

An analysis of the health financing system of the Republic of Korea and options to strengthen health financing performance

September 2009

Inke Mathauer and Ke Xu
with
Guy Carrin and David B. Evans

Department of Health Systems Financing



This document is not a formal publication of the World Health Organization (WHO). All rights are reserved by the Organization.

The authors alone are responsible for the views expressed in this document.

Table of contents

TABLE OF CONTENTS	i
LIST OF TABLES AND FIGURES.....	iii
ABBREVIATIONS	vi
ACKNOWLEDGEMENTS	vii
EXECUTIVE SUMMARY	viii
SECTION I: INTRODUCTION.....	1
CHAPTER 1. OVERVIEW	1
1.1. OBJECTIVES OF THE REPORT	1
1.2. CONCEPTUAL FRAMEWORK AND METHODOLOGY	2
CHAPTER 2. THE HEALTH SYSTEM.....	6
2.1. HEALTH SYSTEM INPUTS	6
2.1.1. Health care infrastructure.....	6
2.1.2. Human resources	9
2.1.3. Other inputs	10
2.2. HEALTH INDICATORS AND HEALTH SYSTEM OUTPUTS	11
2.2.1 Health outcomes.....	11
2.2.2 Health service utilization	13
2.3. HEALTH CARE EXPENDITURE	15
2.4. SUMMARY	18
SECTION II. INSTITUTIONAL AND ORGANIZATIONAL ANALYSIS OF THE HEALTH FINANCING SYSTEM.....	19
CHAPTER 3. OVERVIEW OF THE HEALTH FINANCING SYSTEM.....	19
3.1. KOREA'S RAPID MOVE TO UNIVERSAL COVERAGE	19
3.2. KEY HEALTH FINANCING ACTORS	20
3.3. PREVIOUS HEALTH FINANCING REFORMS AND REMAINING KEY ISSUES.....	22
CHAPTER 4. TAX-BASED HEALTH CARE FINANCING	25
4.1. RESOURCE MOBILIZATION	25
4.2. POOLING AND DEGREE OF FRAGMENTATION IN TAX-BASED HEALTH FINANCING	27
4.3. BENEFIT PACKAGE	27
4.4. PURCHASING AND PAYMENT MECHANISMS	28
4.5. MEDICAL AID PROGRAM	29
4.5.1. MAP membership: identification of the needy	29
4.5.2. Medical Aid Program funding	30
CHAPTER 5. NATIONAL HEALTH INSURANCE CORPORATION	32
5.1. RESOURCE MOBILIZATION THROUGH NHIC.....	32
5.1.1. Enrolment and membership basis	32
5.1.2. Calculation and collection of contributions.....	35
5.1.3. Government subsidies	45
5.2. POOLING AND LEVEL OF FRAGMENTATION	48
5.2.1. Pool composition of NHI.....	48
5.2.2. Cross-subsidization and government subsidies.....	49

5.3. PURCHASING.....	50
5.3.1. NHI benefit package.....	50
5.3.2. Purchasing structure and mechanisms	53
5.3.3. Provider payment mechanisms	54
5.3.4. Claims management and review	68
5.3.5. Quality management	69
5.3.6. Rational benefit package consumption	70
CHAPTER 6. STEWARDSHIP OF THE KOREAN SOCIAL HEALTH PROTECTION SYSTEM	76
6.1. REGULATION AND MONITORING OF PROVIDERS	76
6.2. GOVERNANCE AND ADMINISTRATION STRUCTURES	77
6.3. STEWARDSHIP TOOLS AND DECISION-MAKING SPACE	81
SECTION III. ASSESSMENT AND THE WAY FORWARD	83
CHAPTER 7. HEALTH FINANCING PERFORMANCE ASSESSMENT	83
7.1. LEVEL OF RESOURCE MOBILIZATION.....	83
7.2. LEVEL OF POPULATION COVERAGE	84
7.3. DEGREE OF POOLING WITHIN THE HEALTH FINANCING SYSTEM	84
7.4. LEVEL OF FINANCIAL RISK PROTECTION	86
7.4.1. Prepayment ratio.....	86
7.4.2. Out-of-pocket payments and catastrophic expenditure.....	86
7.5. LEVEL OF EQUITY IN HEALTH FINANCING	93
7.6. LEVEL OF EFFICIENCY IN BENEFIT PACKAGE DELIVERY	102
CHAPTER 8. THE WAY FORWARD	103
8.1. ACHIEVEMENTS AND CHALLENGES	103
8.2. REFLECTIONS ON THE WAY FORWARD	105
8.2.1. Sufficient and sustainable resource mobilization for NHI	105
8.2.2. Financial risk protection.....	106
8.2.3. Equity considerations.....	107
8.2.4. Purchasing, provider remuneration and efficiency.....	108
8.2.5. The depth of coverage and the benefits package.....	110
8.3. IMPLICATIONS FOR IMPLEMENTATION.....	111
8.4. FUTURE ISSUES AND CHALLENGES	111
8.4.1. Private health insurance	111
8.4.2. Long-term care insurance.....	115
REFERENCES.....	118
ANNEX	125

For 2006: 1 USD = ₩ 954.85 (local currency, the Korean won) (WHO, 2008)

List of tables and figures

Tables:

Table 2.1. Number of health facilities	7
Table 2.2. Number of doctors	9
Table 2.3. Number of doctors per facility type	9
Table 4.1: Public health expenditure	26
Table 5.1. Trends in contribution rates for EE and SE insurees	35
Table 5.2. Contribution amounts for EE and SE insurees	36
Table 5.3. Household income assessment weights for SE contribution calculations	36
Table 5.4. Percentage of households in arrears with contributions	43
Table 5.5. Cross-subsidization levels	49
Table 5.6. Adjustment factor per provider level	54
Table 5.7. Special treatment charges	60
Table 6.1. Areas falling under / missing regulation	76
Table 6.2. Composition of Health Insurance Policy Committee	79
Table 6.3. Composition of the NHIC board of directors	79
Table 6.4. Composition of the Health Insurance Finance Committee	80
Table 6.5: Composition of the HIRA board of directors	80
Table 7.1. Average benefit amount across health financing schemes	85
Table 7.2: Percentage of households who did not contribute to the NHI	93
Table A1. Cost-sharing schedule for MAP	125
Table A2. NHI outpatient care co-payment schedule	125
Table A3. NHI co-payment schedule for health prevention interventions	125

Figures:

Fig. 1.1. Basic components of the conceptual framework	3
Fig. 2.1. Acute beds per 1000 population	8
Fig. 2.2. Nurses per 1000 population	10
Fig. 2.3. Physicians per 1000 population	10
Fig. 2.4. CT scanners per million population	10
Fig. 2.5. MRIs per million population	10
Fig. 2.6. Drug expenditure, 1990-2005	11
Fig. 2.7. Life expectancy	12
Fig. 2.8. Infant mortality rate	12
Fig. 2.9. Percentage of population above 65 years of age	13
Fig. 2.10. Outpatient consultations per capita per year	13
Fig. 2.11. Average length of stay, 2003	14
Fig. 2.12. Caesarean sections per 1000 live births	15
Fig. 2.13. Health expenditure, 1990-2005	16
Fig. 2.14 Structure of total health expenditure	17
Fig. 2.15 Health expenditure by financing sources	17
Fig. 3.1. The health financing system	20
Fig. 3.2. Relationships among health financing actors and providers	22
Fig. 4.1. Government expenditure on health (excluding NHI) as a share of THE	25

Fig. 4.2. Number of MAP beneficiaries (1995-2007).....	29
Fig. 4.3. MAP expenditure (1995-2007).....	30
Fig. 5.1. Number of persons covered per EE principal insuree and per SE household	34
Fig. 5.2. Actual and potential number of EE principal insurees	35
Fig. 5.3. Monthly contribution amounts of EE and SE insurees.....	37
Fig. 5.4. Approximate contribution rates for EE and SE categories.....	38
Fig. 5.5. SE income against SE points/income	39
Fig. 5.6. Property lease amount against points/property lease amount.....	39
Fig. 5.7. Actual versus target resource collection for the SE category	42
Fig. 5.8. Average monthly contribution amount for EE and SE households and persons	44
Fig. 5.9. Revenue trend from 2001 to 2007	46
Fig. 5.10. Shares of sources in NHIC revenues	46
Fig. 5.11. Share of government subsidies in total SE benefits	47
Fig. 5.12. Yearly increase in FFS conversion factor rate.....	56
Fig. 5.13. Comparison of DRG rates and FFS rates	59
Fig. 5.14. Total treatment amounts for outpatient care.....	64
Fig. 5.15. Costs per pharmaceutical claim by NHI and MAP beneficiaries.....	64
Fig. 5.16. Cost-sharing rates as share of treatment costs	71
Fig. 5.17a. Cost-sharing expenditure	72
Fig. 5.17b. Out-of-pocket expenditure (excluding cost-sharing).....	73
Fig. 5.18a. Inpatient utilization of EE, SE and MAP beneficiaries	74
Fig. 5.18b. Outpatient utilization of EE, SE and MAP beneficiaries	75
Fig. 6.1. Governance and administration of social health protection	78
Fig. 7.1. Financial situation of NHI (revenues and expenditure from 1990 to 2006).....	83
Fig. 7.2. Trends in average benefit amount for NHI and MAP beneficiaries.....	85
Fig. 7.3. Household out-of-pocket payment expenditure	87
Fig. 7.4a. Out-of-pocket expenditure components, 1995-2007	88
Fig. 7.4b. Out-of-pocket expenditure components by quintile	88
Fig. 7.5a. Out-of-pocket expenditure service components	88
Fig. 7.5b. Out-of-pocket expenditure medicine components.....	88
Fig. 7.6. Distribution of households' financial burden	89
Fig. 7.7. Percentage of households with catastrophic expenditure	90
Fig. 7.8. Catastrophic expenditure by different out-of-pocket expenditure components .	91
Fig. 7.9. Percentage of households with catastrophic expenditure by quintile.....	91
Fig. 7.10. Percentage of households with catastrophic expenditure by insurance types ..	92
Fig. 7.11. Household contributions to NHI.....	94
Fig. 7.12. NHI contribution by quintiles.....	95
Fig. 7.13. Distribution of NHI contribution as a share of household expenditure.....	96
Fig. 7.14. NHI contribution as a share of total household expenditure by insured groups	97
Fig. 7.15. Income levels in each insured group	98
Fig. 7.16. NHI contribution by insured groups.....	98
Fig. 7.17. NHI contribution as a share of total household expenditure by quintile	100
Fig. 7.18a. Taxation and tobacco consumption as a share of households' expenditure .	100
Fig. 7.18b. Percentage of households paying for taxes and spending on tobacco	100
Fig. 8.1. Trends in private health insurance as a share of total health expenditure	112

Boxes:

Box 3.1. Background to the separation reform	23
Box 3.2. Background to the introduction of long-term care insurance.....	24
Box 5.1. Equity in health financing	41
Box 5.2. Contents of the NHI benefit package	50
Box 5.3. Impacts of the DRG system	59
Box 5.4. Achievements of the separation reform	63
Box 5.5. Anticipated effects of the separation reform	64
Box 5.6. Changes in prescription patterns	65

Abbreviations

ALOS	Average length of stay
Art.	Article
ATP	Actual Transaction Pricing
CE	Company employee
CT	Computed tomography
DRG	Diagnosis Related Group
EDI	Electronic data interchange
FFS	Fee for service
Fig.	Figure
EE	Employee (insuree)
GDP	Gross Domestic Product
GGE	General Government Expenditure
GGHE	General Government Health Expenditure
GT	Government employees and teachers
HI	Health Insurance
HIRA	Health Insurance Review Agency
ICD	International Classification of Diseases
IES	Income and Expenditure Survey
KMA	Korean Medical Association
KOSIS	Korean Statistical Information Services
LTCI	Long-term care insurance
MAP	Medical Aid Program
Mio.	Million
MOGL	Ministry of Government Legislation
MOH	Ministry of Health, Welfare and Family Affairs
MOSF	Ministry of Strategy and Finance
MRI	Magnetic Resonance Imaging
NHI	National Health Insurance
NHIC	National Health Insurance Corporation
OECD	Organization for Economic Cooperation and Development
OOP	Out-of-pocket (expenditure)
OTC	Over-the-counter (medicines)
p.c.	per capita
PET	Positron emission tomography
PHI	Private health insurance
RBRV	Resource-Based Relative Value
SE	Self-employed (insuree)
SHA	System of Health Accounts
SHI	Social Health Insurance
THE	Total Health Expenditure
VAT	Value-added tax
WHO	World Health Organization
WPRO	Regional Office for the Western Pacific, World Health Organization

Acknowledgements

The authors would like to thank Dr. Jong-wha Park and Ms. Hyun Kyong Kim from the Korean Foundation for International Healthcare – Dr. Lee Jong-Wook Memorial Fund for the chance to undertake this review of the Korean health financing system, their help in facilitating access to government officials and their comments on various drafts of the report. The Department of Health Systems Financing also gratefully acknowledges the financial support of the Korean Foundation for International Healthcare- Dr. Lee Jong-Wook Memorial Fund for its financial support.

Professor Hyoung-Sun Jeong of Yonsei University and Director of the HIRA Research and Development Center acted as the focal point for the Korean Foundation for International Healthcare and provided valuable assistance to our team when we conducted two missions to the Republic of Korea. His assistance is gratefully acknowledged. In particular, we would like to thank him for the provision of household data and data of the System of Health Accounts, as well as for his helpful input during the missions. The authors also thank Professor Jeong as well as Professor Chang-yup Kim of Seoul University for their extensive review and feedback on an earlier draft of this study.

We are also very grateful to Dr. Yong Hur, Director General for International Cooperation of the Ministry of Health, Welfare and Family Affairs, and to the ministry colleagues. In addition, we wish to thank Dr. Jinsoo Kim, Research Director, Mr. Mingu Bae, Manager of International Relations, and other colleagues of the National Health Insurance Corporation for their support and insightful discussions.

Special thanks are expressed to Mr. Jeong-woo Shin, research assistant at Yonsei University for his excellent research assistance to the study team and his great support to this project. We should also like to thank Ms. Yeun Sook Rho, Senior Researcher at the Health Insurance Review Agency, for her valuable support during the mission. Likewise, Dr. Hwang, by then at the WHO Regional Office for the Western Pacific and now at the Ministry of Health, Welfare and Family Affairs, provided great assistance during the first mission to Korea and helped set up important contacts. We are also grateful to Dr. Lim (WHO, Geneva/Ministry of Health, Welfare and Family Affairs, Korea) for his helpful advice and general support to the project.

Professor Soonman Kwon, Seoul National University, Professor Kyu Sik Lee, Yonsei University, Professor Ok Ryun Moon, Inje University, Dr. Byongho Tchae, Korea Institute for Health and Social Affairs, and Professor Bong-min Yang, Seoul National University, shared their time and valuable views in discussing key issues of the Korean health financing system, for which we are highly grateful.

