health insurance claims.

In August 2004, the health insurance reform committee in the National Health Insurance Corporation (NHIC) proposed the use of global budgets. The health market is regulated, which controls over-use and miss-use of services. The agencies that review fees are the National Federation of Medical Insurance (NFMI), which dissolved in 2003 to be replaced by the HIRA. HIRA has broader functions that include evaluating health

care performance and costs of health care services provided to beneficiaries. Being autonomous, HIRA works closely with the National Health Insurance Corporation (NHIC). On the demand side, co-payments are applied to contain the use of hospital inpatient services and outpatient services. These co-payments constitute the out-of-pocket (OOP) component of health care financing. The result is free choice of providers with a loose system of referrals.

#### 2.2.4. History

Several years before universal health insurance was initiated in South Korea, legislation was passed that allowed businesses to offer health insurance to employees through medical insurance societies (Anderson, 1989). These societies were formed as subsidiaries of large firms or were incorporated by a number of small firms and existed to collect revenues, set benefits, and develop reserves (Anderson, 1989). Claim reviews and payments to providers were centralized (Kwon, 2009). For the next ten years, there was debate about whether these administrative societies should be further unified under the central government or remain decentralized (Lee, 2003). The structure of administration and its relationship to both the country's goals for efficiency and its political philosophies were at the heart of the debate.

In 2000, South Korea's new president Kim Dae-Jung fulfilled promises to merge all of the medical societies into one single payer (Kwon, 2009). Now the insured are divided into two groups, the employer-insured and the self-employed (Song, 2009), and the health care system comprises three branches; the National Health Insurance Program (NHIP), the Medic Aid Program (MAP), and the Long-term Care Insurance (LCI) Program (functions like an annuity) (Song, 2009). MAP covers the low-income citizens,

while LCI covers disabled older adults.

The move to a single-payer system was partially driven by inequities in financing, whereby the self-employed in poor regions were paying a higher proportion of contributions than those in wealthy regions, even though the benefits themselves were identical (Kwon, 2009). This was due to differences in the administrative societies, which were often too small to pool risk efficiently. Consequently, administrative costs varied substantially (Kwon, 2009). With the introduction of the single-payer system, administrative costs were equalized across different segments of the population and dropped substantially overall. Before the move to a single-payer system, administrative costs ranged from 4.8% for government workers to 9.5% for the self-employed. By 2006, the rate was 4% for all workers (Kwon, 2009). A mixed system of tax-based financing and health insurance was established (Kwon, 2009), avoiding problems in assessing the income of the self-employed.

### 2.3. For-Profit Hospitals, an Investor-Owned Hospital System

#### 2.3.1. For-Profit Hospitals, Investor-Owned Hospital

##### Definition

‘For-profit’ is defined in dictionary as ‘seeking for profit in property’ (National Korean Institution, 2007) and is often used as indicating the management aim or property such as profitable activity, purpose, or private enterprise.

Table 2.8 Major Events in Development of the National Health Insurance Program

Timeline	Major Events
1963	Enactment of a Medical Insurance Act
1977	Expanded Health Insurance coverage to corporate workplaces employing more than 500 employees
1979	Expanded Health Insurance coverage to civil servants and private school teachers and employees, and corporate workplaces employing more than 300 employees
1981	Expanded Health Insurance to corporate workplaces employing more than 100 employees Pilot project for the self-employed in three areas (Hongcheon, Okgu, Gunwee) Occupational health insurance societies established, covering artists and trades people, etc.
1982	Second project for the self-employed in three areas (Ganghwa, Boeun, Mokpo) Expanded Health Insurance to compulsory enrolment for corporate workplaces employing more than 16 employees and voluntary enrolment for those with more than 5 workers
1984	Enlargement of dependent coverage to also include second-line dependents
1988	Expanded Health Insurance to self-employed rural residents
1988	Expanded Health Insurance to compulsory enrolment for workplaces employing 5 or more employees
1989	Expanded Health Insurance to self-employed urban residents
<b>Universal coverage for all major population groups</b>	
1997	Enactment of a National Medical Insurance Act
1998	Establishment of National Medical Insurance Corporation
1999	Enactment of a National Health Insurance Act
2000	Establishment of National Health Insurance Corporation
2003	Unification of finance for workers and region
<b>Actual unification of Health Insurance</b>	
2005	Pilot project for Long-term Care Insurance
2007	Enactment of Long-term Care Insurance
2008	Implementation of Long-term Care Insurance

Hospitals can be classified as ‘for profit’ or ‘nonprofit’, with for-profit referring to a ‘system that permits establishment and management of hospital as profitable corporation’ or a ‘system that acknowledges commercialization of corporate hospital.’ (Hwang, 1988). The most defining characteristic of for-profit hospitals is their ability to accept and deliver capital (Paek, 2007). For-profit hospitals accept capital from investors to manage the hospital, and profits that have occurred can be given back to investors in return. In this perspective, for-profit hospitals are defined as “hospital owned by investor or confederation of such”, and this type of hospital corporation is also referred as ‘investment open hospital’. Often in Korea, the term ‘for-profit hospital’ is used to refer to ‘investment open hospital’, ‘investment open medical corporate body’, ‘for-profit corporate medical institution’, and ‘for-profit medical corporate body’ (Korea Development Research Institute & Korea Health Industry Promotion Institute, 2009). For example, when the dispute over introduction of a for-profit hospital to Jeju Island was ongoing, the governor used the term ‘Investment open hospital’ instead of ‘for-profit hospital’ to Jeju Island-citizens. In this research, the term ‘for profit hospital’ was mainly used to refer to all types of profit-seeking hospitals which kinds of owned, investment and operations.

### 2.3.2. Comparison between For-Profit and Not-For-Profit Hospitals

#### Quality of Care

McCellan and Staiger (1999) compared mortality rates for all U.S. elderly patients by hospital ownership status using longitudinal data from 1984 to 1994. They showed that for-profit hospitals had a higher mortality among elderly patients with cardiac disease. However, much of the difference revealed that it was associated with the location



of the for-profit hospital and influenced by market and hospital-specific factors rather than the ownership of the hospital.

Devereaux et al. (2002) compared mortality in private for-profit and private non-profit hospitals in the US from 1982-1995, reviewing 15 observational studies that included 26,000 hospitals and 38 million patients. They found that patients treated at for-profit hospitals had a 2% increase in the risk of death. The authors attribute the higher death rate at for-profit hospitals to two potential causes: i) shareholders expect a 10% to 15% return and the hospitals have to pay taxes, and ii) funding (payment rate per case) is fixed from national health insurance (Canada) or Medicare (US), so they may have the opportunity to cut corners to reduce costs.

The decrease in the quality of services provided in for-profit hospitals is attributed to the reduction in service provision, skilled staff and fewer health-care workers per bed (Lee, 2014). Another study analyzed data from state inspections of 13,693 nursing facilities (1998). They found controlling for case mix and facility characteristics, nurse staffing was lower at investor-owned nursing homes and investor-owned nursing homes are more frequently cited for quality deficiencies and provide less nursing care (Harrington et al., 2001). A meta-analysis involving over 500,000 patients receiving hemodialysis revealed higher risk-adjusted mortality rates at private for-profit dialysis facilities (Devereaux et al 2002).

Eggleston et al. (2008) performed a systematic review to find the factors explaining the relationship between hospital ownership and quality. Analysis using 31 studies revealed that there was no significant difference by ownership status in quality of care defined by mortality or other adverse events. The authors suggested that the quality

could be changed depending on the institutional context, including differences across regions and markets.

Song (2013) analyzed the correlation between the ownership and performance of hospitals in South Korea. Insurance benefit data of 2010 were collected from the National Health Insurance Corporation and National Statistical Office. The analysis of variance analysis and multiple regression analysis revealed that there was no significant difference on major achievements such as "hospital mortality rate within 30 days after admission", and "average hospitalization days" between the ownership types of hospitals. This result suggests that the outcome of medical services is related to the structural and environmental contexts of medical institutions such as the size, type, and market competition of the hospital. The author presumed that the difference in performance is attributable to an endogenous context rather than the ownership status.

Rosenau and Linder (2003) conducted a systematic review of evidence-based peer-reviewed assessments of differences in performance between private for-profit and private non-profit US hospitals. They compared data for for-profit providers with data for concurrently existing non-profits from the same geographical area and a few studies compared each provider's pre- and post-conversion performance. The authors found that in the studies on quality, the non-profits were judged superior in 59% (41 articles) of the cases, the for-profits were superior in only 12% (8 articles), and for the rest, 29%, there was no difference or results were mixed. They conclude that overall, the past 22 years of research have judged the non-profit providers more favorably than their for-profit counterparts.

### Cost of Care

In principle, profits for non-profit hospitals should be zero, but, in general, data collected from financial analysis is used to determine the real profitability of the operation (Jung and Ko, 2005). In addition, Sloan (2000) and Shen et al. (2005) showed that the costs of providing care was almost the same in for-profit and not-for profit hospitals.

### Effectiveness

Efficiency refers to financial performance, using a similar approach used for understanding the relationship between inputs used and outputs obtained (Kim K, 2011). Hospitals are a capital and labor-intensive industry. Considerable investment is required to manage a hospital, but market conditions like a high supply of health care services at relatively low prices imply that the profitability is low compared with other industries. For the maintenance and development of hospitals, hospitals should be effectively managed to make an appropriate profit regardless of the type of ownership.

Toren (1996) using the stochastic frontier regression analysis showed that cost-effectiveness is not influenced by the hospital ownership. However, Zucherman et al. (1994) using the same method of Toren (1996) with a large sample of hospitals revealed that for-profit hospitals were less cost-efficient.