We are also grateful to Ms Priyanka Saksena (WHO, Geneva) for her important assistance in the household survey analysis, as well as to Ms Manique Abayasekara (WHO, Geneva) for her great administrative and organizational support. Thanks are also expressed to David Bramley for his editorial assistance.

Finally, we thank all the respondents and discussion partners during the study missions in March and November 2008 in Korea.

Executive Summary

Introduction and methodology

This report aims to provide a detailed review of the Korean health financing system through an institutional analysis of the health financing functions and the health financing schemes in operation. We hope that this analysis of the strengths and weaknesses of the health financing system as we understand them, and the factors influencing its performance, will be useful to the relevant authorities in the Republic of Korea. A second rationale of this report is to provide a detailed account of a health financing system that has achieved universal coverage within a very short time from which low-income and middle-income countries can draw lessons.

Section I of the report briefly outlines the conceptual framework and methodology. Section II provides an overview of the health financing system as we understand it and is followed by detailed assessments of tax-based health financing including the Medical Aid Program (MAP) for people with low incomes, and the National Health Insurance (NHI). This section contains an evaluation of the key health financing functions of resource mobilization, pooling and purchasing. It also looks at the health financing system's stewardship function. Where possible, data are provided up to 2007.

Section III undertakes a health financing performance assessment by seeking to assess Korea's achievements against defined health financing performance indicators. The final chapter provides a summary and a set of possible actions that our analysis suggests might strengthen the performance of the Korean health financing system both now and in future years. We hope that the relevant authorities find them useful.

To undertake a detailed analysis of institutional design and organizational practice with respect to the health financing functions, qualitative data was collected through discussions with various health financing stakeholders. Legal provisions and regulations were reviewed in detail. In addition, data from the Household Income and Expenditure Survey from 1995 to 2007 was analysed.

Achievements and challenges

The health financing system of the Republic of Korea has undergone many important developments and reforms since 2000 that have contributed to increasing health financing performance and ultimately to improving people's health. In fact, Korea has achieved great gains in health during the past 30 years. These may be attributed to both steady economic growth and health system development.

The Korean NHI system is often cited as a success story due to its rapid expansion of population coverage since 1977, when the Medical Insurance Act was amended. Universal access in terms of covering the entire population was achieved within 12 years in 1989. The NHI system has been characterized by relatively low, affordable contribution rates against a limited benefit package and relatively high out-of-pocket expenditure. The logic low contribution rates and low benefit coverage was successful insofar as it enabled the entire population to be covered within a very short time. This quick transition to universal coverage meant that inequities between those insured and those not insured lasted for a much shorter time than would otherwise have been the case.

Despite this success, some challenges remain and new ones are emerging. This is a characteristic of all health financing systems, where there is constant need for evaluation, assessment, and modifications as necessary to continue to improve access to services, financial risk protection and health status.

One important consideration is that Koreans utilize equipment more intensively – particularly high technology devices – compared to other OECD countries. They also use more services as measured by outpatient visits per population and average length of stay in hospitals. Per capita expenditure on medicines is also higher in Korea compared with the other OECD countries, although the government has been successful in ensuring that the overall trend of spending on medicines as a share of total health expenditure has been decreasing gradually.

It is noted that NHI contribution rates have been steadily increasing. Collection of contributions has improved through more effective collection mechanisms and the spread of the electronic data interchange (EDI) system. More and more members are categorized as EE (employee) insureds, thus ensuring more stable resource collection. Importantly, the volume of government subsidies from general government revenues has been specified formally in the legal provisions. To maintain government subsidies to NHI at the prescribed level of 20% of NHI revenues from contributions, these subsidies will have to rise in line with increases in wages and contribution rates.

In 2006, Korea spent 6.5% of its gross domestic product (GDP) on health. Although this figure is still lower than the OECD average, it has grown more rapidly in recent years for a number of reasons. The financial situation of NHI has been of particular concern since the late 1990s. The strongly increasing deficit in 2000 and 2001 is also due to the increases in fee-for-service rates in relation to the 2000 "separation reform" (which separated the roles of prescribing by physicians and dispensing by pharmacists). In the

following years, the accumulated NHI deficit was balanced by additional government funding based on the Stabilization Act. Yet, since 2004, the surplus has been shrinking again and the long-term financial balance of the NHI fund is once more a concern to policy-makers in the country.

The main reasons for the increasing expenditure are:

- the expanding benefit package;
- the increased number of claims per person;
- the increasing average value of claims per person;
- the increasing total population;

Furthermore, on the revenue side, contribution rates and government subsidies have been growing at a slower rate than expenditure, equally affecting the financial balance of the NHI fund.

Projections of NHI revenues and expenditures are made for various scenarios up to 2030 to illuminate potential surpluses and deficits. It is estimated that a financial balance can be achieved by 2015 with modest increases in the contribution rates of 6% per year and provider remuneration rate increases of 1%.

With the integration reform in 2000, Korea undertook the critical step in overhauling a fragmented health financing system, thus maximizing income solidarity and risk solidarity, leading to higher equity in health financing and health benefits. The reform also helped to lower administrative costs by reducing the number of staff employed in the National Health Insurance Corporation (NHIC). There remains some degree of segmentation within the system, as the MAP remains separate and is financed separately. Given that the benefit package for NHI beneficiaries and MAP beneficiaries is nearly identical, this segmentation may be of little concern to policy-makers. Yet, the average amount of benefit per capita varies greatly between the NHI and the MAP. The two are not directly comparable since MAP beneficiaries' average cost-sharing ratio is about 1.8%, whereas that of the NHI beneficiaries is about 26%. Even when adjusting for this difference in cost-sharing, the average amount of MAP benefits is still substantially higher (we estimate it at 3.7 times higher).

Currently, the prepayment ratio (i.e. total health expenditure minus out-of-pocket expenses) is relatively low in comparison with other OECD countries. In 2006, in Korea, prepayments accounted for 63% of total health expenditure, whereas the average level in the OECD was about 80% (OECD, 2008). This means that out-of-pocket payments are relatively higher in the Republic. The main part of prepaid health financing is from NHI contributions and government taxes. General government expenditure on health as a share of total health expenditure amounted to 54.6% in Korea in 2006 (Jeong 2009a). In comparison, this share was 72.3% for 27 OECD countries, with 17 countries having a ratio greater than 70% (WHO, 2004 in Carrin/James, 2005, data for 2001).

Prepayment with respect to NHI – i.e. the total NHI treatment amount for all types of care covered minus cost-sharing - was 74.0% in 2006 (based on data by Jeong, 2008). Yet when also considering out-of-pocket expenses for special treatment charges and other

non-covered services, prepayment with respect to NHI was 53.6%. It has increased slightly over the past few years from 50.3% (Jeong & Shin, 2006).

In 2007, out-of-pocket expenditure as a share of total health expenditure was still 35%. It is widely acknowledged that out-of-pocket payments are the most regressive form of health financing because they mean that the poor pay the same price as the rich and that the healthy do not help to cover the expenses of people unlucky enough to fall ill (i.e. there is no income solidarity and risk solidarity) for this part of total health expenditure. This is why most OECD countries, including the Republic of Korea, have moved towards expanding the prepayment component of health financing.

The share of out-of-pocket payments remains somewhat higher than in most of the high-income OECD countries. When the out-of-pocket expenditure ratio is relatively high, it is useful to examine if this leads to problems of financial accessibility for people who cannot afford these costs. This is something that the Korean authorities might wish to examine.

The coverage of outpatient and inpatient services versus medicines also appears to be unbalanced, with generous benefits for medicines on the one hand and rather high cost-sharing and other user charges (including "special treatment charges" and "special room charges") for inpatient services on the other. In local currency (the Korean won, or ₩), the average household out-of-pocket payments were ₩58,422 for the urban population in 1995 and ₩116,195 in 2007. In the same years, average out-of-pocket payments for health services as a share of total household expenditure was 4.6% and 5.0% respectively.

They varied, of course, across the population. When out-of-pocket expenditure as a share of a household's capacity to pay exceeds 40%, it is typically termed "catastrophic expenditure". The number of households with catastrophic expenditure has seemed to increase in recent years. In 2007, 3% of households faced financial catastrophe due to out-of-pocket payments. Survey data suggest that catastrophic expenditure is more likely to occur when household members need inpatient services and almost 37% of households requiring inpatient services encountered catastrophic expenditure in 2007. In sum, these data suggests there is room to reconsider the nature, distribution and extent of special charges and co-payments, in a way to reduce the extent of financial catastrophe. We believe that the ongoing plans for a differentiated cost-sharing ceiling would contribute to this.

In general, household contributions to NHI (i.e. excluding the employer's contribution) have increased over time in both absolute terms and as a percentage of household consumption. In 1995, NHI contributions were 1.5% of household consumption on average. By 2007, the figure had doubled. In principle, NHI contributions are intended to be proportional to income. Household survey data show that the higher income (measured by consumption expenditure) groups pay more to the NHI in absolute terms. However, recognizing the possible problems with using household survey data, it appears that lower-income groups pay a much larger share of their incomes in terms of NHI contributions than higher-income groups. This pattern has consistent over the past decade. These calculations show that NHI contributions as a share of household expenditure is

about twice as large among the poorest quintile than for the richest quintile. We suggest that this is an issue that the Korean authorities might wish to consider in their ongoing plans for modifying the health financing system.

The benefit package has been expanded, leading to a higher benefit package ratio (i.e. the NHI benefit amount as a share of total household health costs). Health prevention and promotion services have been included in the benefit package. Furthermore, the benefit package is being rationalized through health technology assessments. A positive medicine list system has been introduced in order to remove less cost-effective medicines and to reduce the number of reimbursable medicines. This should result in more efficient use of resources and cost-containment. Likewise, the separation reform contributes to more rational prescription and consumption. Still, if the Republic of Korea takes a similar path to other countries, as incomes rise there will be growing pressure from the population for the government to expand the depth of coverage – i.e. the services that are included in the insurance package and the proportion of the costs covered. This will need to be balanced against the availability of funds, after an assessment of the main causes of financial catastrophe as discussed earlier.

Over the years, we have been told that provider remuneration rates have been of great concern to doctors, leading to longstanding disagreements between providers and the government. This adds another level of complexity to ongoing modifications to the system, in that providers' demands need to be set against concerns for financial sustainability and the need to purchase services in the most efficient way.

Important efficiency improvements have been made over the years relating to the purchasing function. The introduction of the resource-based relative value (RBRV) system reduced distortions in service delivery. Moreover, fee-for-service increases have been kept under control since 2003. The provider remuneration system has been diversified as diagnosis-related groups (DRGs) have been introduced for a selected number of diagnoses. Quality-based purchasing initiatives, including a pay-for-performance pilot project, have been introduced. The EDI-based claim review system has been optimized and is now applied by more than 99% of providers, lowering administration costs.

Yet, cost containment has proved difficult, particularly as doctors apply pressure for increases in their revenues. We suggest that as long as providers can choose whether to be remunerated under the DRG system or on the basis of a fee-for-service scheme, it will be difficult to pursue an efficient cost-containment strategy. The only providers who opt to apply the DRG system are those for which it is financially attractive. A related consideration is that other countries have found it necessary to provide stronger incentives to doctors to prescribe fewer, or less costly, medicines through measures such as volume controls or budget caps.

Health service needs and demands are increasing, linked to growing prosperity and an ageing population. The latter is expected to increase health expenditure through both a growing need for services and diversification in the type of services required. This is

likely to impose further pressure on costs where policy-makers might need to consider more regulation of private investment in costly technology and a number of the other cost-control methods described above.

Reflections on the way forward

The following sections provide some suggestions on the possible way forward in building on existing strengths and overcoming new and existing challenges. The various suggestions address the three key concerns of the different stakeholder groups in Korea from various angles:

- how to improve financial stability of NHI;
- how to increase financial risk protection and expand the benefit package;
- how to improve the provider remuneration scheme.

While these reflections originate from a technical perspective, we recognize that changes in the institutional setting take place in a political context. Here we make only technical suggestions on the grounds that political considerations are the domain of the Korean authorities and stakeholders.

1. Sufficient and sustainable resource mobilization for NHI

Given that Korean health care expenditure is still below the health expenditure that would be expected for its level of GDP per capita, we suggest there may be room for a controlled increase in total health expenditure. This section considers how it might be done in a way that leads to an expansion of the availability of important services and efficiency in line with the objectives of financial risk protection and equity. We also address the question of harmonization of the collection of the different forms of social security contributions.

Increasing NHI contributions

In comparison with SHI schemes in other OECD countries, contribution rates remain relatively low in Korea. There appears to be rooms to allow contribution rates to rise further, somewhat more than has recently been the case. Experience from other countries suggests this is best done in a gradual but steady and transparent way so that insurees and employers can understand and anticipate these increases. This would allow at least part of the contribution rate increase to be offset by lowering household spending on cost-sharing.

Contribution revenues could also be increased by expanding the contribution base. The contribution base could be taxable income, payroll income, gross income, net income or income excluding or including bonuses. The same contribution rate results in different contribution amounts depending on the contribution base. Over time, there could be convergence to one contribution base for all.

Another measure is to consider if there are ways to reduce any leakage and underreporting of income since a significant number of households, including people apparently in high-income groups, do not contribute to the NHI.

Increasing NHI financial stability through stable government subsidies

The extension of the NHI entitlement to self-employed workers has been contingent on strong government commitment to providing equal access to health and protecting households against financial loss from health payments. Government subsidies have played a crucial role in achieving and maintaining universal coverage of the defined benefit package. In order to maintain the financial sustainability of the insurance fund and to enlarge the benefit package, it is likely that government subsidies will need to be increased accordingly.

The scope for increasing government subsidies will clearly depend on the overall economic position of the country and the fiscal position of the government. Creating more fiscal space is an option for improving social welfare benefits in general, including health care. Taxes and surcharges on specific products such as advertisements for pharmaceuticals are under discussion in Korea as one possible source of additional government revenue that could be used on health.

Recategorizing certain self-employed insurees as employee insurees

People who work part-time or on a temporary basis, or who have contracts of less than 24 months, are usually considered to be self-employed insurees. Their NHI contribution is lower than that of workers whose income is weighted with 100%. It is suggested that one option for increasing revenues is for irregular employees, as well as their employers, to become part of the employee insurance category. For example, the threshold below which part-time workers are considered as self-employed could be set at a lower level (e.g. 20% of regular monthly working time). This measure would imply that employees would have to pay a higher contribution to the SHI and that their employers would equally have to contribute their share thereby raising National Health Insurance revenues from contributions. Obviously this would entail political considerations that are beyond the mandate of this report, and coordination and alignment with labour policies would also be required.

Revisiting the level of reserve accumulation

According to the NHI Act, NHIC shall "accumulate as its reserve fund an amount equivalent to at least 5% of the expenses required for payment of insurance benefits for that fiscal year until the funds reach 50% of the expenses required for that fiscal year". There is no international norm available for accumulated reserves, but we suggest that consideration could be given to reducing the 50% to a lower level. This would reduce the proportion of the available funds that are not actually spent on health care benefits but are invested in other activities, while also reducing the need to raise revenues more aggressively.

2. Increasing financial risk protection through appropriate benefit package

In all health insurance systems, governments seek to balance the need for solidarity and risk pooling with the need to restrict over-use and inefficiency. This translates generally into the balance between the extent to which resources are mobilized through prepayment versus the extent of out-of-pocket payments and co-payments. As shown earlier, the Republic of Korea has a higher reliance on out-of-pocket payments than other OECD countries, and relatively high rates of financial catastrophe. Increased resource mobilization via prepayment is probably feasible by shifting some out-of-pocket payments into prepayment. This could be done by extending the benefit package while at the same time lowering cost-sharing rates and increasing contribution rates. Based on cross-country comparisons, we suggest that the government might wish to consider moving closer to a prepayment level of around 70%.

The ongoing work in the country on differentiating cost-sharing ceilings for different income groups is of high importance. In addition to, or as an alternative to this, cost-sharing ceilings could be defined as a percentage of household income, as in some other OECD countries. It is also suggested that an *annual* cap on cost-sharing might be considered in addition to the current six-month cost-sharing ceiling system. This would offer greater protection to some of the chronic sick, for example, who incur payments falling just below the six-month ceiling.

Another way of extending the degree of financial risk protection would be to regulate user charges for services that are not covered by the NHI package. This is done in many .

3. Improving equity in health financing

The concept of equity has important political connotations in all societies. Here we simply highlight some issues that have emerged from the review which seem to have equity implications in our opinions, and which the government might wish to consider.

Harmonizing the definition of "dependent"

Dependents of employee insurees are covered via the principal members of the insurance whereas dependents of self-employed insurees without their own income and who do not live in the same household still have to pay contributions (even though these are small). It might be useful to harmonize the rules to treat the dependents of employee and self-employed insurees in the same way.

Better detecting income of the self-employed

One of the challenges of NHIC is to define the contribution rate of the self-employed and to collect the contributions. The NHIC in Korea has made great efforts to estimate the actual income of the self-employed based not only on reported labour income but also on asset indicators and estimates of non-labour income. However, this makes the contribution rules for the self-employed more complex and difficult to understand. While we recognize the value of adjusting the contribution base of different income and asset

components, it is also valuable to continue efforts to improve income registration. Korea has a well developed financial system that provides a solid foundation for doing this.

Assessing contribution rules of the employee and self-employed insurees

The current system of estimating contributions and incomes is complex, as stated above. We suggest that it might be worth trying to harmonize methods, and that this might possibly imply the revision of the methodology of income and property value assessments as well as the point value scheme for self-employed persons with an annual income below ₩5,000,000. An important component of this is to reach social consensus on whether the self-employed should in principle pay the full contribution rate of 100% ("employee share" and "employer share"), or whether they should contribute the "employee share" only – i.e. half of the total contribution rate of a person classified as employee insuree.

Contributions according to ability to pay

The high number of self-employed households who are not up-to-date with their contributions may point to their inability to pay. Within the overall objective of ensuring equity in health financing, one important step might be to adjust contributions according to ability to pay, particularly for the low-income households. In line with this, consideration could be given to increasing the number of beneficiaries whose contributions are fully or partially subsidized, or offering more targeted government subsidies.

In addition, whether the MAP is eventually integrated into NHI or remains separate, the high spending per MAP beneficiary is worthy of more intense study. They appear higher than those for NHI members with similar health risk factors, and if they could be lowered (e.g. through case management, or adjusted co-payment rates) to similar levels as those of NHI members, more resources would be available to partially or fully subsidize the contributions of low-income people.

4. Optimizing purchasing and provider remuneration for efficient use of resources

Strengthening strategic purchasing

In order to optimize the constellation of providers, there may be a need in the future to regulate the location of providers to avoid over-concentration of providers in urban areas. Regulation of workplace location is common in other countries, such as Germany, which have found a balance between an individual provider's choice of his/her job and location of the clinic versus overall health system efficiency considerations. If needed, health care provision in rural areas could be enhanced by various types of financial incentives such as offering higher medical fee rates for these areas.

Incentives to focus on general medicine might also be considered, whereas incentives to specialize in particular fields with an over-supply of doctors could be reduced. One possible way of doing this would be to increase the RBRVs that apply to general practitioners while decreasing them for specialties that are over-supplied.

In order to strengthen compliance with the referral system, cost-sharing could be further differentiated for the different health provider levels. With lower cost-sharing rates at lower levels of care, patients choosing lower-level facilities can reduce their out-of-pocket expenditure, thus also enhancing financial risk protection. Another possibility may be to invite patients to choose a general practitioner who would then be responsible for monitoring and steering their primary health care needs. Patients could be given a monetary incentive, such as a cost-sharing reduction, if they would choose this. Such a measure would also contribute to greater rationality in health care provision and to the reduction of duplication of care.

The mandatory and collective contracting mechanism is an important and useful component of Korea's SHI system. In order to avoid the development of a two-class system of providers, it is important to carefully consider the possible problems before allowing hospitals to opt out of this system.

Strengthening cost-containment measures

In the Korean context, given its current spending level, cost-containment at this point means above all controlling the increase in total health expenditure and improving efficiency.

Fee-for-service: Without a volume control or budget cap, the fee-for-service payment mechanism poses some problems for the financial stability of NHI. One solution is to introduce a soft budget (or soft sectoral budgets) that would be agreed between the health ministry, NHIC and the medical and provider associations. A soft budget serves as an indication and target for health expenditure, and the target can be differentiated for the various provider types and levels. If this option is chosen, it is recommended to establish budget ceilings per quarter. Once a soft budget is established and accepted, and if the fee-for-service remuneration mechanism continues to be in place, it could be translated into a hard budget after some years. This means that a volume increase above the agreed level will lead to a lower fee-for-service. Time lags in processing claims may constitute a managerial challenge but this can be overcome. A combined system of fee-for-service and budget ceiling shifts some part of the expenditure uncertainty from NHIC to the providers. This measure requires a discussion on volume and on healthy utilization rates. Likewise, peer review by medical groups or associations, and self-monitoring as well as cooperation among providers would be needed.

The process of determining remuneration rates could give more weight to the actual costs of providing services as shown in costing study results. Furthermore, this process could be accompanied by more explicit discussions of profit margins of physicians' clinics and hospitals as well as of other providers.

Diagnosis-related groups: We suggest that the government should consider whether the DRG system should become mandatory for all providers. This would avoid "adverse selection", whereby only those providers for whom it is financially attractive choose to operate under DRG remuneration. Another option would be to expand the number of DRGs and include more diseases. In order to realize cost savings, DRG rates should in

principle not be higher than those of respective fee-for-service rates, though some restructuring may be necessary.

Remuneration system for pharmaceuticals: As with the volume control for medical services by means of a total budget, control of expenditure on medicines through a specific pharmaceutical budget would be an option as well. A fixed budget for medicines creates an incentive for doctors to prescribe generics and low-cost medicines and to avoid extended medicine dosages. Furthermore, there is room to strengthen the substitution of generics for high-cost medicines. A long-term strategy would be to move to substance prescribing, as practiced in some other countries. Substitution of generics for brand-name medicines will be enhanced by increasing the number of substitutable medicines for which bioequivalent tests have been undertaken and for which quality is ensured. This would contribute to both patients and health workers gaining confidence. We understand that some stakeholders are concerned that patients numbers may decrease if they are prescribed generics, but international experience suggests there is no reason to believe so.

These proposed changes would need to go hand in hand with education and awareness-raising among the public as well as specific training for doctors and pharmacists.

5. Expanding and revising the NHI benefit package to increase the depth of coverage

Our Korean advisers inform us that policy-makers and the public have expressed concern at the high levels of out-of-pocket payments. Increasing financial risk protection, or in other words, reducing the burden on households of out-of-pocket payments, requires increasing prepaid contributions (and/or increased government subsidies) and rationalizing and expanding the current benefit package. This will be much easier in the presence of active methods to reduce costs and increase efficiency such as those discussed above.

As an accompanying measure, increasing the depth of coverage could be achieved by lowering out-of-pocket expenditure on services that are not covered (by regulating non-covered services). Currently, NHI reimburses some commonly used over-the-counter medicines so long as the patient has a doctor's prescription. At the same time, there is a wide range of inpatient services that are not covered by NHI, and for those services that are covered the cost-sharing rate is 20%. Together with other efforts, gradually reducing the number of the over-the-counter medicines on the reimbursement list and increasing the number of inpatient services covered would help to reduce the incidence of financial catastrophe.

Over time, certain population groups such as the elderly and those with chronic conditions will require more attention since they generally need more services. With the same co-payment rates for inpatient care, they are forced to spend a higher proportion of their disposable income on health, at least until the expenditure ceilings take effect. Options to protect the elderly and the chronic sick from large financial losses include the

annual cap on cost sharing described earlier, or increased social welfare programmes, or a combination of both.

With increased resource mobilization for NHI, as outlined above, such a benefit package extension is in principle financially feasible.

6. Learning the institutional lessons from successful reform implementation processes of other countries

We are also informed that policy-makers have been equally concerned with the political feasibility and implementation challenges of reform proposals in view of possibly conflicting interests of different stakeholders. While this is essentially a political process and beyond the terms of reference of this study, there are some lessons from OECD countries that might be useful for policy-makers in the Republic of Korea.

In general, communication, public awareness-raising and information campaigns have been useful in helping the public understand the proposed reforms and convincing them of their necessity. Wide stakeholder discussions with the various interest groups have generally been essential. Furthermore, many countries have found that strengthening patient and consumer groups has helped to balance the viewpoints of professional bodies, particularly if they have strong representation in the various governance bodies dealing with insurance and the health system.

Future issues and challenges

Private health insurance

Private health insurance (PHI) has so far played a marginal role in Korea's health financing system, with 4.1% (₩2532 billion) being spent on private health insurance plans in 2006 (System of Health Accounts (SHA) data): though the trend has been increasing in recent years.¹

PHI runs the risk of increasing inequity in financial risk protection, as better-off people are more likely to have additional PHI coverage and to be protected against the financial risk of high out-of-pocket expenditure. Poorer people are less likely to buy PHI, yet they are most in need of additional financial risk protection and usually have higher health risks.

Should PHI be considered as one future axis of health financing and financial risk protection in the light of NHI's financial constraints, a number of measures could be considered to balance the possible negative effects. Understanding and knowledge of the

¹ The SHA data does not incorporate expenditure on life insurance products, which provide (disease-specific) lump-sum cash payments.

functioning of PHI could be promoted, particularly among population groups with lower education levels. There is also a need for standardization and regulation in order to enhance consumer protection, consumer information and competition among the insurance companies.

There is an important caveat, however. Above all, the existing level of income solidarity and health financing equity would need to be maintained and, if possible, increased. As the PHI sector is only weakly regulated presently, its potential expansion may increase inequity in health financing particularly if it means that the rich would be less willing to pay higher contributions to NHI. Hence, the advantages of private-sector development must be compared to the possible disadvantages that are often associated with the expansion of PHI.

Long-term care insurance

The introduction of insurance for the long-term care of the elderly serves to extend financial risk protection of those in need of long-term care. As much as the introduction of a long-term care insurance system has been an important step, which we are told is appreciated by the population, there remain some challenges and concerns. Long-term care facilities and trained staff appear to be in short supply. Another concern is that persons in need of long-term care due to disability, but below 65 years of age, are not covered. For financial as well as solidarity reasons, it could be considered whether these people should be included in the long-term care insurance.

The separation of long-term care from more acute health care via the NHI is not in itself worse than an integrated system. Nevertheless, it requires specific attention to coordinating and ensuring continuous care – i.e. medical and long-term care need to go hand-in-hand. With the separation, there is a risk that patients would be shifted from one insurance fund to another as each component of insurance tries to save costs.

The provider-induced demand and "over-provision" found in the NHI system may also occur in long-term care insurance for non-covered services with unregulated user charges. Long-term care beneficiaries may thus suffer from high cost-sharing payments. Given that there is no ceiling on long-term care co-payments, it is not clear to what extent the long-term care insurance will really ensure financial risk protection. We recommend that this issue needs to be monitored carefully.

Finally, there may also be a need to monitor service quality and strengthen the accreditation system. The need for optimizing both long-term care insurance and NHI in regard to financial sustainability and efficient service provision shows the need to expand coverage of preventive and promotive health services as well.

Section I: Introduction

Chapter 1. Overview

1.1. Objectives of the report

The Korean social health insurance (SHI) system is often cited as a success story due to its rapid expansion of population coverage since 1977 following the Amendment of the Medical Insurance Act. Universal access was achieved in 1989 in just 12 years. Despite this success, challenges remain and new ones are emerging. While all Koreans are covered, the depth of coverage is still relatively low - e.g. the proportion of total health costs met by the insurance package is not yet high by international standards. Financial sustainability and equity are other concerns, as in all health financing systems. The population's rising expectations of better care and a larger benefit package, providers' demands regarding remuneration, and the fluctuating financial situation of the National Health Insurance Fund in recent years suggest directions for further institutional developments and modifications to the health financing system.

This report provides a detailed review of the Korean health financing system through an institutional analysis of the health financing functions and the health financing schemes in operation. We seek to identify possible strengths and weaknesses of the health financing system and the factors that influence them, in order to make suggestions about ways to continue the development of the health financing system. We hope that these suggestions will be useful to policy-makers in the Republic of Korea who, of course, are best placed to evaluate them.

A further rationale of this report is to provide a detailed account of a health financing system that has achieved universal coverage within a very short time. This is important to share with low-income and middle-income countries who are seeking to move towards universal coverage, and have expressed the desire to learn from the experience of others.

This health financing system review of Korea is part of the project on "Developing Health Financing Systems to Achieve Universal Coverage" by the Department of Health System Financing of the World Health Organization (WHO), which is supported by the Korean Foundation for International Healthcare – Dr. Lee Jong-Wook Memorial Fund. WHO has been asked to undertake a detailed review and independent evaluation of the health financing system, taking account of the developments over the past few years, in order to provide practical suggestions of how to further improve the system. Above all, the report seeks to stimulate discussion on the various options that serve to improve health financing performance.