### Patient Satisfaction

Westbrock (1996) defined client satisfaction as ‘Subjective evaluation of the personal preferences for various computation’. William (1990) stated that patient satisfaction reflects treatment process, results of treatment, the medical cost, and ease of care. Kang Hyung-Mi (2004) stated that patient satisfaction is determined by service-

related stimuli before, during, and after use of health care services. Woodside et al. (1989) and Reidenbach & Sandifer (1990) have shown that the equality of medical services affects the patient's satisfaction and intention to reuse medical services. Regression analysis showed that the patient's satisfaction is associated with the equality of medical services and intention to reuse medical services. Zeithmal (2000) argue that increased profitability through patient satisfaction allows hospitals to maintain and give better rewards to the staff, which motivate hospitals to provide better service to their patients.

The number of health care provider and medical institution has been rapidly increased in South Korea. Therefore competition in the healthcare industry is intensifying. To increase competitiveness of medical services, it is needed to improve the quality of medical service for patient. Eventually, in order to survive in a competitive market, it is critical to seek an optimization plan to provide quality service at minimum cost, which also include efforts to improve patient satisfaction.

### 2.3.3. Legal Issues in Hospital System

#### *Profitability of Medical Institution according to Medical Law*

For discussion according to juridical interpretation, we first look at the characteristics of profitability in Korean hospitals according to current medical law. According to medical law Article 33 Amendment 2(Korean code, 2016), medical institutions are defined as “where medical personnel hold occupations of medicine or childbirth for public or specific individuals’. Therefore, entities that do not meet one of following cannot currently establish a medical institution under law:

1. Doctor, Dentist, Oriental Doctor, or Maternity Nurse

2. Nation
3. Corporate body established for purpose of medical occupation (mentioned as “medical corporate” below)
4. Nonprofit Organization (NGO) established according to 「civil law」 or special law
5. Quasi-governmental organization according to 「Law concerning management of public institution」, Provincial medical center according to 「Law of establishment and management of provincial medical center」, Korea Veterans Welfare Medical Corp according to 「Law of Korea Veterans Welfare Medical Corp」

Therefore, according to current medical law(Korean code, 2016), the establishment of a medical institution is restricted to medical personnel and nonprofit corporate bodies (medical corporate body, social welfare corporate body, educational institution). Separate establishment of non-profit corporate body is needed for commercial corporate body to establish medical institution. A medical corporate body is under national administration from the establishment and dissolution of the corporation and has to follow the regulations of foundation corporate bodies in civil law (Lee, 2004) Therefore, the Korea Medical Corporation is classified as a ‘nonprofit foundation corporate body’. Moreover, medical enforcement ordinance clarifies the prohibition on seeking profit of medical corp. or non-profit corp. (Attachment 18-mission of medical corporate) Therefore, Korean medical law takes a countering attitude towards establishment of medical institution for purpose of profit seeking, but rather as a place for providing medical service for patients (Lee, 2012).

### Concept of 'For-Profit' according to Juridical Judgment

Precedent in the Supreme Court of Korea concerning Medical Law Article 33 Amendment 2 (Supreme Court 2003 Da 2390, 2003 Da 2406 ruling) act of establishing and running of medical institution by non-medical or medical corporate is considered asocial that could threat national health and hygiene, and has decided that relevant clause belongs to 'compulsory law'. Therefore, it was decided that 'contract based on violation of inhibiting regulation for-profit medical institution is nullified'. Restricting qualifications for the establishment of medical facilities is directly related to the Korean obligation of protecting national health (Jeon and Kim, 2005), and the legal concept of theory of profit distribution in which ownership status is judged. The Constitutional Court (Constitutional court sentenced 2005. 5.31, decided 2001. 87) established that obligating only those regulated by medical law to establish medical institutions does not violate the freedom of choosing occupation. Therefore, restrictions on the establishment of medical institutions by non-medical personnel is valid to prevent the commission of medical acts without license or lowering the quality of health medicine. On the other hand, the minority opinion is that they violate the 'principle of superfluous law'. Moreover, the Korean juridical department restricts the right to establish medical institutions, and judges the establishment and management of medical institution/corporations.

### Establishment of Medical Institutions and Profit Seeking Activity in Management

The concern regarding the right to establish medical institution can be narrowed down to two points: fortifying the function of market that makes introduction of capital easy and continuous regulation for procuring publicity of health care medicine. As it was mentioned above, the current system of medical law and discussion of the Constitutional

Court does not permit profit-making corp. establishing medical facility for the protection of health care quality and procurement of publicity. However, running a hospital or management of a medical facility by a doctor (him/herself) inevitably seeks to make a profit (Kwon, 2010). According to Korean National Hospital Association, the percent of individually- run hospitals is about 54.7%. To reflect this reality, Korean medical law does not specify the legal characteristics of individuals or non-profit hospitals, and puts medical profession as same category with other profit-seeking commercial industries in terms of collecting corporate taxes (Jeon and Kim, 2005). Therefore, in discussion of profit seeking medical corporate bodies, not only the profitability of the business, but the distribution of profit and property are equally important problems.

#### *For-Profit Hospital in Perspective of Capital Delivery and Profit Distribution*

Non-profit hospitals also can be considered as a profit-seeking activity; however, the profit cannot be distributed to the investors or members. In the case of for-profit hospitals, the institution permits conducting of medical business and profit-seeking (i.e., 'maximization of profit' is the main aim of management). As the principle of normal market economy is applied, civil investment of capital is actively performed; investors can join the allocation of profit or remainder properties, however not in non-profit hospitals (Paek, 2007). Also, this return of profit can elicit continuous investment of capital. Hospitals are just another business corporation that manage capital strategically; for-profit hospitals reduce the cost of management and actively promote stabilization of profit structure (Jung, 2013). At this moment, direct restriction of capital delivery through direct finance and issue of hospital debenture from a bank are difficult in individually-run

hospitals. As constant profitability should be procured in order to continuously manage the non-profit hospital, investment of finance that can generate profits is presented as an alternative.

#### Publicity of for-profit hospitals

As the objective of for-profit hospital is to seek profit, social regulation that is against market economy principle is not necessary for-profit hospitals. Social regulation does not need to control the range and price of healthcare services because for-profit hospitals adjust the price of medical services to be popular with people (Lee, 2012). Individual hospitals or non-profit hospitals can also seek facility upgrades, high-price medical treatment, treatments which is not covered by National Health Insurance therefore they can charge high cost to patients, and change into profit-seeking corporate body, so low income groups could face barriers in getting access to high quality treatment. In the same context, treatment, research, and education of service departments such as cardiothoracic surgery and general surgery diminish (Paek, 2007). In South Korea, the income of the people is increasing and aged population is rapidly increasing. Thus, in the past, medical services to treat illnesses have been emphasized, while recently there has been a growing demand for nonmedical healthcare services tailored to individual consumers 'commercial service' (Kang, 2011). Commercial services include comparatively high-priced services (e.g., plastic surgery and health screening for disease prevention). Even though the medical law allows medical commercial services to be popular with patients, doctors are prohibited from pursuing excessive profits through medical commercial services.



According to Jung (2003), in terms of the medical profession, the stipulation that pursuit of 'appropriate profit' is acknowledged for 'continuing of survival and development' but pursuit of 'excessive profit' is not acknowledged can be interpreted in many ways and ambiguous in determining 'what is appropriate', so questions and disputes follow. Therefore, concerning the problem of for-profit hospitals, seeking publicity and profit can be a contentious issue. Likewise, as for-profit hospitals are legally and financially distinct, it is hard to avoid the discussion regarding publicity, inequality, and polarization.

## 2.4. The Introduction of Investor-Owned Hospitals

### 2.4.1. The Roles of Government in Health Care Services

The World Health Organization defined that “Equity in health implies that ideally everyone should have a fair opportunity to attain their full health potential and, more pragmatically, that no one should be disadvantaged from achieving this potential, if it can be avoided” (WHO, 1986). Egalitarians have a resistance to external factors such as income or assets that could impact the allocation of medical resources, and support the ideal that medical resources be distributed according to patient’s needs. Many countries advocate on the principle that “equal treatment in accordance with the same needs and the burden on the ability to pay” (Van Doorslaer and Wagstaff, 1992; Wagstaff and Van Doorslaer, 1993). Libertarians believe that health care is one of reward systems as well, thus the merit of patients and the abilities of providers should be considered. The state intervention should be limited to ensure the appropriate level for the poor (Maynard and Williams, 1984). Tobin (1970) suggested specific egalitarianism that certain goods such

as education and health care in the public choice theory should be distributed more equally than the economic power. Eventually, government power should intervene in the management of health care services as merit goods.

Cutler (2002) classified the role of government in the health care system with three parts:

- 1) Foundation of the health care system - the scope of medical insurance guaranteed to protect more people under the government's responsibility was formulated widely. There were almost no constraints regarding use of medical insurance.
- 2) Corresponding period of negative effects - the medical cost in OECD countries was increased from 3.8% of GDP at 1960s to 7.2% of GDP at 1980s since the former system did not considered cost at all. In addition, the problem of inefficiency was raised that does not take into account the preferences of various individuals under the equity-oriented system.
- 3) Market mechanisms introduced after the 1980s – system innovation by the introduction of market mechanisms and competition was magnified to improve the health care system.

#### 2.4.2. Innovation of Health Care System by Consumer-Oriented Model of Health Care Delivery

In the 1990s, innovative strategies to provide overall products and services in retail environments began in the US (Herzlinger, 2004a,b)

For innovation in the health care system, the key to innovation rests is knowing and managing the goods and services customers want. In the US, Integrated Delivery

Networks (IDNs) were strategically built for the vertical and horizontal integration with various entities (Burns and Pauly 2002): Primary Care Physicians (PCPs), Physician-Hospital Organization (PHOs), Management Services Organizations (MSOs) Health Maintenance Organizations (HMOs), Multi-Hospital systems, and strategic alliances with neighboring hospitals to form local networks. However, IDN innovations failed because they were centered on provider interests rather than patient needs (Burn and Pauly, 2002).