The remaining part of Section I briefly outlines the conceptual framework and methodology. Section II provides an overview of the health financing system, followed by detailed assessments of the tax-based health financing including the Medical Aid

Program (MAP) for low-income people and of the National Health Insurance Corporation (NHIC). This contains an evaluation of the key health financing functions of resource mobilization, pooling and purchasing. Section II also looks at the health financing system's stewardship function, particularly the legal provisions and regulations and at the incentives these set, as well as actual practice in the health financing functions. Section III undertakes a health financing performance assessment by measuring Korea's achievements against defined health financing performance indicators. The final chapter provides a summary and recommendations to strengthen the performance of the Korean health financing system. It also discusses some implementation concerns and future issues that need to be addressed in order for the health financing system to stay healthy.

1.2. Conceptual framework and methodology

The three health financing functions of resource mobilization, pooling and purchasing/provision are key to achieving the health financing targets of 1) sufficient resource collection, 2) financial accessibility, and 3) optimal use of resources, ultimately aiming at achieving and maintaining universal coverage.²

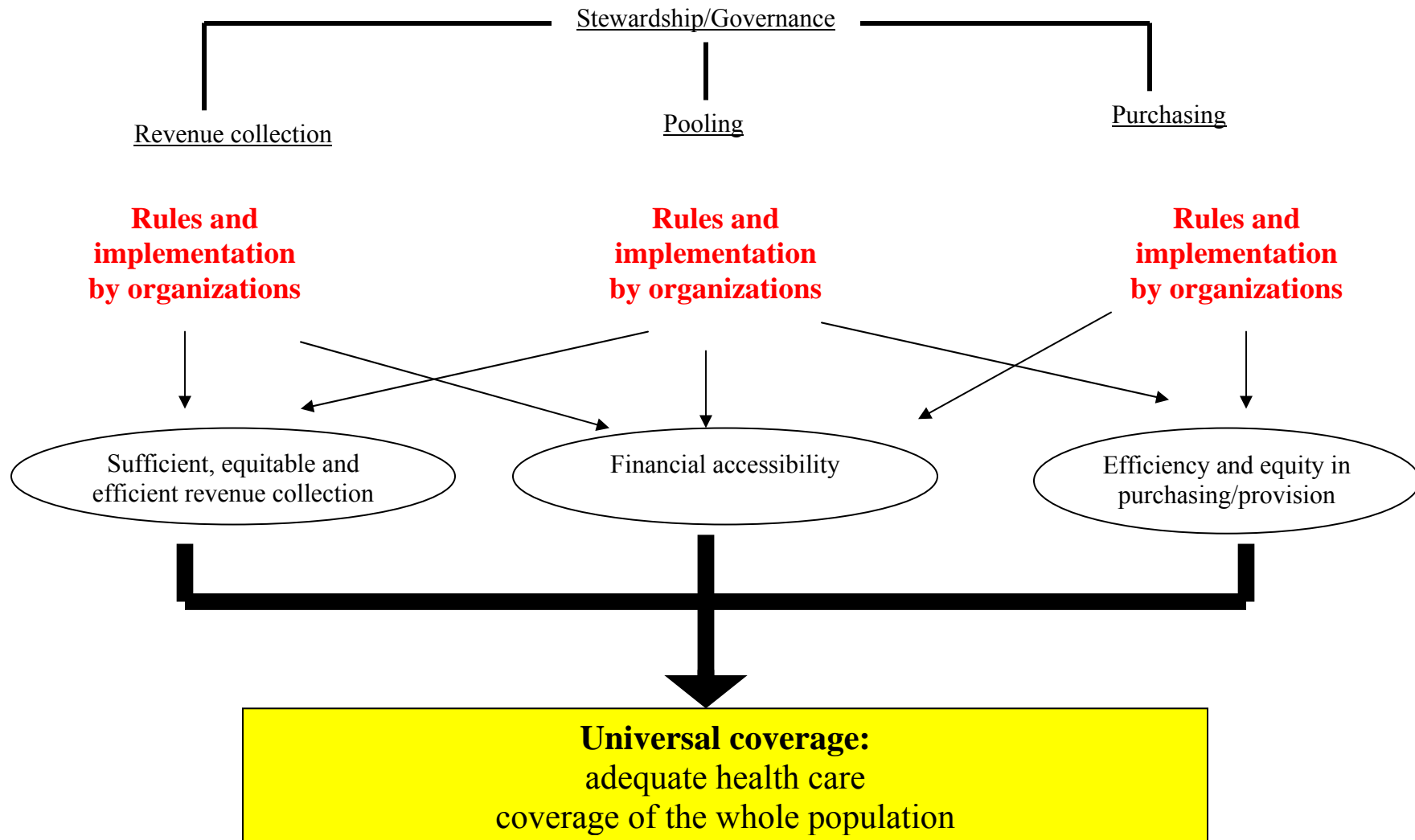
In fact, these targets can be further specified into health financing performance indicators (cf. Carrin & James, 2005 for the selection and rationale of these indicators). For this health financing review, we assess the following key issues:

- level of resource mobilization;
- level of population coverage;
- level of pooling;
- level of financial risk protection;
- level of equity in health financing;
- level of efficiency in benefit package delivery.

The achievement of these health financing targets and health financing performance indicators is contingent upon two features: 1) the underlying institutional design of the three health financing functions or, in other words, the rules operating and related to the incentives with respect to health financing, and 2) the practice of health financing organizations guided or constrained by these rules and the incentives they set. Analysing the institutional set-up and organizational practice helps in assessing the strengths and gaps in the health financing functions. It is the basis for informing policy by identifying ways to improve health systems performance (cf. Carrin et al., 2008, Mathauer/Carrin, 2009). Fig. 1.1 summarizes the conceptual framework that underlies the analysis of the Korean health financing system.

² Universal coverage is defined as access to key promotive, preventive, curative and rehabilitative health interventions for all at an affordable cost, thereby achieving equity in access (WHO, 2005). Universal coverage incorporates two complementary dimensions: population coverage (health care for all). and health care coverage (adequate health care).

Fig. 1.1. Basic components of the conceptual framework



Source: Carrin et al., 2008

To undertake such a detailed analysis of institutional design and organizational practice with respect to health financing functions, qualitative data was collected through detailed discussions and meetings with directors and/or deputy directors of the following organizations and departments (in chronological order):

- Health Insurance Review Agency (HIRA)
 - Review Department
 - Department of Quality Assessment
 - Medical Benefit Standards Department
 - Korean Prospective Payment System Task Force
- National Health Insurance Corporation (NHIC)
 - Enrolment and Collection Department
 - Finance Department
 - Elderly Long-Term Care Insurance Team
 - Department of Insurance Benefits
 - Medical Aid Program Team
- Ministry of Health, Welfare and Family Affairs (MOH)
 - Medical Aid Program (MAP) Policy Team
 - Health Insurance Policy Division
 - Finance and Planning Office
 - Division of Benefit Management
 - Health Insurance Assessment Division
 - Division of Health Care Policy
 - Division of Health Promotion
- Wonju Government Health Centre, Department of Prevention and Promotion
- Korean Confederation of Trade Unions
- Korean Pharmacists Association
- Korean Medical Association
- Korean Insurance Development Institute

The legal provisions and regulations relating to health financing were also analysed. Furthermore, quantitative data from a number of sources was analysed, namely SHA data (System of Health Accounts), statistics from NHIC/HIRA, MAP and KOSIS (Korean Statistical Information Services), as well as the MOH budget. Where possible, data are provided up to 2007.

In addition to the institutional-organizational analysis, data from the Household Income and Expenditure Surveys (IES) from 1995 to 2007 were analysed, feeding into the health financing performance analysis in Chapter 7. The IES collects detailed information on household income and expenditures; including the national health insurance (NHI) contributions by households (the employer's share to the employees insurance contribution are not included).

The IES had a nationally representative sample for the first time in 2006. Between 1996 and 2002, it sampled only urban households. Since 2003, both urban and rural households have been sampled, but single-person households have been included only since 2006. In order to keep the comparability, time-series comparison is based on the same sample frame. For example, time-series results between 1995 and 2007 include only the urban sample.

The interviews with different stakeholders in the Republic of Korea proved very informative to us, as did the detailed contact with Korean experts from academia and government during the study. However, we remain aware that we are outsiders who may not have fully understood all the complexities of the Korean system. We are also aware that the process of health system reform has a large political component, which is the domain of the Korean government and stakeholders rather than us. We, therefore, seek to raise issues and make suggestions based on the technical analysis we undertook, informed by the views of the Korean experts, but we do not venture into the political realm. We hope that these suggestions are useful to policy-makers in Korea.

Chapter 2. The health system

This chapter provides an overview of the health system with its key input variables (infrastructure, human resources, equipment), followed by an overview of health system outputs and health indicators as well as an assessment of health expenditure.

2.1. Health system inputs

2.1.1. Health care infrastructure

Whereas the total number of facilities has substantially increased over the past 16 years, provider types have undergone different developments, as shown in Table 2.1. Hospitals and (private) clinics (western, oriental, and dental) have multiplied, whereas the number of government health centres slightly decreased. In 2007, only 10% of midwifery clinics that existed in 1980 were still in place. The number of pharmacies grew by only 9% over the same period.

Table 2.1. Number of health facilities

	1980	1990	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007
Tertiary/ general hospital	80	230	266	273	268	271	278	288	278	283	283	283	290	296	308
Hospital	239	360	460	483	517	569	630	680	706	780	873	967	1107	1320	1641
Clinic	6363	11,172	14,472	15,056	15,889	16,971	18,519	19,690	21,340	22,728	23,596	24,314	25,180	25,780	26,145
Dental clinic	2028	5350	8341	8797	9274	9722	10,222	10,667	10,861	11,235	11,674	12,194	12,677	13,130	13,493
Oriental clinic	-	3473	5785	6020	6267	6527	6914	7389	7697	8268	8870	9326	9909	10,438	11,005
Health centres	-	3592	3588	3588	3591	3582	3487	3433	3403	3390	3407	3418	3424	3436	3445
Midwifery clinic	509	407	183	160	140	135	122	127	87	82	70	63	52	51	51
Pharmacy	-	18,918	20,415	20,541	19,483	19,689	18,363	19,562	18,372	18,705	19,302	19,847	20,302	20,630	20,730
Total	9219	43,502	53,510	54,918	55,429	57,466	58,535	61,836	62,744	65,471	68,075	70,412	72,941	75,081	76,818

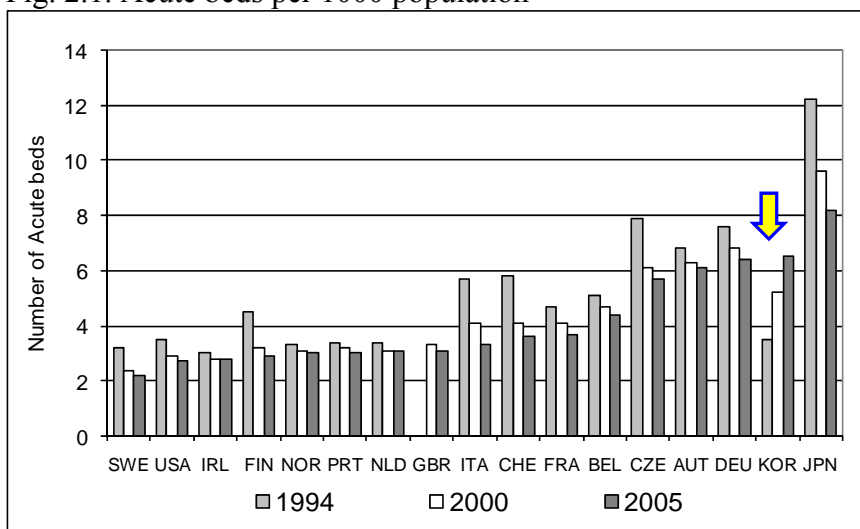
Source: Major indicators of national health insurance for 2001 and 2008; NHIC & HIRA 2008.

Health care provision is dominated by the private sector. In the private sector, clinics can be run on a for-profit basis as well as hospitals that are owned by an individual. Otherwise, hospitals must be run as foundations. In practice, however, many hospitals operate as for-profit entities. The share of private health care has been expanding rapidly in recent decades. Profit margins on health care provision have induced significant investments. Private sector supply met the demand for health care, which grew due to increasing per capita income, expansion of insurance coverage, and higher levels of education. The dominance of private provision is not, of course, unique to the Republic of Korea. Other OECD countries such as Belgium, France, Germany, the Netherlands and Switzerland also have a large private sector engaging in health care provision.

A concern policy-makers reported to us is a perceived lack of coordination between the different levels. Competition is strong between the different levels, perhaps due to lack of functional differentiation between hospitals and clinics. Clinics can have inpatient beds, and hospitals run large outpatient departments (OECD, 2003). Another concern is that rural areas are not equally well served since most private facilities are located in urban areas.

In 1994 Korea owned 3.5 beds per 1000 population which ranked at the lower end of the scale of OECD countries. However, by 2005 the number of acute beds had nearly doubled in Korea while dropping in most other OECD countries. As a result, the number of acute beds had reached 6.5 by 2005 – higher than most OECD countries, such as France (3.7), UK (3.1) and USA (2.7).³ However, with 91% of hospital beds concentrated in urban areas and 80% of the population living in urban areas in 2005, there are again disparities in access between urban and rural areas (MOH, 2006).

Fig. 2.1. Acute beds per 1000 population



Source: OECD health data, 2007

³ In Chapter 2, all comparisons with OECD countries are based on OECD health data.

2.1.2. Human resources

The number of physicians has steadily increased in recent years, as Table 2.2 shows. Currently, some 3000 medical doctors, 900 dentists and 800 oriental medicine doctors graduate per year (key informant).

Table 2.2. Number of doctors

	2002	2003	2004	2005	2006	2007
Western medicine physicians	57,666	60,161	63,201	65,534	68,143	70,230
Dentist	15,548	16,072	17,032	17,771	18,515	19,061
Oriental medicine physicians	10,266	11,215	12,035	12,808	13,523	14,055
Total	83,480	87,448	92,268	96,113	100,181	103,346
Rate of increase		4.75%	5.51%	4.17%	4.23%	3.16%

Source: NHIC (1990-2008)

Table 2.3 shows that the majority of doctors operate in clinics, whereas only 4% of doctors serve in government health centres.

Table 2.3. Number of doctors per facility type (2007)

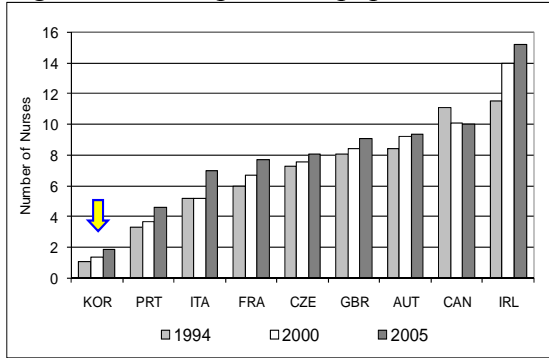
	Total	Physicians	Dentist	Oriental physicians
Tertiary & general hospital	31,618	28,568	1,058	-
Hospital	9538	8227	73	229
Clinic	31,622	31,578	8	-
Dental	17,146	9	17,129	-
Oriental Health Centers	13,165	-	-	13,165
Midwifery clinic	3633	1973	824	757
Pharmacy	-	-	-	-
Total	134,821			

Source: NHIC & HIRA (2008)

A particular feature of the Korean health sector is the very high number of doctors with a specialization – namely 93%, with 72% registered in more than one specialty. Eight per cent are specialized in family medicine, and 62.3% of all specialists are from seven specialties (KMA, 2006). As the Korean Medical Association reports, 70% of doctors at the clinic level are specialists. Kwon (2003b) points out the specific specialties that attract more doctors due to higher remuneration rates.