Business diversification and integration efforts conducted in the in Europe or the United States are difficult to replicate in South Korea since mergers among medical institutions and establishment of medical-related companies are not allowed due to restrictions of non-profit corporations in the claim of remaining property and the right of establishment. However, the attempts to form medical networks like IDNs in the US have seen some progress under such a rigid environment. If Korea allows to establishment of for-profit hospitals, it is expected to be able to form medical networks in Korea as the US has accomplished (Lee, 2006)

Personalized and integrated patient service as a novel trend in consumer-oriented service. Integrated multidisciplinary care units are required to cover the changing disease patterns as a surge in demand for multiple symptoms (WHO, 2009). These movements were influenced by the topic for the consumer-oriented services to overcome the fragmentation of care and consumer discomfort in health care system (Herzlinger, 1994a). Frank and Salkever (2000) estimated the fusion and breakup of existing hospitals in this transition phase. For example, in-store clinics in Wal-Mart or CVS could reduce costs and promote consumer convenience by streamlining the supply chain without the need for hospital-based clinics (Agwunobi and London, 2009).

## **CHAPTER 3**

### **RESEARCH METHODS**

The purpose of this study is to investigate the appropriateness of investor-owned hospital systems in Korea. To answer this research question, questionnaires and in-depth written investigation were performed on a sample of policymakers, senior managers of network hospital, professors in School of Medicine, and experts on hospital management. In addition, meta-analysis was performed for quantitative review based on the aforementioned research on patient satisfaction, financial performance, and social contribution.

#### **3.1. Questionnaire**

Health related experts were asked for their opinions on allowing investor-owned hospitals in South Korea. These questionnaires were mailed once to ten policymakers, ten senior managers of network hospital in South Korea, five professors in School of Medicine in various universities, and five experts who had been working in hospital management. Total ten questionnaires (response rate: 33%) were returned from three policymakers, four senior managers of hospitals (response rate: 40%), and three other experts (response rate: 30%). This survey was performed from October 2010 to December 2010.

The questionnaire used in this study was composed of six questions (Appendix A). Several experts replied with their opinions without direct reference to the questions.

### 3.2. Meta-analysis

#### 3.2.1. Identifying Studies and Extracting Summary Data

For the literature search, an extensive database query was conducted to identify all relevant studies published between 2000 and March 2017. Databases were used to collect literatures for meta-analysis including Korean Studies Information (<http://kiss.kstudy.com>), Research Information Sharing Service (<http://www.riss.kr>), and EBSCOhost Online Research Databases (<http://ebSCOhost.com>). The literatures included Master's theses or Doctoral dissertations and peer reviewed articles comparing patient satisfaction, profit creation, employment creation, and social contribution between investor-owned hospital and not-for-profit hospital. Studies in any country were subjected to be searched if they were written in English or Korean. written in Korean or English. In addition, studies without the values to calculate an effect size such as average, standard deviation and p-value were excluded. As keywords for collecting references for meta-analysis, in the Korean database, it was collected by the words that were '영리병원', '민간병원', '비영리병원', '환자만족도', '재무성과', and '사회공헌도'. In the English database, it was the same with the words used in Korean database, but translated into 'for-profit hospital', 'not-for-profit hospital', 'investor-owned hospital', 'patient satisfaction', 'financial performance', and/or 'social contribution'. Abstracts of returned articles were reviewed to evaluate the relevance to patient satisfaction, profit creation, and social contribution in these hospital settings.

The data were collected through their consensus after independently conducting the literature search, and the relevant studies were reviewed until an agreement was reached. In total, 1,549 total articles were returned, of which 709 were removed due to duplication, leaving 840 articles for final review in accordance with the standards for data selection and exclusion focusing on the title and abstract. From this process, 832 articles that were not in accordance with the standards were excluded, leaving the 22 articles of both domestic and overseas nature for inclusion. The quality of the literature was tested using Cochrane's Risk of Bias (RoB) (Higgins et al., 2011).

### 3.2.2. Statistical Methods

Before testing the aggregated effect sizes, the study's homogeneity was tested using the Chi squared test with Q statistics to confirm if the effect sizes of study results belong to same parent population. (Zintzaras and Ioannidis, 2005). The test result with the value of  $Q=29.0332$  ( $p<0.001$ ) confirmed the heterogeneous distribution of the studies. Thus, this study calculated the whole effect size using the random effect model.

### 3.2.3. Calculation and Statistical Analysis of the Effect Size

Review Manager 5.3. was used to calculate the effect size along with the effect size determination program and the Chi square test for homogeneity. Outcome variables (patient satisfaction, finance performance, and social contribution of hospitals) were compared in terms of mean differences with 95% confidence intervals. Pooled estimates were calculated using the random-effect (DerSimonian-Laird method) models because

significant heterogeneity was found to be over 50%. P values less than 0.05 were regarded as statistically significant.

## CHAPTER 4

### RESULTS

#### 4.1. Questionnaire

Table 4.1 Questionnaire Respondent Characteristics

RESPOND- ENT NO.	POSITION AT THE TIME OF SURVEY (2010)	A question about whether they approve of introduction of for- profit hospitals
1	Policymaker	Yes
2	Policymaker	Yes
3	Policymaker	Impossible
4	Senior manager of network hospital	Yes
5	Senior manager of network hospital	Yes
6	Senior manager of network hospital	Yes
7	Senior manager of network hospital	Yes
8	Professor in School of Medicine	Yes
9	Healthcare manager	Yes
10	Primary care physician and Lawyer	Yes



Experts in various medical fields, including policy makers, hospital senior managers, professors, and lawyers, responded for the survey (Table 4.1). Except for the one person who answered negatively on introducing for-profit hospitals, all respondents answered positively. The most respondents answered the survey focusing on the merits that would be brought by the introduction of for-profit hospitals, and focusing relatively less on the demerits.

Table 4.2 Pros and cons of introducing for-profit hospitals

Pros of introduction of for-profit hospital	Response rates (%)
Improvement of quality in the medical services	60%
Expansion in the options of medical consumer	30%
Investment stimulation of private capital	60%
Attraction of foreign patients	50%
Creation of employment	70%
Contribution to the economy of the country	40%
Establishment of health care system with competitiveness	40%
Cons of introduction of for-profit hospital	Response rates (%)
Social conflict creation by socio-economic gap	40%
Collapse in medical delivery system	20%
Abnormal development in health care system	10%
Increase in competition among hospitals	30%
Increase in the closure rate of small clinic	30%
Decline of quality in the medical services	20%

The majority mentioned creating jobs (70%), health care service quality improvement (60%), investment expansion in private capital (60%), and hosting of

foreign patients (50%) for the merits, and some mentioned contribution to national economy (40%), competitive medical system establishment (40%), and alternative expansion to the medical consumers (30%). Regarding the demerits, no answer was given consistently by the majority, and the biggest concern was the causing of social conflicts due to economical discrepancy (40%). Also discussed were collapses in the medical delivery system, abnormal medical development, aggravation in hospital competition, increases in the shut-down rate of poorly run hospitals, and declines in the quality of medical services (Table 4.2).

Many respondents mentioned that the revision of medical law (50%) and the exemption of medical insurance from being designated under statutory health-insurance obligations (40%) were necessary changes to accompany any introduction of for-profit hospitals (Table 4.3). According to Respondent 2, there has been disagreement between the Ministry of Health and Welfare (MHW) and Ministry of Strategy and Finance (MSF), authorities within the government regarding for-profit hospital introduction, on the issues of (1) the medical law revision regarding for-profit hospital introduction and (2) if the health-insurance assignment policy would be exempted for for-profit hospitals. The MHW opposed both the law revision and health-insurance assignment policy exemption, whereas MSF proposed both. Two parties agreed on keeping health insurance designated under statutory health insurance obligations, while allowing for for-profit hospital introduction. Respondent 1 was concerned that if health insurance remained under statutory health insurance obligations, corporations would hesitate to establish for-profit hospitals even if they are approved. Furthermore, preparation of countermeasures in policy against adverse effects expected in for-profit hospital introduction (20%) and the

need for the private insurance introduction (20%) were mentioned. Respondent 3 was concerned that because of the limitations in the insurance expansion of existing large-scale medical-insurance companies, the development of new insurance markets was being promoted in a self-centered manner. These self-centered endeavors are seen in large-scale domestic hospitals' investments of huge amounts of money to increase their numbers of beds. In addition, their health care services were being concentrated on high-end treatments to be provided for the wealthy when private insurance was allowed, thereby creating medical inequality. Other opinions included whether or not to allowing foreign medical licenses and modifying the regulations that impeded market principles (10% respectively).

Table 4.3 Required changes in policy for introducing for-profit hospital

Required changes in policy for introducing for-profit hospital	Response rates (%)
Medical law revision for allowing for-profit corporation to open a hospital	50%
Exception of health insurance assignment policy	40%
Preparing supplement policies to prevent side-effects from introducing for-profit hospital	20%
Introduction of private insurance	20%
Approval of foreign medical license	10%
Repairing regulation system that disrupts market principle	10%

Many of the points made on the possible effects of for-profit hospital introduction on the medical industry or the society were the same as the pros and cons of general for-profit hospital introduction (Table 4.4). Many respondents said affirmatively on the quality increase in the medical services (40%) and the clustering effect in the related health care industry (40%). Respondent 6 asserted that industrialization of medicine would be a new growth engine of the 21<sup>st</sup> century in Korea as IT was a main growth engine of the late 20<sup>th</sup> century in Korea. Job creation (30%), increase in medical tourism (20%), increase in social conflicts caused by economical discrepancy (20%), improvement in public medicine (20%), and enhancing clarity in hospital operation (20%) followed afterward. Respondent 5 mentioned the job-creation effect of 500,000 to one million people, but did not provide the supporting argument.