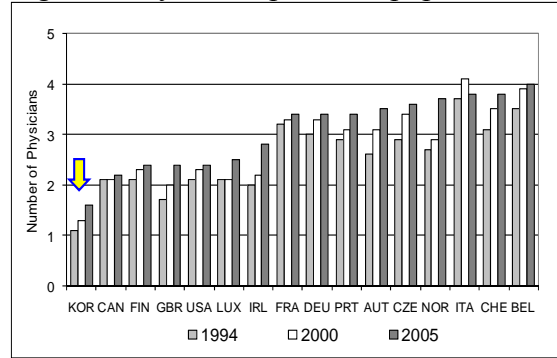
Yet the Korean doctor and nurse population ratios are still lower than in most OECD countries (Figs. 2.2 and 2.3). In 2005 Korea had 1.6 physicians and 1.9 nurses per 1000 population. Again, there are huge urban-rural disparities, as 94.4% of active physicians operate in city areas and 60.9% in metropolitan areas.

Fig. 2.2. Nurses per 1000 population



Source: OECD Health Data, 2007

Fig. 2.3. Physicians per 1000 population

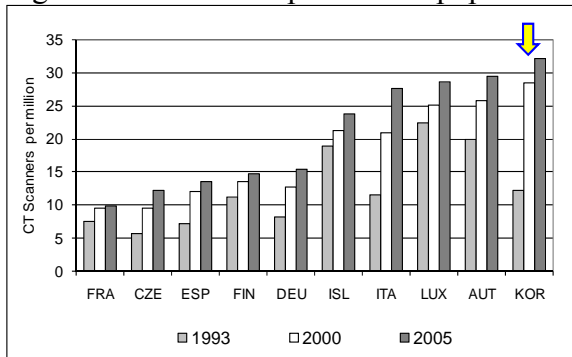


2.1.3. Other inputs

High-technology equipment

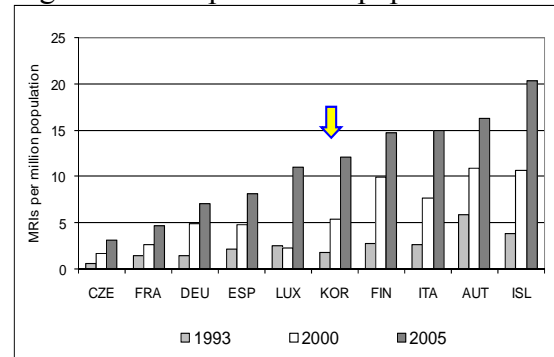
On other measures such as the use of certain specialized equipment, Korea ranks much higher among the OECD countries (Figs. 2.4 and 2.5). CT scanner and MRI utilization increased markedly from the mid-1990s to 2005. The number of CT scanners jumped from 12.2 to 32.2 per 1000 population between 1994 and 2005 while MRIs increased from 1.8 to 12.1 per 1000 population over the same period. The CT scanner has been covered by NHI since 1996 and MRI has been covered since 2005.

Fig. 2.4. CT scanners per million population



Source: OECD health data, 2007

Fig. 2.5. MRIs per million population

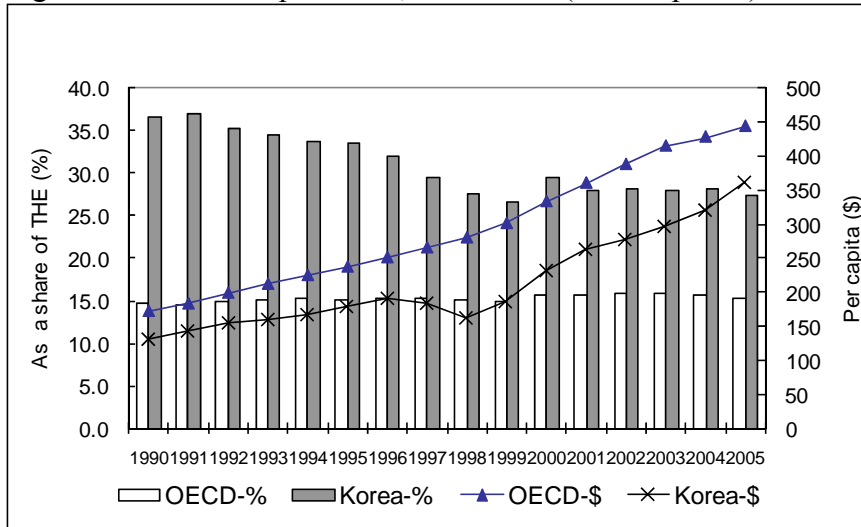


Drugs:

High medicine consumption is another feature that distinguishes the Korean health system from other OECD countries (see Fig. 2.6), even though overall medicine expenditure as a share of total health expenditure in Korea decreased between 1990 and

1999. Yet, Korea's medicine expenditure is nearly at the same level as the OECD average, although the country's total health expenditure is much lower than that of most OECD countries. Pharmaceutical expenditure as a share of total health expenditure was 27.3% in Korea in 2005 compared with the OECD average of 15.4%.

Fig. 2.6. Medicine expenditure, 1990-2005 (current prices)



Source: OECD health data, 2007

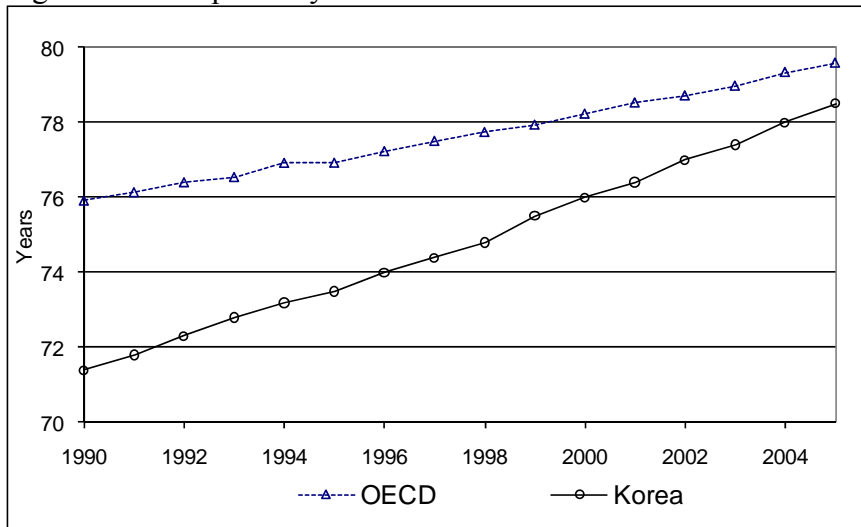
2.2. Health indicators and health system outputs

2.2.1 Health outcomes

Life expectancy and infant mortality rate

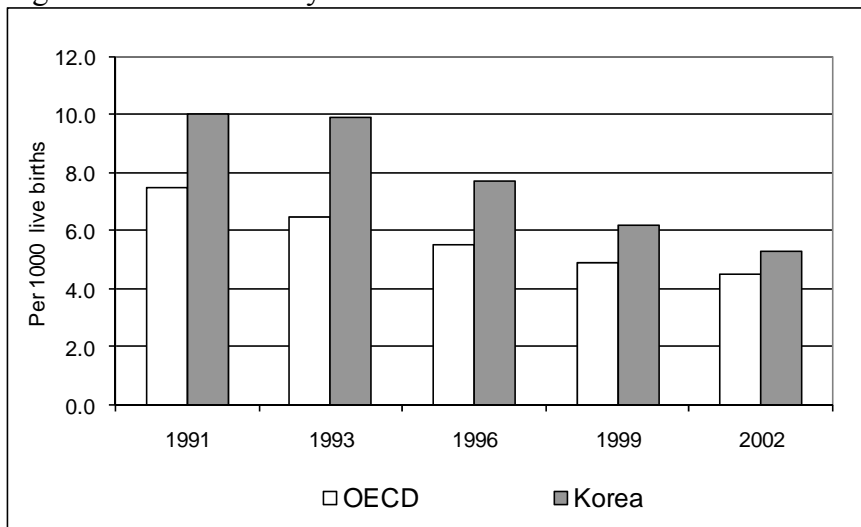
Korea has made substantial progress in improving people's health. Life expectancy increases steadily. In 1990 it was 71.4 years while in 2005 it had reached 78.5 years. The difference in life expectancy between Korea and high-income OECD countries was reduced from 4.5 years in 1990 to 1.1 years in 2005 (Fig. 2.7). The same pattern was observed in the infant mortality rate (Fig. 2.8). In 1991 there were 10 deaths out of 1000 live births, about one third higher than the high-income OECD average, while in 2002 the infant mortality rate had fallen to 5.3 per 1000, less than 1% higher than the OECD average.

Fig. 2.7. Life expectancy



Source: OECD health data, 2007

Fig. 2.8. Infant mortality rate

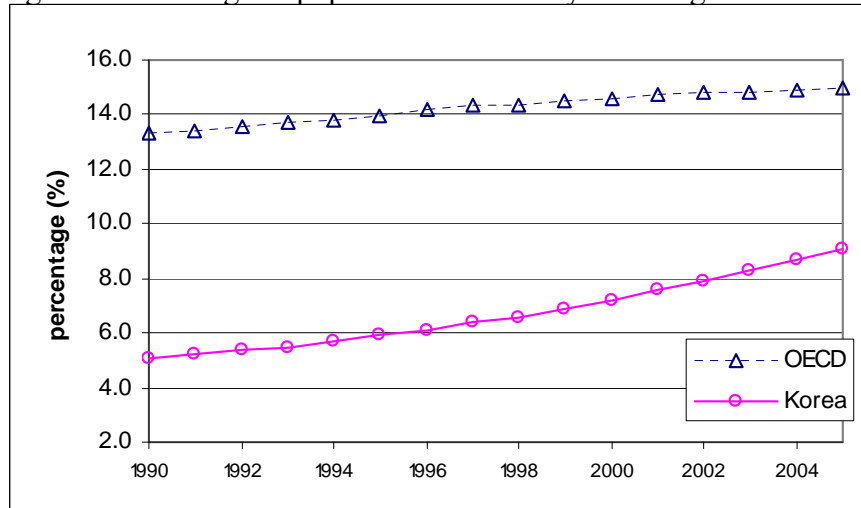


Source: OECD health data, 2007

Population above 65 years of age

The improvement in life expectancy is leading to important demographical changes in Korea. The population above 65 years of age has increased from 5.1% of total population in 1990 to 9.1% in 2005 (Fig. 2.9). This growth rate is much faster than the average of high-income OECD countries. The rapid increase in the ageing population poses challenges for pensions, health care and other social services.

Fig. 2.9. Percentage of population above 65 years of age



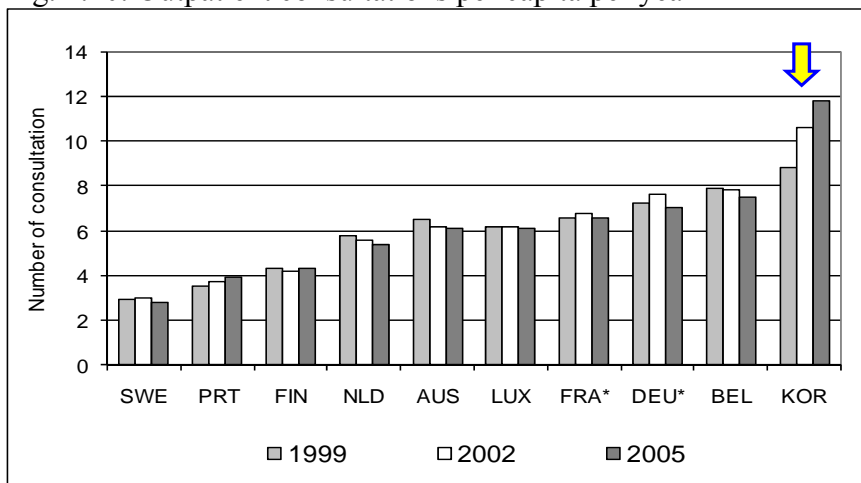
Source: OECD health data, 2007

2.2.2 Health service utilization

Outpatient visits and average length of stay

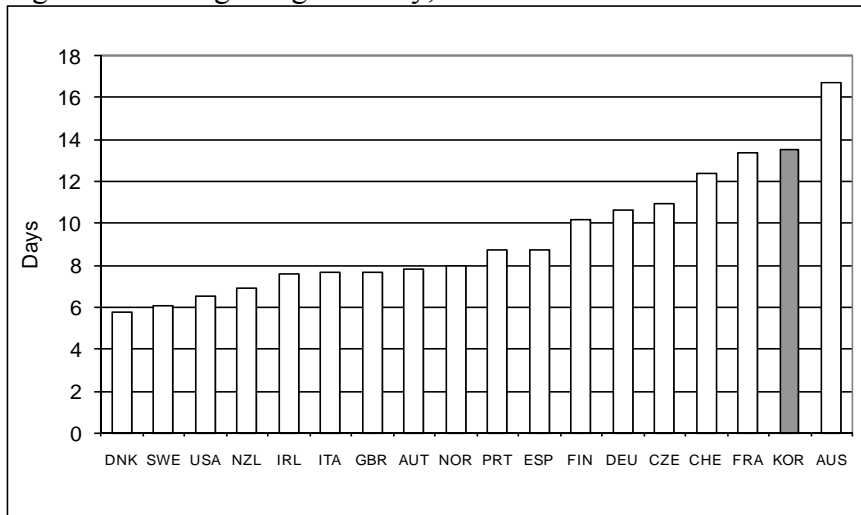
With fewer physicians and nurses compared to other OECD countries, per capita outpatient visits in Korea numbered 8.8 in 1999 and 11.8 in 2005 – higher than in most OECD countries, including Finland, France, Germany, Luxembourg and Sweden (Fig. 2.10). The high outpatient utilization rates reflect people's health care seeking behaviour: people prefer to see a doctor for minor ailments. At the same time, people prefer to seek care from specialists in higher-level hospitals rather than in clinics. It is also common to use both western and oriental medicine at the same time. Similarly, the average length of stay in hospital is also relatively high in Korea. In 2003, it was 13.5 days in Korea while in the USA it was only 6.5 days (Fig. 2.11).