Table 4.4 Expected impact of introducing for-profit hospital on the health care industry and society

Expected impact of introducing for-profit hospital on the health care industry and society	Response rates (%)
Increased demand in medical tour	20%
Increased related effect to the medical related industry	40%
Increased medical expenses	10%
Stabilized medical fee with downward	10%
Improved transparency in hospital management	20%
Improved quality in medical services by increased competition among hospitals	40%
Creation of employment	30%
Increased social conflict by socio-economic gap	20%
Improved public health	20%

Enhancing the clarity of legal and financial aspects in the invested capital and dividend distribution, and securing institutional systems in their support, 40% and 30% respectively, were the administrative tasks considered to be the prerequisites for for-profit hospital introduction (Table 4.5).

Respondent 2 noted the previous Korean medical system as low fee/low contribution, for which medical systems have been established, and said that these systems elongated patients' circulation, increasing their complaints and aggravated high-income patients' outflow to overseas hospitals. A system that puts patients' comfort first can be established through for-profit hospitals that require high fee/ high contribution, for which institutional systems must be provided so that the hospitals can have the autonomy in their medical fee determination. Respondent 2 was positive that the for-profit hospital introduction would fail if the current health-insurance obligations were applied to the hospitals.

Table 4.5 Assignment in the management for for-profit hospital

Assignment in the management of for-profit hospital	Response rates (%)
Ensuring legal and accounting transparency to the capital injection and benefit sharing	40%
Providing an institutional strategy for for-profit hospital management	30%
Needs of the professional managers for hospital	30%
Needs of medical personnel fluent in English	10%
Needs for changes in health insurance from assignment to random	10%
Preparing a patient compensation system	20%

A need for professional medical administration was mentioned as well (30%). Respondent 1 asserted to activate the co-administration system (director of administration/director of medical department) because medical personnel alone could not increase the hospital's efficiency. To train the professional medical administration at the national and public hospitals first was suggested as an alternative. Respondent 10 anticipated the aggravation in hospital competition with for-profit hospital introduction and asserted a necessity of the professional medical administration as a countermeasure. Respondent 5 anticipated the development in health care service industry and innovative development in the medical administration field by separating capital/technology/administration.

Other opinions were expressed with minor support, i.e. the need for English-speaking medical personnel and compensation methods in the event of medical accident occurrence. Respondent 1 asserted the need for English-speaking medical personnel to build trusted doctor—patient relationships with foreign patients, who would be increasing because of the for-profit hospital introduction and proposed the measures to attract doctors and nurses working overseas. Respondent 3 asserted the need for medical compensation methods, anticipating the increase in medical accident occurrence in line with the increasing new medical-technology introduction.

#### 4.1.1. The opinion of respondents to the questionnaire

These are paraphrased the respondents' opinions on the questionnaire.

##### Respondent 1

- 1) Possibility of introducing investor-owned hospital in South Korea

- a) Huge capital investments would be required for the construction of the hospital in accordance with the development of medical technology. For example, the latest medical equipment such as Proton Cancer Therapy and cyber knife are too expensive to furnish without an investment.
  - b) Excellent medical personnel and advanced technology need to be used for the national economy. Though a number of medical personnel have medical management capacities, they have no investment potential.
  - c) In the industry-wide trend of liberalization, medical parts should also foster the international competitiveness through liberalization
  - d) The increase of efficiency in hospital management and competition among hospitals will make hospitals providing high quality health care services to patients
  - e) In the situation for profit hospital already recognized in many countries, there is no justification for disregard in introduction of investor-owned hospital
- 2) Expected policy changes after introducing investor-owned hospital in South Korea
- a) It should provide counter measures to the expected side effects when introduced an investor-owned hospital. For example, countermeasures will be required for medical polarization, overtreatment for profit maximization, and concentration in specific cash cow medical field
  - b) Reconsideration to the abolishment of the ban on medical care facilities turning away publicly insured patients. If the strong regulation by National Health Insurance Act would be continued, investors will hesitate the establishment of investor-owned hospital.

- c) Consideration of the possibility in changes of existing nonprofit medical corporation into investor-owned hospital
  - d) The plan for recognizing the foreign medical license will be required. Basically under the principle of reciprocity, as needed drastic opening will be required.
- 3) Expected effects of introducing investor-owned hospital on the medical industry in South Korea
- a) The competition among hospitals will make a positive effect to the related industry.
- 4) Expected effects of introducing investor-owned hospital on the society in South Korea
- a) Employment and incoming foreign patients will be increased.
  - b) The medical tourism demand will be increased.
- 5) Expected problems after introducing investor-owned hospital in South Korea
- a) It should foster the health care professional managers. Under the exclusive hospital management system by medical personnel, it would be difficult to increase the efficiency. As an alternative, administrative director system could be introduced in national and public hospital preferentially and train health care professional managers
  - b) The medical personnel who have a fluent English skill are essential because good communication is an absolute requirement for the formation of trust between doctors and patients. Doctors and nurses who are practicing or hired in the other countries could be secured for that.
  - c) Medical accident compensation scheme and legal support issues.



## Respondent 2

### 1) Opening hospital by for-profit corporation

- a) Health care service is a mode of industry and not necessary to be operated just as a not-for profit hospital.
- b) Recently, an issue came to the fore whether the qualification for opening hospital is given to for-profit incorporation. Following are the main problems of the issue; i) amendment of medical law allowing for-profit corporation to open hospital and ii) exemption of the investor-owned hospital in related to health insurance assignment policy under the National Health Insurance Act.
- c) There was a disagreement between Ministry of Health and Welfare (MHW) and Ministry of Strategy and Finance (MSF). Initially MHW disagreed both i) and ii), on the other hand, MSF agreed both i) and ii). However, after a long debate, both Ministries come to an agreement that accepts i), but rejects ii).
- d) This agreement is different with the most developed countries accepting both i) and ii).

### 2) Government discussion for investor-owned hospital

- a) If investor-owned hospital abides by the health insurance assignment policy, the fundamental purpose of introducing investor-owned hospital hung by the wall.
- b) The fundamental purpose of introducing investor-owned hospital is to break the inefficiency of health care system and to make the system competitive, so standing as a leader of the medical market in the world.
- c) Until now, the health care system in South Korea was characterized by ‘low fee and low premiums’. Therefore, the health care system pursued a longer movement of

patients whereas medical personnel are in position. This system aggravated dissatisfaction of patients and especially outflow of large income patients to oversea.

- d) In this situation, investor-owned hospital was offered as a reasonable solution that the hospital would be characterized by ‘high fee and high premiums’ and be built under the consideration of the patient’s convenience such as a short movement.
- e) Investor-owned hospital is required a lot of investment and expense to be a patient-centered hospital. Thus, i) government should give a right to open hospital to for-profit corporation in order to raise funds from stock market. ii) voluntary fee should be allowed because health insurance assignment policy makes the fundamental purpose of investor-owned hospital broken. Success or failure of investor-owned hospital depends on the health insurance applicability.
- f) In conclusion, investor-owned hospital could operate under the right for autonomous voluntary fee and satisfy the patients who want to get ‘high fee and high quality service’.

### 3) Expected problems on the introduction of investor-owned hospital

- a) Huge amount of investment and high medical fee are necessary to secure the best facilities and excellent medical team in investor-owned hospital and to possess the patient-centered hospital management system. High-income groups well afford to bear expense to the world-class medicine and service.
- b) Big five not-for-profit hospitals in South Korea (Seoul National University Hospital, Seoul ASAN Medical Center, Samsung Medical Center, Severance Hospital and

Seoul St. Mary's Hospital) will experience pressure in management and breakaway of high income groups.

- c) Disharmony among income bracket could develop into a political issue.

### Respondent 3

1) Though there are several pros in introducing investor-owned hospital in South Korea such as i) offer high quality medical service, ii) attract foreign patients, iii) create employment and iv) make capital delivery easy, these things are all possible in normal individual hospitals and in reality, normal hospitals are run by individual doctors. Following cons of investor-owned hospital would make impossible to be introduced in South Korea.

- i) Expression of social conflict due to inequality.
- ii) Collapse of medical delivery system.
- iii) Concentration of medical services in the capital area.
- iv) The possibility of abnormal development of medicine as non-profitable medical case is avoided.
- v) At least 20~80 hospitals can be closed due to the scout of high-quality human.
- vi) Although the average number of bed is 5.4 per 10,000, in Korea, 7.4 and the introduction of profit hospital would deepen the competition.

2) The change of policy that should be involved with the introduction of profit hospital

- a) The introduction of private insurance should be permitted due to the limit of demand of existing insurances such as Samsung and Kyobo.

- b) The health insurance system should be permitted the designated choice
- c) The existing transition of non-profit medical corporate into profit corporate should be inhibited.

In the above, due to the limit of pioneering enlarging insurances, new insurance market large medical insurance companies (Samsung, Kyobo and etc) and if private insurance is permitted, opposing of lower class will be great. Catholic hospital has already invested 1 trillion 2000 hundred million won, Samsung 1 trillion won, and Severance, 8000 hundred million won and considered as overinvestment policy. If a medical fee is not covered by medical insurance system and private insurance is permitted, lower-income group would be excluded from general medical services.

- 3) If there is an introduction of investor-owned hospital, the following influence will be expected into the development of medical industry.
  - a) Spending of medical expense will increase.
  - b) The influence of industrial development will be incomplete.
  - c) Attraction of high quality patient or introduction of foreign patient will increase.
  - d) Introduction of guest house will be possible in hospital.
  - e) If profit hospital is introduced, supply and demand of manpower are expected to increase, but through scouting of manpower by regional hospital or different hospital, and will intensify the shortage of manpower.
- 4) When investor-owned hospital is introduced, there will be bottlenecks in management.
  - a) Medical management expert is needed.
  - b) By the introduction of new medical technology, medical accidents are expected to arise and medical reward and management expert system is needed.

- c) Because Korea is showing a hypersensitive response towards the inequality of education and medicine, new system of medical delivery is thought to run against the opposition of members of the national assembly.
- d) Because Korea has low burden in medical insurance expenses, a raise should be considered.
- e) For Incheon Free Trade Area's foreign investment profit medical corporate, foreign medical personnel's medical act and legal settlement must be accompanied to ease the employment of simple administration procedure of exported drugs.