Fig. 2.10. Outpatient consultations per capita per year



Source: OECD health data, 2007; *2004 figures

Fig. 2.11. Average length of stay, 2003



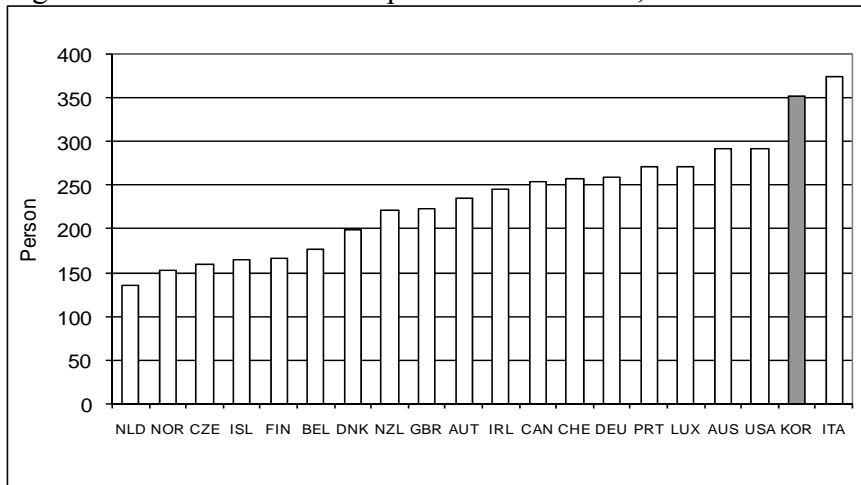
Source: OECD health data, 2007

The NHI extended eligibility for inpatient coverage from 180 days to 240 days in 1995, 270 days in 1996, 300 days in 1997, and 364 days in 2000. The average length of stay continually increased from 1990 to 2006. In contrast, the admission rate is low (NHIC 1990-2008). It is also important to note that households in the lowest income quintile have a higher prevalence of three or more chronic conditions (Ruger & Kim, 2007; data from the 1998 Korea Health and Nutrition Survey) so would need more hospitalization than other income groups in theory.

Caesarean section

Caesarean section has been covered by NHI since 2002 (NHIC & HIRA 2007). The rate of caesarean section is much higher in Korea compared with other high-income OECD countries (Fig. 2.12). Out of 1000 live births, 352 babies are born by caesarean section in Korea. The recommended figure by WHO is 5-15% (WHO-UNICEF-UNFPA, 1997). However, over the past years, the authorities have been successful in reducing the rate through a combination of measures.

Fig. 2.12. Caesarean sections per 1000 live births, 2004



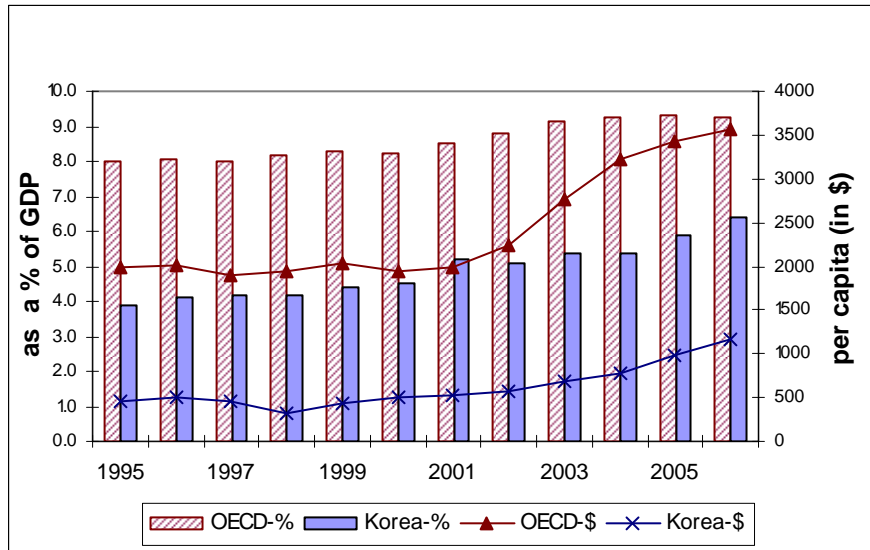
Source: OECD health data, 2007

2.3. Health care expenditure

Total health expenditure as a share of gross domestic product and per capita health expenditure

As in many other countries, health expenditure is raising faster than gross domestic product (GDP). Compared with the other high-income OECD countries, Korea has relatively low health expenditure measured in both absolute terms and as a share of GDP (Fig. 2.13). The total health expenditure as a percentage of GDP was 3.9% in 1995 and 6.4% in 2006 while the average in high-income OECD countries increased from 8.0% to 9.3 % over the same period. Per capita health expenditure in Korea was US\$ 1168 in 2006 compared with US\$ 3575 for high-income OECD countries. It is worth noting that from 2000 to 2001 total health expenditure increased 0.7% as a share of GDP in Korea. However, this growth rate moderated during 2001-2004. Another surge in health spending was observed in 2005 and 2006.

Fig. 2.13. Health expenditure, 1995-2006 (current prices)

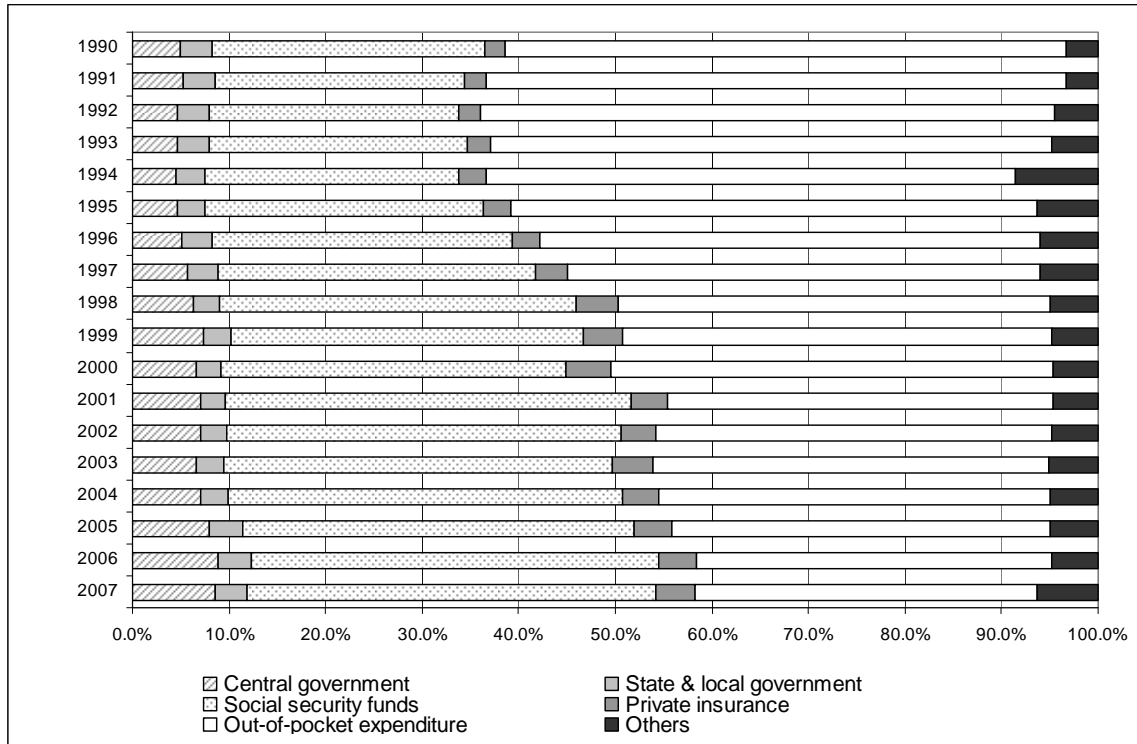


Source: OECD health data, 2008

Health expenditure by sources of financing

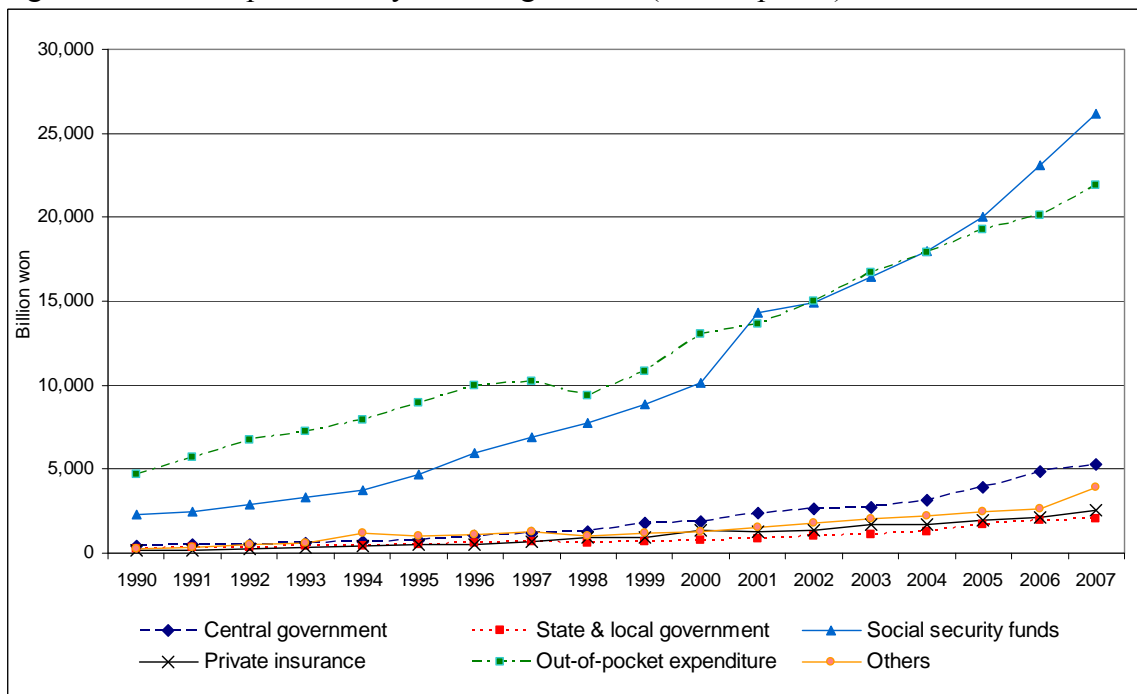
Korea has low public spending on health and high out-of-pocket payments by OECD standards. Out-of-pocket expenditure as a share of total health expenditure is about 17% in high-income OECD countries, while in Korea the figure was around 38% in 2005. However, the share of out-of-pocket expenditure in Korea's total health expenditure has decreased steadily over the years. This is offset by an increase in prepayment, mainly from NHI contributions (see Fig. 2.14). Spending on health by different levels of government is relatively small.

Fig. 2.14 Structure of total health expenditure



Source: data from Jeong (2009a)

Fig. 2.15 Health expenditure by financing sources (current prices)



Source: data from Jeong (2009a)

During the economic crisis in 1997 and 1998, out-of-pocket expenditure decreased while the NHI contribution and general government spending continued growing at the same pace. As a result, the out-of-pocket share of total health expenditure decreased. The share of NHI contributions in total health expenditure increased immediately after the two major reforms in 2000.

2.4. Summary

Korea has achieved great gains in health during the past 30 years. This may be attributed to both steady economic growth and rapid health system development. Korea spends less in both financial and human resources for health compared to other OECD countries. However, it utilizes more equipment, particularly high technology devices. Koreans also use more services as measured by outpatient visits per person and average length of stay in hospitals. Utilization of caesarean section is also much higher than in other countries. Expenditure on medicines is higher in Korea compared with the other OECD countries, although the overall trend of spending as a share of total health expenditure has been decreasing gradually.

Out-of-pocket health expenditure was reduced during the economic crisis of 1997, but soon returned to its previous level. Overall, out-of-pocket payment as a percentage of total health expenditure has been steadily decreasing.

Section II. Institutional and organizational analysis of the health financing system

Chapter 3. Overview of the health financing system

3.1. Korea's rapid move to universal coverage

Korea achieved universal population coverage only 12 years after the amendment of the Medical Insurance Act in 1977. Starting with industrial workers in companies with more than 500 employees, mandatory membership was gradually extended to other population groups until covering the whole population in 1989. According to Yang (2001), the establishment of and move to NHI was reached with little political, economic or social resistance. In fact, given the widening gap in health care utilization between the insured and non-insured, the latter group exerted pressure on the government to expand population coverage (*ibid.*).

Until 2000, SHI was based on 370 insurance societies for specific insurance groups related to profession (industrial workers, government employees and teachers) and location (for the self-employed). The insurance societies operated as purchasing agents, and remunerated providers on the basis of a fee-for-service scheme.