#### Respondent 4

- 1) Possibility of introducing investor-owned hospital in South Korea

First of all, the word, "for-profit hospital" should be changed with "investor-owned hospital considering that anyone other than medical personnel could make investment in medical practice. The excellence of the medicine in South Korea could lead the creation of national wealth. It is time for the medical industrialization rather than the small clinic management

- 2) Expected policy changes after introducing investor-owned hospital in South Korea

When incorporating medical organization, amendment of current medical law that enables only non-profit corporate and medical personnel to open hospital is needed.

- 3) Expected effects of introducing investor-owned hospital on the medical industry in South Korea

It could be the new model of creating wealth in Korea, and not only expansion in quality and quantity through capital investment is involved, but also in accounting

securing of transparency is enabled. Ultimately, in terms of medical consumers, improvement of service quality through competition of medical facility will be earned.

4) Expected effects of introducing investor-owned hospital on the society in South Korea

Creation of employment and stabilization of declining insurance fee, etc. are considered to be relatively positive effect. As a matter of solving the problem of public concern of medicine, it is better to run it parallel, rather than to solve it immediately. Therefore, the government can actively lead the expansion of public medical organization, and medical industrialization thorough profit-making hospital will be actively led by the civil

5) Expected problems after introducing investor-owned hospital in South Korea

Through separation or division of labor in capital, economy and technology, institutional supports that can pursuit professional medical organization's management are needed.

Respondent 5

1) Possibility of introducing investor-owned hospital in South Korea

The introduction of investor-owned hospital is essential for the globalization of health care service and international competitiveness. The capital strength is required to enhance competitive advantages of hospital. Health care industry as an equipment industry is required the fusion of technology and capital.

In addition, the investment makes the small local clinic lessening financial strains.

2) Expected policy changes after introducing investor-owned hospital in South Korea

The government should reorganize the regulations to make market principle operating.

- 3) Expected effects of introducing investor-owned hospital on the medical industry in South Korea

The development of the overall medical industry is expected. Low competitive hospitals will be withdrawn and the clearness in the hospital management will be enhanced. Thus, the level of health care service will be improved.

- 4) Expected effects of introducing investor-owned hospital on the society in South Korea

The introducing investor-owned hospital would have effects on the creation of employment for approximately one million people, the activation in the attraction of foreign patients and the expansion in the options of patients.

- 5) Expected problems after introducing investor-owned hospital in South Korea

Finance, management and medical technology would be separated. This change will enhance the clearness in the hospital management and develop the health care industry.

#### Respondent 6

- 1) Possibility of introducing investor-owned hospital in South Korea

I agree with the introduction of investor-owned hospital because the investment depending on the value of hospital is the only way for the hospital to survive.

- 2) Expected policy changes after introducing investor-owned hospital in South Korea

Realistically, the government should phase the propitiation of a medical corporation based on the well-thought-out plan.

- 3) Expected effects of introducing investor-owned hospital on the medical industry in South Korea

Well-being medicine, anti-aging and beauty industry will be activated in the class of clinic.

- 4) Expected effects of introducing investor-owned hospital on the society in South Korea

In the late 20<sup>th</sup> century, IT (Information Technology) was the growth engine in South Korea. The industrialization of medicine will be the new growth engine to lead 21<sup>st</sup> century in our country.

- 5) Expected problems after introducing investor-owned hospital in South Korea

Change of concept is needed from for-profit hospital to industrialization of medicine.

#### Respondent 7

- 1) Possibility of introducing investor-owned hospital in South Korea

The introduction of investor-owned hospital is the first step for the industrialization of medicine. After that, the industrial fund is going to flow in medicine.

- 2) Expected policy changes after introducing investor-owned hospital in South Korea

The government should provide an institutional strategy to flow the industrial fund in medicine and assure the clearness to the finance, performance and benefit share though legalization.

- 3) Expected effects of introducing investor-owned hospital on the medical industry in South Korea



Analyzing the revenue structure would show the industrial-friendly fields of medicine. These will make associated medical fields activated and accelerated for the industrialization. Separately, the National Health Service should be evenly developed.

4) Expected effects of introducing investor-owned hospital on the society in South Korea

Positive synergistic effects are expected such as the creation of employment, attraction of foreign patients and improvement in the access to care.

Respondent 8

(He just gave his personal opinion to the investor-owned hospital independently of the questionnaire)

I agree with the introduction of investor-owned hospital, because the introduction of investor-owned hospital would dedicate the development of medical industry and the improvement of health care quality.

In addition, if all of services from investor-owned hospital are designated as non-payment items, medical insurance premium of patients using investor-owned hospital could be used for the patients using not-for-profit hospital and the expansion of public health.

Respondent 9

(He just gave his personal opinion to the investor-owned hospital independently of the questionnaire)

For-profit hospitals already exist although it is not stipulated in the law now.

Socialistic health service is freaky in liberal economic nation and damages the doctors' right.

Non-payment items should be legitimately changed and the health insurance should make diverse by introducing private insurance.

The medical and service quality will be increased by increase of investment.

However, it will be a problem that the gap between rich and poor will also increase.

#### Respondent 10

##### 1) Possibility of introducing investor-owned hospital in South Korea

Past the 1960s and 1970s, heavy chemical industry was a base for the development of South Korea. Since the early 1980s until it become in 2000s, the excellent personnel in electronics and information industry contribute to the economic growth of South Korea. However, after 2000s, excellent personnel have converged in the field of health care service that has high growth potential in the future. Thus, the new growth engines should find in this field and the investor-owned hospital should be introduced for the industrialization of health care and biotechnology.

##### 2) Expected policy changes after introducing investor-owned hospital in South Korea

The main obstacle in the introduction of investor-owned hospital is that health care has a character of social security which is different with economic logics of supply and demand. There are concerns about the decline in the health care quality and the exclusion of the persons who have a poor financial viability in health care services.

Thus, the investor-owned hospital giving high-cost and high-quality medical services should be introduced on the base of the present health insurance system.

3) Expected effects of introducing investor-owned hospital on the medical industry in South Korea

The present health insurance system is operating by the sacrifice of the medical personnel who give a medical services with low fee and low cost. Under this situation, the introduction of investor-owned hospital could make the health insurance system nominal.

A total medical expense is high probability of increase, but the medical treatment and health care quality would be improved.

4) Expected effects of introducing investor-owned hospital on the society in South Korea

a) A variety of positive effects are expected such as the creation of employment, attraction of foreign patients, improved access to care. The increase in the capitals to be invested in health care industry makes the quality of health care and the public health improving.

5)

b) Intense competition among the hospitals containing the investor-owned hospital raises the needs for the management specialist and induces the innovation in hospital management. Furthermore, the competition with the leading hospitals in the world makes the competitiveness in the health care better.

## 4.2. Meta-analysis

### 4.2.1. Comparison of Patient Satisfaction between For-Profit Hospital and Not-For-Profit Hospitals

This study analyzed and compared the patient satisfaction between for-profit hospital and not-for-profit hospitals across eight studies (general characteristics are listed in Table 4.6).

The mean of 106,713 patients in each study participated in the survey of patient satisfaction. The variables used for patient satisfaction included performance on patient satisfaction, hospital “communication about medicines” quality from patient survey, patient satisfaction with medical care, and overall treatment satisfaction. Five out of eight studies showed significantly lower patient satisfaction of for-profit hospitals (Figure 4.1).

Sacks et al (2015) compared patient satisfaction using a national sample of patients undergoing surgery and demonstrated a significant association between hospital performance on a patient satisfaction survey and objective measures of surgical quality. They used a database of Medicare inpatient claims, American College of Surgeons National Surgical Quality Improvement Project (ACS NSQIP), the American Hospital Association annual survey, and Hospital Compare from 2004 to 2008. The survey was conducted with a total of 103,866 patients older than 65 years who underwent inpatient surgery. Patient and hospital ownership (for profit and nonprofit) across patient satisfaction quartiles were compared using a chi square test. They revealed that overall satisfaction of non-profit hospitals was 82.8% and non-profit hospitals were most frequently in the highest satisfaction quartile (93.2%). However overall satisfaction score of for profit hospitals was only 5.6%.

Table 4.6 General characteristics of the studies used in meta-analysis of patient satisfaction

Study (yr.)	Covered region	Covered year		Number of years	Sample size (N)	Outcome
Sacks (2015)	US	2004	2008	5	103,866	Performance on patient satisfaction
Tsai (2015)	US	2010	2011	2	2,953	Performance on patient satisfaction
Mullings (2016)	US	2013	2014	2	3,125	Hospital Communication about medicines, quality from patient survey
Kraska (2016)	Germany	2013	2013	1	300,200	Patient satisfaction with medical care
Schoenfelder (2014)	Germany	2009	2009	1	1,040	Overall patient satisfaction
Oppel (2016)	Germany	2011	2012	2	436,848	Patient satisfaction with quality of care
Devreux (2012)	Saudi Arabia	2010	2012	3	724	Overall treatment satisfaction
Tangcharoen sathien (1999)	Thai	1995	1995	1	1,718	Patient satisfaction of overall quality

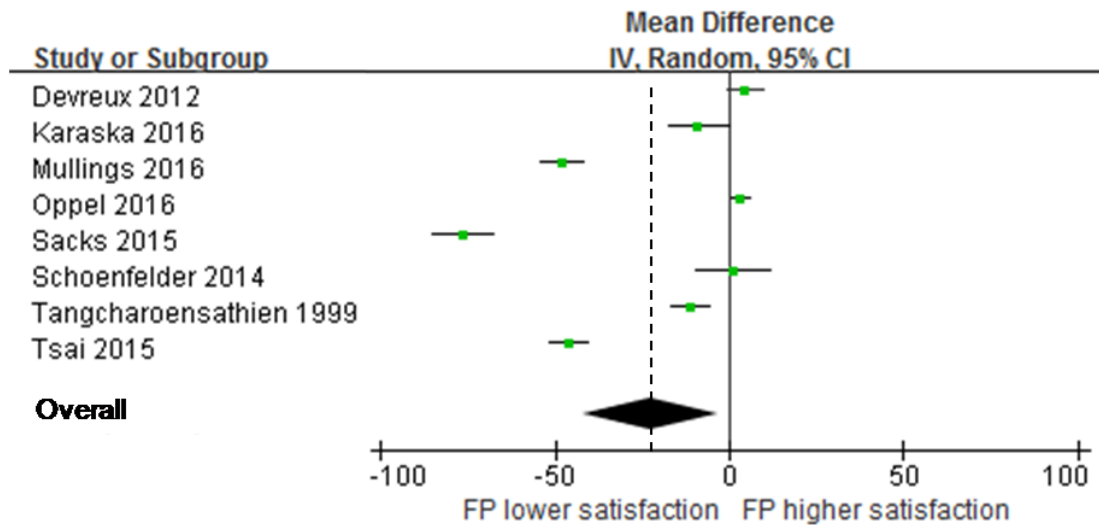


Figure 4.1 Effect size for patient satisfaction of for-profit versus non-profit hospital.

Sacks et al (2015) compared patient satisfaction using a national sample of patients undergoing surgery and demonstrated a significant association between hospital performance on a patient satisfaction survey and objective measures of surgical quality. They used a database of Medicare inpatient claims, American College of Surgeons National Surgical Quality Improvement Project (ACS NSQIP), the American Hospital Association annual survey, and Hospital Compare from 2004 to 2008. The survey was conducted with a total of 103,866 patients older than 65 years who underwent inpatient surgery. Patient and hospital ownership (for profit and nonprofit) across patient satisfaction quartiles were compared using a chi square test. They revealed that overall satisfaction of non-profit hospitals was 82.8% and non-profit hospitals were most frequently in the highest satisfaction quartile (93.2%). However overall satisfaction score of for profit hospitals was only 5.6%.

Tsai et al (2015) also reported similar observations at their analysis of 2,953 hospitals between 2001 and 2011 in the US. They used the Hospital Consumer

Assessment of Healthcare Providers and Systems Survey to examine if hospitals with high patient satisfaction were associated with higher quality of surgery procedure. They found that the median patient satisfaction score was 69.5% and hospitals in the highest satisfaction quartile were more likely to be non-profit (75.3% non-profit vs. 54.0% for-profit hospital). However, limitation of their study included focusing on the Medicare population, therefore findings of their study cannot be extended to non-elderly Americans. Another limitation they discussed was that there was selection bias in the patients participating in the survey.

Jha et al (2008) described patients' perception of hospital care also using the Hospital Consumer Assessment of Healthcare Providers and Systems (HCAHPS) survey. The hypothesis of this study was that for-profit hospitals would be highly attuned to patients' experiences and that teaching hospitals might focus more on technical aspects of quality than on optimizing patients' experiences. Results indicated that fewer patients in for-profit hospitals gave a high rating than patients in either private or public non-profit hospitals (59.1% vs. 64.8% and 65.4%, respectively;  $P < 0.001$  for both comparisons). Therefore, they concluded that profit orientation negatively affected patient satisfaction.

Devreux et al (2012) reported patient satisfaction with physical rehabilitation services in various hospitals of the Jeddah, Kingdom of Saudi Arabia. The survey was conducted with 724 patients attending physical, occupational and respiratory therapy services including non-profit (n= 341), for-profit (n= 250) and educational health care facilities (n= 134). They surveyed reassurance in therapy, explanations in therapy, information on treatment plan, feeling of security, adapted treatment to problem, and overall treatment satisfaction. They found significant difference of information on

treatment between for-profit and non-profit hospitals (71.7% non-profit vs. 59.8% for-profit hospital). Overall treatment satisfaction was higher in for-profit hospital than that of non-profit hospital (76.5% non-profit vs. 80.6% for-profit hospital). They discussed that patient satisfaction seemed to be related to the mission of hospital and to the perception of the process of care and the therapists' input, such as the ability to reassure or the quality of information given.

Kraska et al (2016) conducted a cross-sectional study in Germany based on secondary data, “WeisseList/White List” for patient satisfaction in 2013. The survey on patient satisfaction was done after hospitalization and patients were asked to retrospectively assess their experience during their hospital stay. Results showed that private for-profit hospitals generally received lower ratings for patient satisfaction in all dimensions compared to non-profit hospitals. Specifically, general satisfaction and nursing care, patients in private hospitals of for-profit hospitals appeared to be less satisfied than those in not profit-oriented hospitals. Non-profit hospitals, however received lower ratings for satisfaction with medical care and general satisfaction compared to non-profit hospitals. It can only be assumed that profit orientation is accompanied by compromised quality, with possible effects on patient satisfaction.

Schoenfelder et al (2014) also investigated patient satisfaction in Germany. Urology patients aged 21 years and older were randomly selected and 22 hospitals of a metropolitan area in Germany were included. Patient satisfaction was investigated through 15 items including overall satisfaction with the hospital stay. For-profit hospitals received slightly higher scores (5.35) than on-profit (5.28) or public (5.06) hospitals. It was pointed out that patients staying in for-profit hospitals with less than 400 beds tend to



yield slightly better overall satisfaction ratings. It is known that hospital size affects patient satisfaction and several studies found patients were more dissatisfied in larger hospitals (Young et al. 2000; Hekkert et al. 2009). They described limitation of their study, including the non-response bias that those who were satisfied with the quality of care were more likely to not respond. The other limitation was that hospitals were located in one geographical area therefore there might be the regional effect.

Tangcharoensathien et al (1999) demonstrated patient satisfaction in Bangkok and the impact of hospital ownership and provided valued data in developing countries in terms of patient satisfaction. They investigated patient satisfaction in three public, three private for-profit and three private non-profits. Significant differences were found in patient satisfaction between groups of hospitals with different ownership. Non-profit hospitals were most highly rated for both inpatient and outpatient care. Seventy-six percent of inpatients at public hospitals said they would recommend the facility to others compared with 59% of inpatients at private for-profit hospitals. However, for outpatient care, for-profit hospitals received higher ratings than those of public hospitals. They concluded that there was a difference in patient satisfaction between public and for-profit hospitals. Public hospitals showed a lack of responsiveness to consumers whereas for-profit hospitals focused on clinical standards of care.

#### 4.2.2. Comparison of Financial Performances between For-Profit Hospital and Not-For-Profit Hospitals

This study analyzed and compared the financial performances between for-profit hospital and not-for-profit hospitals across eight studies, and their general characteristics are illustrated in Table 4.7.

The mean of 244 hospitals were evaluated for each study. The variables used for financial performance comparison were return of assets, operating margin, total profit margin, and financial performance (Figure 4.2).

Choi et al. (2008) demonstrated that the greatest factor that affects financial performance of a hospital was the ownership, which was supported by the fact that many hospitals in the U.S. changed to be a for-profit hospital to improve their financial performance (Mark, 1999; Sloan, et al., 2001). The financial performance indices between for-profit and non-profit hospitals indicated that the indices for for-profit hospitals were higher than those for non-profit hospitals (Valvona and Sloan, 1988; Renn, et al., 1985; Sear, 1992; Forgione, et al., 1996; Mark, 1999; Picone, et al., 2002; Shen, 2003). These studies mentioned the clear incentives for profit making as the reason for the above-mentioned differences, and listed operation cost reduction in human resources, decrease in average length of stay, focusing on providing high-profit health care service, and low-level case mix.

Table 4.7 General characteristics of studies used in meta-analysis of financial performances

Study (yr.)	Covered region	Covered year		Number of year	Sample size (N)	Outcome
Choi et al. (2008)	US	2001	2004	4	139	Return of assets
Lee (2015)	Korea	2013	2013	1	147	Return of assets,
Joynt et al. (2015)	US	2002	2010	9	237	Ratio of net income to net revenue plus other income
Picone et al. (2002)	US	1985	1995	11	363	Operating margin
Shen et al. (2003)	US	1987	1998	12	180	Total profit margin
Thorpe (2000)	US	1991	1997	7	127	Operating margin
Wang (2001)	US	1993	1993	1	84	Return of assets, operating margin
Wilcox-gok(2002)	US	1984	1987	3	573	Net revenue
Zhu et al. (2014)	Canada	2011	2012	2	376	Financial performance

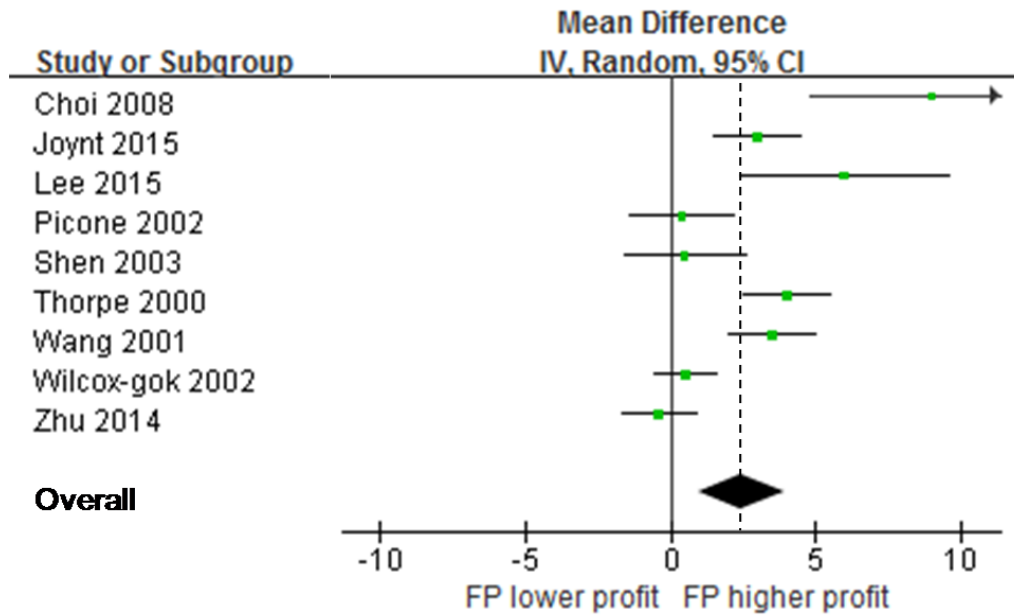


Figure 4.2 Effect size for financial performance of for-profit versus non-profit hospital.