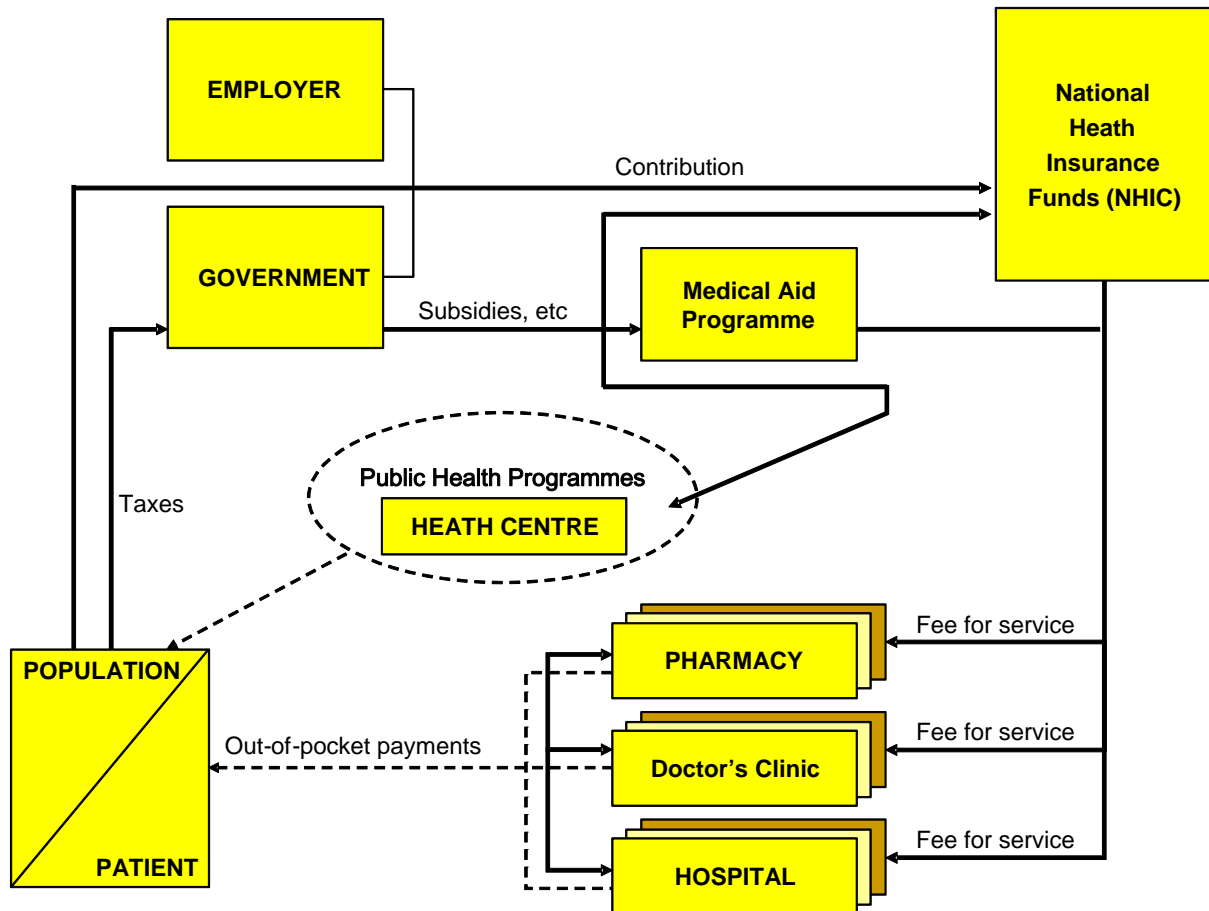
The government committed to subsidize 50% of the benefits of the self-employed (SE) insurees, and while the total amount of government subsidies grew, the amount decreased as a proportion of total expenditure which grew more rapidly than the subsidies (Kwon, 2003a). In 1988, the government established a fiscal stabilization fund to address the chronic financial instability of many of the health insurance societies. Through this fund, contribution revenues were reallocated across the insurance societies for risk equalization based on the level of catastrophic expenses and the proportion of people above 65 years (*ibid.*).

The SHI system has been characterized by low contribution rates and a relatively limited benefit package, coupled with relatively high out-of-pocket expenditure by OECD standards. Despite this, there have been major improvements. In 1980, out-of-pocket expenditure amounted to 73% of total health expenditure and, although still relatively high, it had fallen to 33% in 2007. The logic of extending coverage through low contribution rates and low benefit coverage was successful insofar as it enabled Korea to cover the entire population with insurance within a short time. Some of the possible problems that emerged from this rapid expansion in coverage are considered in subsequent chapters.

3.2. Key health financing actors

The following figure provides an overview of the health financing system.

Fig. 3.1. The health financing system



Source: OECD, 2003 (updated)

NHIC, MOH and subnational governments provide the core financing of the Korean health financing system, together with relatively high out-of-pocket expenditure.

The Ministry of Health, Welfare and Family Affairs (MOH)

The MOH is in charge of supervision and management of the overall health financing system (MOH, 2006). The Health Insurance Policy Department reviews and formulates the health financing policy. The MOH is also in charge of both promotive and preventive health care and is responsible for social welfare programmes such as the Medical Aid Programme (MAP).

The legal basis for MAP is the 1977 Medical Aid Act. It is an accompanying programme for needy Koreans who are beneficiaries of the Korean livelihood programme and thus unable to pay contributions to NHI. A person or a family must be registered and recognized by the livelihood programme in order to benefit from MAP.

National Health Insurance Corporation (NHIC)

NHIC as the largest health financing agent offers primarily curative care, although particularly in recent years it has included some preventive health care services (health screening). NHIC is the organizational outcome of the merging of the different insurance societies and corporations into one single insurer. All Koreans are mandatory members of NHI, other than the MAP beneficiaries. NHIC is in charge of the collection of contributions, purchasing and provider remuneration.

With 10,000 staff employed in 2007, NHIC operated 16 departments at its headquarters, including a research institute, an office of audit and a national call centre. It had six regional headquarters, 178 branch offices and 54 customer centres to provide easy access to customer services (NHIC, 2007).

Health Insurance Review Agency (HIRA)

With the implementation of the NHI Act, the Health Insurance Review Agency was established in July 2000 to provide an independent review of claims with respect to medical fees and adherence to standards. HIRA is also in charge of both reviewing the provider remuneration system and the benefit package through health technology assessments as well as undertaking pharmaco-economic evaluation, managing information about medical care institutions and conducting research. Furthermore, it undertakes quality assessments of providers. As of 2008, HIRA had 1749 staff working in 12 departments, with 38 divisions at headquarters and seven regional branch agencies (HIRA, 2008a), including a research department. As an organization delivering services for the NHIC, it receives its funding from NHIC, which amounts to approximately ₩136,000 million in 2007 (NHIC & HIRA, 2008).

Private health expenditure

Until now, private health insurance has focused primarily on providing lump sum payments upon the diagnosis of a specific disease, thus reducing people's out-of-pocket burden. The so-called private SHI (car insurance) comes into play for car-related injuries.

Out-of-pocket expenditure is significant in the Korean health financing system. Regulated rates of cost-sharing (i.e. co-payments by patients) apply to NHI-covered services.⁴ Services that are not covered have to be purchased directly by individuals or households, as is the case for specific, costly high-technology services for both curative and preventive health care.

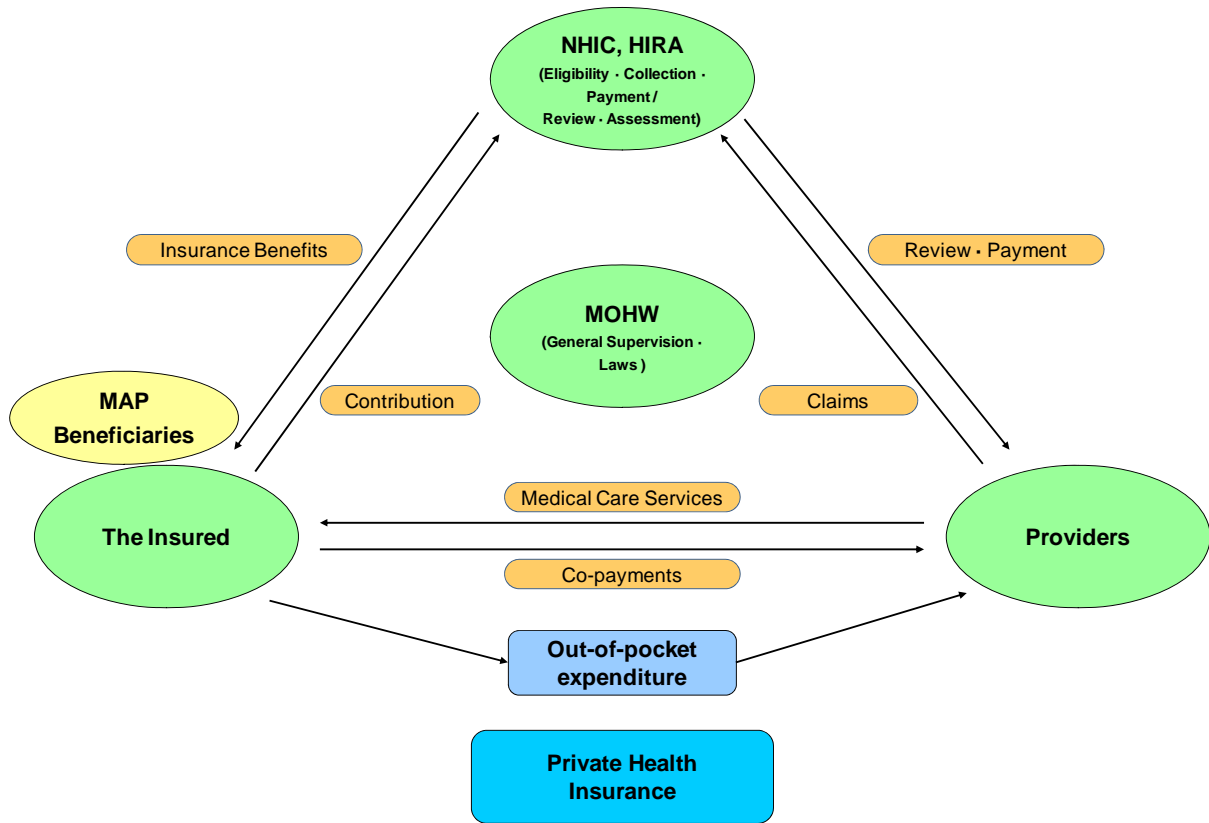
Other

A marginal share of social security funds (2.0%) comes from the compulsory Industrial Accident Compensation Insurance, contributions of which are paid by employers only.

⁴ This report uses the term “cost-sharing” in the sense of co-payments by patients.

Fig. 3.2 provides an overview of relationships of health financing actors and providers with NHIC.

Fig. 3.2. Relationships among health financing actors and providers



Source: NHIC, 2007 (modified)

3.3. Previous health financing reforms and remaining key issues

Due to the many challenges that the health financing system faced, the government had introduced important reforms. The major ones are described below.

Integration reform of 2000

Before 2000, the SHI system was characterized by a multiple payer structure but after 1998 the 300 insurance societies were merged in stages. In 2000, the final merge to one national single payer was realized. The separate accounts for the self-employed and the employed were finally merged in 2003. The integration reform was an important step in overcoming fragmentation of the system. It is legally incorporated in the 2000 NHI Act.

Reforms in the remuneration system

The operating fee-for-service scheme was modified in two ways. The introduction of resource-based relative values (RBRVs) resulted in some modification of the fee rate schedule in 2003, with further revisions since 2007. Over a series of demonstration projects, DRGs were eventually introduced for a number of selected cases on a voluntary basis. The legal provisions for the modifications in the payment system are based on general MOH ordinances. These changes were accompanied by resistance from the medical and hospital associations.

Separation reform of 2000

The separation reform foresaw a complete separation of the prescription function at medical institutions and the dispensing function at pharmacists. Pharmacies could no longer be located within the business perimeters of a physician's clinic. Only in rural and remote areas with under-provision of medical institutions can patients receive medicines at a pharmacy without a prescription from a doctor. The legal provision for the separation reform is the revised Pharmaceutical Affairs Law (mainly Art. 23) (see Box 3.1 for the background to the separation reform).

Box 3.1. Background to the separation reform

Pharmaceuticals have been covered by NHI since 1989. (Kwon, 2003c). Physicians and pharmacists could both prescribe and dispense medicines. The NHI provider payment system remunerated physicians for the medicine dispensed at a higher rate than their actual costs, in order to accommodate physicians for the lower medical fees rate, as argued by Kim et al. (2004). Thus, doctors could make profits through the dispensing (sale) of medicines, the profit of which was not taxed. While the maximum profit margin should not have surpassed 24%, this was never enforced by the government (Kwon, 2003c). Hence, physicians were guided by the incentive to prescribe and dispense as many medicines as possible. As such, doctors substituted medicines and medical supplies for their own services. This led to the large-scale practice of illegal discounts and volume incentives, together with rebates and tax evasions (reference). As such, the medicine-related revenues in physicians' clinics amounted to 40% (Kwon, 2003c).

This had severe consequences, namely a very high medicine prescription rate (86% for NHI patients), a particularly high rate of prescribed antibiotics (59%) and high-cost injections, culminating in high rates of antibiotic resistance compared with other OECD countries and the OECD average (OECD, 2003; Kim et al., 2004; Lee, undated). In consequence, medicine expenditure in Korea was very high with respect to OECD averages – 25.9% in Korea against 17.1% on average in OECD countries in 2006 (Jeong, 2008a). Another criticism of this remuneration system was that there were no checks and balance between pharmacists and physician, allowing for the misuse of medicines, as well as the limited access of consumers to prescription information.

In view of these challenges, the government had long intended to separate the prescription and dispensing functions but initially failed due to the resistance of physicians (cf. Jeong 2009xx for a detailed analysis of the reform process). In 1999, however, the separation reform was passed and implemented in 2000. This reform foresaw a complete separation of the prescription function at medical institutions and the dispensing function at pharmacists. Pharmacies could no longer be located within the business perimeters of a physician's clinic. Only in rural and remote areas with under-provision of medical institutions can patients receive medicines at a pharmacy without a prescription from a doctor.

Background to the separation reform (cont.)

The separation reform had several objectives (cf. OECD, 2003; Kim & Ruger, 2008), namely:

- rationalizing medicine prescription and medicine consumption, thus reducing medicine expenditure;
- improving patient rights to information through a checks and balances system between physicians and pharmacists, ultimately reducing asymmetric information between patients and physicians;
- improving the efficiency of the medicine industry and medicine distribution.

This separation was also applied to injection medicines. However, in November 2001 these medicines were excluded again from the separation reform, as it was considered to be inconvenient for a patient to buy the injection at a pharmacy and then come back again to the physician for its administration/application (Lee, undated).

Introduction of long-term care insurance

Even though Korea's society started ageing late compared to western nations, the country is now experiencing the most rapid ageing process (Cho, 2005; Park, 2007) (see also Fig. 2.9.). In 2010, the proportion of the population over 65 years of age is estimated to be 10.7% and is predicted to reach 22.5% in 2030, resulting in high old-age dependency ratios (Kwon, 2008). The number of elderly who need long-term care services is thus rapidly increasing, also because of the increased prevalence of chronic diseases (Park & Kim, 2008; Cho et al., 2004) (see Box 3.2 for further background information).

To address this challenge and to reduce the socioeconomic burden, Korea responded with the introduction of a long-term care system for the elderly through various pilot schemes. A nationwide long-term care insurance was introduced in July 2008.

Box 3.2. Background to the introduction of long-term care insurance

About 20% of the elderly require long-term care, although in different degrees according to their level of dependency (Kwon, 2008). Yet the number of elderly who do not have a family member to care for them increased from 26% in 2001 to 63.1% in 2004 (MOH & NHIC, 2008). This situation must also be seen within the context of increased female labour participation (Lee, 2008). According to a study by Kim et al. (2005), demand for long-term care is about five times higher for those living in rural areas.

Total long-term care expenditure in 2006 was ₩1.1 trillion, which is 0.13% of GDP. ₩0.57 trillion where spent on long-term health care expenditure – i.e. 1.0% of total health expenditure. This is very low and only about a tenth of OECD averages since 85% of long-term care health expenditure was spent at hospitals and the rest at long-term care facilities (Jeong, 2008b). Until 2008, many elderly with long-term care needs were cared for in acute hospital beds and, in combination with social admissions, this contributed to the negative financial impact on NHIC (cf. Kwon, 2008; Cho et al., 2004; Cho, 2008).

Despite these important and major reforms, some critical challenges remain. These are the financial stability of NHIC, the appropriateness of the benefit package, and the provider remuneration, which will be further discussed in the following chapters.