Zhu et al (2014) investigated board processes, board strategic involvement, and organizational performance in for-profit and non-profit organizations. They analyzed the data consisted of 217 for-profit and 156 non-profit hospitals in Canada from 2011 to 2012. Comparison of for-profit and non-profit hospitals revealed that financial performance of for profit hospitals (6.80) was significantly lower than that of non-profit hospitals (7.17).

Joynt et al (2015) demonstrated whether hospital closures are associated with all-cause mortality rates and worse outcomes for patients living in those communities. They used data from the American Hospital Association and Medicare cost reports and found that there were 195 hospital closures in the United States between 2003 and 2011. The results of this study indicated that there was no significant difference between the changes in annual mortality rates for patients living in hospital service areas (HSAs) that experienced one or more closures and the change in rates in matched HSAs without a closure. They also showed that for-profit hospitals were more likely closed (42.2 percent

closed versus 25.1 percent opened) whereas private non-profit hospitals were more likely opened (49.2 percent closed versus 52.5 percent opened).

Thorpe et al (2000) examined the level of uncompensated care provided by hospitals converting from non-profit to for-profit. They evaluated changes in uncompensated care, total adjusted admissions, total margin, total revenue, and costs per adjusted admission associated with hospital conversions in community hospitals using the data derived from the AHA Annual Survey of Hospitals for 1990–1997. Results of this study indicated that total margin of for-profit hospital (7.4) was significantly higher than that of non-profit hospital (3.2). Moreover, they reviewed the changes in financial performance when hospitals changed ownership. The results reveal that total margins increased by four percentage points when non-profit hospitals converted to for-profit status (8.7 vs 4.7). They also found that the reduction in uncompensated care associated with the transition of non-profit hospitals to for-profit status.

Picone et al (2002) also examined examine how changes in hospital ownership affect quality and Medicare payments per hospital stay in US. They used data from the National Long-Term Care Survey (NLTCs) in 1982, 1984, 1989, and 1994. Hypothesis of this study was that hospitals converting to for-profit ownership boost post acquisition profitability by reducing dimensions of quality not readily observed by patients and by raising prices. From 1984 to 1995, 659 hospitals changed ownership. Results of this study revealed that 1-2 years after conversion to for-profit status, operating margins rises markedly and staffing decreases. Over 3 years after conversion to for-profit hospital, the increase in operating margins was even greater.

Wilcox-gok (2002) examined whether ownership of hospitals is significantly related to the financial performance of hospitals. Data containing 573 observations of Florida hospitals for 1984 through 1987 were used for analysis. Net revenue is the difference between total revenue and total expenditure. Average net revenue is significantly higher for for-profit hospitals (US\$1945) than for non-profit hospitals (US\$1407). The regression analysis revealed that for-profit status was positively related to the level of revenues, resulting in significantly higher net revenues in for-profit hospitals compared with that of non-profit hospitals.

The purpose of Wang et al (2001) was to compare management strategies and financial performance in rural and urban hospitals. Data used in this study included 83 hospitals in Virginia, US. They evaluate financial performance with profit, revenue, cost, and efficiency/productivity. Results of this study revealed that total costs per admission were significantly higher in for-profit and all cost indicators except for labor cost were higher in for-profit hospitals compared with non-profit hospitals. The for-profit hospitals made more profit than non-profit hospitals. For-profit hospitals also earned greater revenue. Therefore, for-profit hospitals achieved better profit and greater revenue with higher cost, resulting in a significantly higher level of profit.

#### 4.2.3. Comparison of Social Contribution between For-Profit Hospital and Not-For-Profit Hospitals

This study analyzed and compared the social contribution between for-profit hospital and not-for-profit hospitals across five studies, and the general characteristics are listed in Table 4.8.

Table 4.8 General characteristics of studies used in meta-analysis of social contribution

Study (yr.)	Covered region	Covered year		Number of year	Sample size (N)	Outcome
Bai (2013)	US	2000	2005	6	1939	Total community benefits
Ferdinand (2014)	US	2000	2009	10	3037	Community benefit
Johansen (2013)	US	2008	2011	4	1000	Charitable contributions
Kennedy et al. (2010)	US	1992	1997	6	2884	Percent charity care
Winter et al. (2015)	Germany	2012	2013	2	563	Commitment to the public interest

The mean of 1884 hospital in each study were participated in the survey of social contribution. The variables used for social contribution comparison between for-profit and non-profit hospitals included total community benefits, charitable contributions, percent charity care, and commitment to the public interest (Figure 4.3).

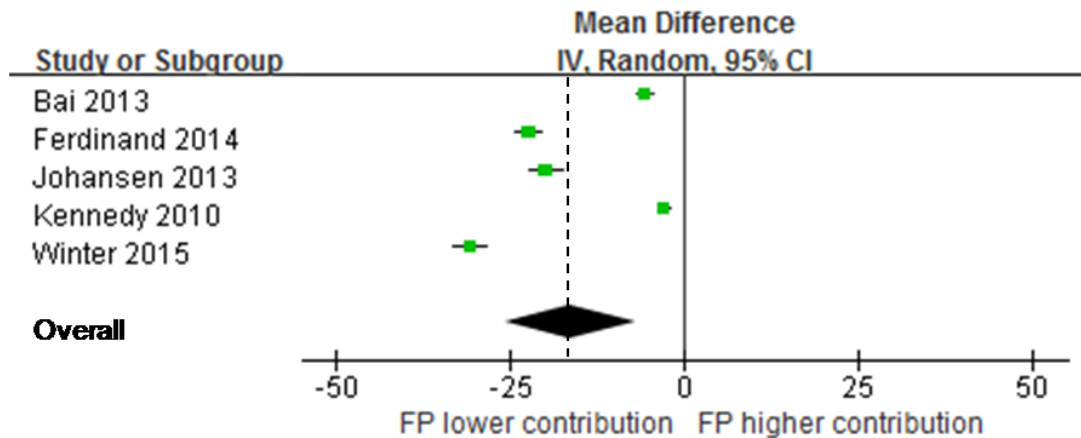


Figure 4.3 Effect size for social contribution of for-profit versus non-profit hospital.

Ferdinand et al. (2014) conducted a longitudinal analysis from 2000 to 2009 of all non-federal, general medical/surgical acute care hospitals operating in US using tax information. The purpose of study was to compare provision of community benefits of religious hospital with other non-profit and for-profit hospitals. They used a pooled cross-sectional design and collected data composed of approximately 4,619 hospitals per year, for a total of 46,187 hospitals over the 10-year period. Results indicated that in 2009, there was significant differences in community benefit summated scale of 13 items between religious hospital, non-profit, and for-profit hospitals (9.66, 8.75, and 5.32, respectively). They explained that non-profit hospitals tend to provide the community benefit because they receive tax exemptions, however non-profit hospitals' provision of community benefits are variant and inconsistent (Alexander, Weiner, & Succi, 2000; Keating & Frumkin, 2003). There have been studies indicated that for-profit hospitals show similar levels (Herzlinger & Krasker, 1987; Norton & Staiger, 1994; Schneider, 2007) or even more community benefits than non-profit hospitals (Kane & Wubbenhorst, 2000; Nicholson et al., 2000).



Johansen et al (2013) demonstrated how market competition, political constraint, and managerial practice differ in public, non-profit, and private American hospitals. They conducted a national survey of almost 1,000 top-level managers in public, private, and non-profit hospitals in the United States. The results of this study indicated that if the hospital located in a community with a strong base of charitable contributions, the manager was more likely to prioritize service efficiency.

Bai (2013) investigates how size of hospital and occupational background of directors differentially influence social performance in for-profit and non-profit organizations. A quantitative measure of social performance was developed using data from California hospitals. Total community benefits of for-profit hospitals (2.0 million dollar) were significantly lower than those of non-profit hospitals (7.6 million dollar). Results of this study demonstrated that size of hospital is negatively associated with social performance in for-profit hospitals. However size of hospital is positively associated with social performance in non-profit hospitals. Author explained that non-profit hospitals are larger and have more residents compared with for-profit hospitals and more non-operating income due to greater donations relative to their for-profit hospitals.

Kennedy et al (2009) determined whether the change in the Texas law increased charity care spending by non-profit hospital. In 1993, the Texas law was the first to include a specific threshold of spending, which is 4% threshold, on charity care by non-profit hospitals based on a fraction of net patient revenues. They investigated Texas hospital charity care spending using data from the American Hospital Association' annual survey of Texas hospital from 1992 through 1997. The amount of charity care was 4.5 million dollars for non-profit hospitals and 1.9 million dollars for for-profit hospitals. The

percent of charity care was 8.2% and 5.2%, respectively. Therefore, non-profit hospitals provided more charity care than for-profit facilities.

Winter et al (2015) demonstrated differences in medical student's motivational factors when they decide among public, non-profit, for-profit hospital in Germany. Hypothesis of this study was that higher other-related motivational factors increase the likelihood that a future physician will opt for a public or a nonprofit hospital over a for-profit hospital. Results of this study indicate that when a student scores higher on commitment to the public interest, he or she is significantly less likely to prefer for-profit hospitals to public hospitals. Therefore, commitment to public interest may explain the preference for a public or non-profit hospital over a for-profit hospital as an employer.

#### 4.2.4. Summary of Meta-analysis

The results of the meta-analysis are summarized in Table 4.9. In the literature review, patient satisfaction varied according to the country where the study was conducted. The studies dealing with patient satisfaction in US (Sack et al, 2015; Tsai et al, 2015; Jha et al, 2008) exhibited lower patient satisfaction in for-profit hospitals compared with those of non-profit hospitals. The studies regarding patient satisfaction of Saudi Arabia (Devreux et al, 2012) and Bangkok (Tangcharoensathien et al, 1999) showed higher patient satisfaction in for-profit hospitals compared with those of non-profit hospitals. Therefore, patient satisfaction might be influenced by the economic situation or development of the country. However, there was a difference in patient satisfaction according to inpatient or outpatient visit designation. For a definitive conclusion, consideration should be given to the subject investigating patient satisfaction. The meta-

analysis results showed relatively low patient satisfaction in the for-profit hospitals in comparison with not-for-profit hospitals.

The literature review regarding the financial performance of for-profit and not-for-profit hospitals revealed the financial performance of for-profit hospitals was better than that of not-for-profit hospitals in most cases. Six US studies showed for-profit hospitals achieved higher financial performance than that of non-profit hospitals. Four of six studies had statistical significance in differences of financial performance (Choi et al, 2008; Thorpe et al, 2000; Wilcox-gok, 2002; Wang et al, 2001). Therefore, financial performance of for-profit hospitals was higher than that of non-profit hospitals in US. However, Zhu et al (2014) found opposite pattern in Canada. The meta-analysis results showed relatively high financial performance in the for-profit hospitals in comparison with the not-for-profit hospitals.

The results of the literature review about social contribution of hospitals indicated that the social contribution of for-profit hospitals exceeded that of not-for-profit hospitals. Five studies showed low social contribution in for-profit hospitals. The social contribution of non-profit hospitals is higher than that of for-profit hospitals, regardless of the observation areas such as the US and Germany. Therefore, meta-analysis results showed relatively low social contribution in the for-profit hospitals in comparison with the not-for-profit hospitals.

Table 4.9 Summary of meta-analysis

	Study (yr.)	Covered region	Comparison
Patient satisfaction	Sacks (2015)	US	FP> NFP
	Tsai (2015)	US	FP<NFP
	Mullings (2017)	US	FP<NFP
	Kraska (2016)	Germany	FP<NFP
	Schoenfelder (2014)	Germany	FP<NFP
	Oppel (2016)	Germany	FP> NFP
	Devreux (2012)	Saudi Arabia	FP> NFP
	Tangcharoensathien (1999)	Thai	FP<NFP
Financial performance	Choi et al. (2008)	US	FP> NFP
	Lee (2015)	Korea	FP> NFP
	Joynt et al. (2015)	US	FP> NFP
	Picone et al. (2002)	US	FP> NFP
	Shen et al. (2003)	US	FP> NFP
	Thorpe (2000)	US	FP> NFP
	Wang (2001)	US	FP> NFP
	Wilcox-gok(2002)	US	FP> NFP
	Zhu et al. (2014)	Canada	FP<NFP
Social contribution	Bai (2013)	US	FP<NFP
	Ferdinand (2014)	US	FP<NFP
	Johansen (2013)	US	FP<NFP
	Kennedy et al. (2010)	US	FP<NFP
	Winter et al. (2015)	Germany	FP<NFP

FP, for-profit hospital

NFP, not-for-profit hospital

## **CHAPTER 5**

### **DISCUSSION**

This study was conducted through a meta-analysis and survey of experts in the healthcare industry in order to identify the feasibility of for-profit hospitals in Korea.

The results of interviews and surveys on for-profit hospitals suggest that 1) the increase in capital flows to the medical industry will improve the quality of medical services by facilitating investment in medical institutions and equipment, 2) the overall improvement of healthcare industry due to the introduction of advanced business management practices, 3) the increase of high-tech medical technology which help the medical industry and educational system, and 4) the improvement of the price competitiveness of medical expenses that differentiate and diversify health care services. However, contrary to these various advantages, the introduction of for-profitable hospitals might bring some disadvantages such that 1) low-income patients may be difficult to find hospitals, 2) monopolistic dominance of profitable capital may lead to excessive focus on profitability, and 3) potential adverse effects on Korean national health insurance system can be caused.

Meta-analysis was conducted in three aspects: patient satisfaction, financial performance, and social contribution.

Interestingly, patient satisfaction was lower in for-profit hospitals than in non-profit hospitals. These results are in conflict with the results of the interviews with

professionals who argued that for-profit hospitals can improve the service quality. These results might be caused by differences in economic conditions and hospital costs between countries. In order to analyze the effect of introduction of the service quality more precisely, a study should be made through comparison of service quality that are before and after introduction of profitable hospitals should be done.

As expected, the result of meta-analysis showed relatively higher financial performance in for-profit hospitals than in non-profit hospitals. In five of the six studies, the financial performance of for-profit hospitals was superior to that of non-profit hospitals. However, these results also suggest that it is necessary to consider differences of the hospital and healthcare system between countries because the studies conducted in Canada and United States have shown conflicting results. Therefore, it is expected that another study on feasibility of for-profit hospitals should be followed with the consideration of differences in hospital systems.

The result of meta-analysis of social contribution showed that non-profit hospitals have higher social contribution than for-profit hospitals. The result is consistent with the research findings of the interviews conducted by professionals and experts of Korean hospital management system who pointed out the potential problems of profitable hospitals. Therefore, it is critical that the social contribution activities of for-profit hospitals should be promoted for the successful introduction of for-profit hospitals in Korea.

In conclusion, the introduction of for-profit hospitals still seems to be premature considering the result of meta-analysis. Instead, it would be better to focus on improving current healthcare system while embracing the profitability of the hospital. In other words,

it is needed to find the contact point between the public interest and the profitability of the medical system. The suggestions for improving hospital profit structure are as follows. First, the depth of coverage by national medical insurance should be increased. Korean national medical insurance has maintained low insurance premiums and low insurance coverages to provide medical access to all income classes. As a result, the current medical insurance system's fee-for-service payment system increased the accessibility of medical services, but caused difficulties in the medical industry and hospital management. These problems eventually led medical doctors to redundant and excessive treatment to compensate for the loss due to low insurance rates, and favored non-covered services for high profitability. Low insurance coverage would increase the number of physician visits and, consequently, overall medical costs.

Second, the efficiency of national health insurance management should be increased. Currently, the level of premiums is determined consistently according to income. In order to secure financial resources, it is necessary to adjust the calculation method of premiums and out-of-pocket expenditure on services. By increasing the whole budget of national health insurance, it would be possible to increase the number of treatment covered by national health insurance and/or increase the depth of coverage by national medical insurance. Medical care expenses for minor illnesses are a big part of national health insurance in Korea. To increase efficiency, medical insurance coverage of simple diseases should be reduced and the coverage of serious illness should be increased. The level of health insurance coverage needs to be differentiated by the level of hospital, detailed types of disease, and surgical difficulty. These efforts could ultimately improve

the quality of care for medical consumers and help health care providers manage their hospitals.

Third, in order to make hospital management more efficient, the participation of professional managers in hospital management should be expanded. Current medical law limits the establishment of hospitals by non-medical personnel. Since hospital management is one of the management activities, professional managers should be given the opportunity to manage hospitals systematically.

Fourth, establishing more public hospitals could be another solution. One of the reasons for the introduction of for-profit hospitals is to strengthen medical competitiveness by the investment in advanced equipment and/or new medical facilities. Public hospitals can be a place to make this happen, and jobs can be provided by doctors who have difficulty in management in small hospitals. Research and investment are needed to rationalize and advance the management of public hospitals.

This study was conducted to explore the feasibility of introducing for-profit hospitals in Korea. The result of this study is meaningful because this study was the first study conducted in Korea not only that systematically compared for-profit and non-profit hospitals through meta-analysis but also that investigated diverse opinions of experts through interviews and surveys. However, as with other exploratory studies, this study also has a few limitation and leave room for future research. Limitations of this study and suggestions for follow-up studies are as follows

First, the result of interviews and survey questionnaires for medical professionals indicated that for-profit hospitals are more likely beneficial to the development of the Korean economy and hospital management system. In view of the



fact that health management is a very professional field, the opinions of experts are very important. However, it is expected that a more balanced policy formulation will be possible when a future study to the patients who are potential consumers of for-profit hospitals is accompanied.

Second, as the advantages of the introduction for profitable hospitals are economic boost, job creation, and the increase in service quality due to the competition, additional studies on the more detailed economic benefits should be followed. For example, the amount of economical values that can be achieved when a for-profit hospital is introduced in a particular area should be investigated so that policy makers and politician can develop a reasonable decision at the local level considering the regional characteristics and economic scale.

Third, meta-analysis was used to identify the pros and cons of for-profit hospitals. Although it was meaningful to grasp basic advantages and disadvantages through the systematic review of literature, it was hard to apply the results of this study directly to Korea due to differences of medical systems between countries. It would be better to apply more scientific research method that may consider differences of medical systems between countries.

Finally, this study investigated the opinions of experts on profitable hospitals through interview and survey questionnaires. Considering that this study was an exploratory study, future research should examine priorities for system improvement based on the conclusions of this study.

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## APPENDIX A

### QUESTIONS FOR QUESTIONNAIRE

These questions were written in Korean when the respondents received them. The answers were translated to English by a professional translator. Questions were open-ended.

The following list of questions was used:

1. What is your personal opinion to the introducing investor-owned hospital?
2. How do you think about the possibility of introducing investor-owned hospital in South Korea?
3. Which kind of policy should be changed after introducing investor-owned hospital South Korea?
4. What is expected effect of introducing investor-owned hospital on the medical industry in South Korea?
5. What is expected effect of introducing investor-owned hospital on the society in South Korea?
6. Which kind of problems is expected after introducing investor-owned hospital in South Korea?