Chapter 4. Tax-based health care financing

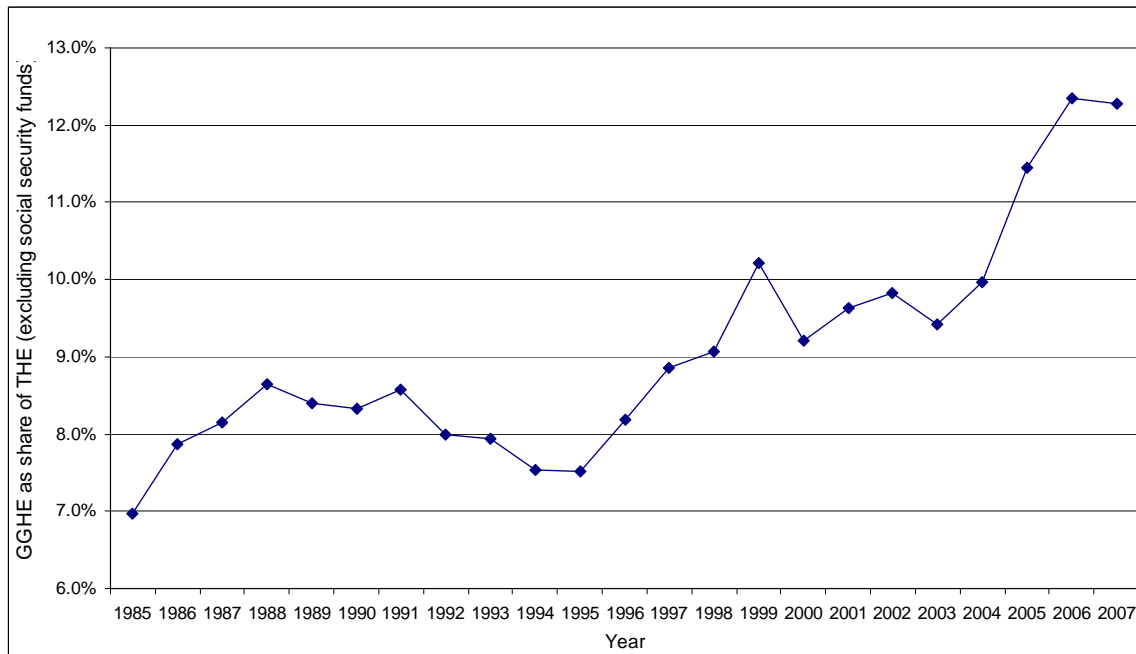
4.1. Resource mobilization

The following percentages show the scope of tax-based health financing for the year 2007 (Jeong, 2009a, WHO, 2008):

General government expenditure on health as a share of total health expenditure:	54.9%
General government expenditure on health (excluding social security) as a share of total health expenditure:	12.3%
General government expenditure on health as a share of general government expenditure:	12.5%
General government expenditure on health (excluding social security) as a share of general government expenditure:	2.8%

General government health expenditure (from all levels of government) as a share of total health expenditure increased from around 7% in 1995 to more than 12% in 2007 (see Figure 4.1).

Fig. 4.1. Government expenditure on health (excluding NHI) as a share of total health expenditure



Source: based on data of Jeong (2009a)

According to key informants, health has received a lower priority in decisions about overall government expenditure than both education and private sector development.

In 2007, general government health expenditure excluding social security contributions and government transfers to NHIC amounted to ₩7.5 trillion (Jeong, 2009a). Of this, 63% is administered by the MOH, 14% by provincial governments, 14% by local governments, and 9% by other ministries (e.g. the Ministry of Justice which finances medical facilities for prisoners). Excluding the allocation to other ministries, these funds are mainly spent on MAP for low-income Koreans who are unable to contribute to the NHI scheme. Table 4.1 shows the other key expenditure areas. This also reveals that government facilities do not receive any specific government funding for offering curative care services.

Table 4.1: Public health expenditure in 2007*

Purpose:	Share:
MAP	51.4%
Long-term care	4.3%
Ancillary services	1.4%
Capital formation	12.3%
Prevention and public health	9.1%
MOH administration	13.8%

* Here, public health expenditure excludes the funds going to "other ministries"

Source: calculations based on data from Jeong (2009a)

In 2007, total health care spending on health prevention and promotion amounted to 1.9%. This is mainly funded by direct government payments (59.9%) and the NHI (37.2%) (Jeong, 2009a). Some preventive and promotive health care activities such as immunization are 100% financed by the central government, whereas other services such as tuberculosis and mental health care are jointly financed by different government levels. In 2006, the last year for which comparable data are available, the OECD average spending on health prevention and promotion was 2.6% against 1.7% for Korea, although Korea has been moving closer to the OECD average in recent years.

In 2007 ₩5.1 trillion were transferred from the general government budget to NHIC for the following purposes:

- government subsidies for NHI (71.9%);
- government contributions for its employees and subsidies for contributions of private school teachers (28.1%) (calculations based on Jeong 2009a).

One of the government health financing sources is the Health Promotion Fund, which is based on a tobacco tax. It combines *ad valorem* and specific tax regimes. Revenue from the specific taxes, levied according to the purchased volume of the product, are used to finance health. The total amount collected is ₩1.6 trillion, of which ₩1.0 trillion are transferred to NHIC and the remaining ₩0.6 trillion is spent by the MOH on health promotion and general health services (MOH 2008).

Some of our key informants criticized the Health Promotion Fund for only partially using the revenue for preventive and promotive health care with the rest going into general government revenues. Although the revenues from sin taxes such as this can be an

important source of financing health promotion and prevention, there is no *a priori* reason to exclude sin tax revenue for other purposes, including specific types of curative care or general government revenues. This is a political decision for the government.

Sin taxes have also been said to be regressive in that the poor smoke more than the rich, so pay more than the rich. Yet, health economics provides a rationale for applying sin taxes despite this. First, they will reduce the rate of smoking among the poor so that the poor will benefit in terms of improved health much more than the rich. To this extent, they could be considered as progressive. Secondly, sin taxes are a way to adjust market prices for the external costs or harm inflicted on society, including passive smoking and future health care costs (cf. Folland et al., 2004).

Such specific taxes can also be levied on alcohol, casino visits, some luxury items or other products that are harmful to health such as foods with high sugar, fat or salt content. This is beginning to happen in other countries, and the government of the Republic of Korea might like to consider if this is a useful way of raising revenue for health, while improving the health of the population.

4.2. Pooling and degree of fragmentation in tax-based health financing

As in any decentralized system in which local governments are in charge of funding certain health care services, inequities across regions may occur since some local governments may spend more on health than others. As local governments mainly fund health promotion and prevention, possible differences may be less visible to citizens. If there is concern about this issue, a more detailed assessment of health care spending and health care needs across regions may be necessary.

The existence of clear eligibility criteria for the livelihood programme ensures in principle that the needy in all regions have the same chance to become MAP beneficiaries. The large share of central government funding for the MAP also ensures that local governments with a higher share of livelihood beneficiaries are not overburdened.

4.3. Benefit package

Preventive and promotive health care provision at government health centres includes the following services:

- health education and health promotion, including nutritional education;
- immunization;
- family planning;
- physical exercise;
- counselling on stopping smoking;
- tuberculosis/pneumonia care;

- newborn care;
- maternal and child health;
- chronic diseases (e.g. hypertension, diabetes);
- cancer management programmes;
- prevention of communicable diseases.

In addition, the health centres also offer curative and oriental care.

This means that the division of labour between the government provision of health care and NHI's benefit package may not be fully clear any longer, particularly with regard to health screening and health promotion activities. It would be useful for policy-makers to keep an eye out for possible ways to avoid or reduce duplication.

MAP beneficiaries receive the same benefits as NHI members, with a few exceptions.⁵ Yet, there has been criticism that the MAP stigmatizes the beneficiaries who may be identified as livelihood beneficiaries both in front of other patients as well as by the provider. Therefore, reflections and discussions have been under way as to whether the MAP programme should be merged with the NHI.

4.4. Purchasing and payment mechanisms

Public health centres are run by municipalities. Some of the public hospitals are run by provincial governments. Within these hospitals, doctors are remunerated by salary, sometimes combined with performance bonuses.

For health prevention and promotion, publicly-owned facilities (hospitals and health centres) receive their funding through (programme) budget allocations from both the MOH and the provincial and local governments. For some health programmes, facilities are accountable to both the central government and the subnational authorities, whereas for other programmes there is a clear division.

All curative care is financed through NHI, in addition to cost-sharing with households and other out-of-pocket expenditure households must make. A more detailed discussion of NHIC's purchasing structure and provider payment mechanisms is provided in Chapter 5.

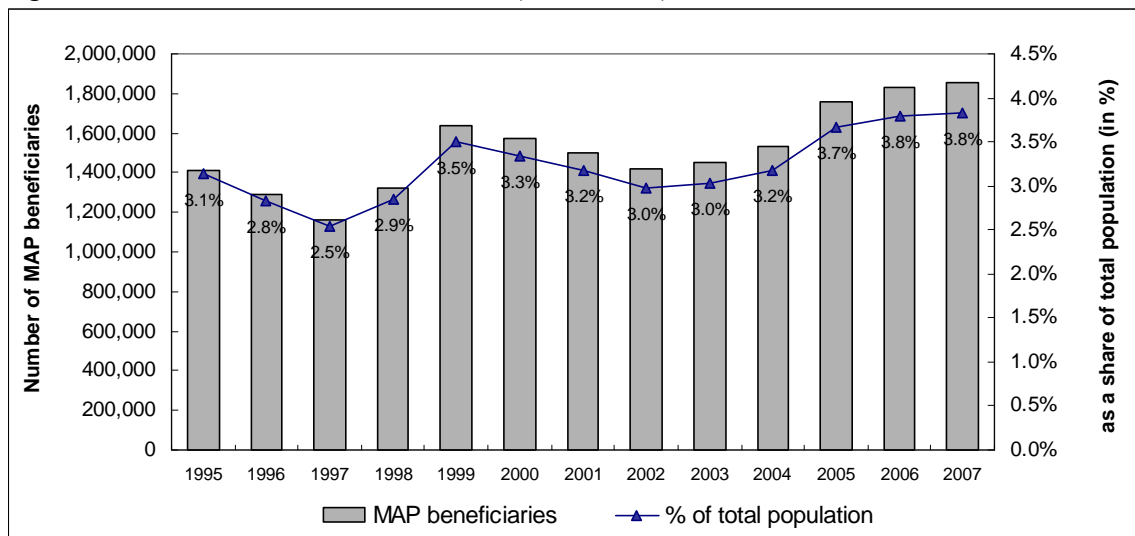
⁵ For example, the medical fee rate for mental care is lower and there are different adjustment rates for clinics and higher levels of care.

4.5. Medical Aid Program

4.5.1. MAP membership: identification of the needy

There were 1.85 million beneficiaries (i.e. about 3.8% of the population) in MAP in 2008. Fig. 4.2 reveals that the number and percentage of beneficiaries have slightly increased over the past years. It was argued by some of the key respondents that the current number of beneficiaries is low compared to the real size of the needy population. According to them, it would be desirable to increase the number of livelihood/MAP beneficiaries to 7-8% of the population. This is relatively consistent with data from 1998 which suggests that 12% of Koreans had an income at or below the poverty line (MOH, 1999 in Ruger & Kim, 2007).

Fig. 4.2. Number of MAP beneficiaries (1995-2007)



Source: KOSIS, 2007

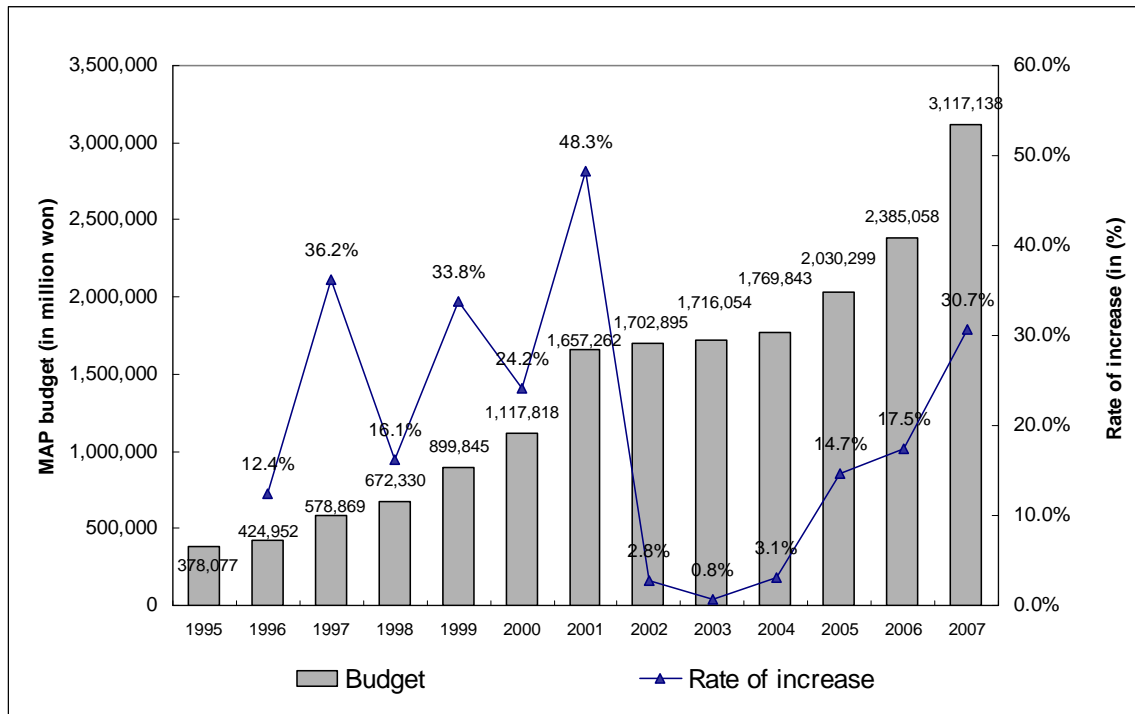
A person or family is eligible for the livelihood programme if their monthly income (monetary income and value of assets) is below ₩463,047 for one person, or below ₩1,026,603 for a household of four persons. The livelihood programme beneficiaries receive a monthly subsidy which is determined by the basic livelihood security committee (MOH, 2008). Potential beneficiaries of the livelihood programme must apply to become recognized. Their application is checked by the regional/city/local administration office. MAP means-testing is based on income and property. Inspection of households takes place once or twice a year, or after a family has moved, in order to reduce the inclusion of those not eligible. Eligible persons also have to work in a public programme to prove to the administration that they are needy and not otherwise earning their income. Local governments employ social workers who assess their local communities in order to avoid excluding needy people.

There are two types of MAP beneficiary. Households without a working person are considered as “type 1” members. Previously, they were exempted both from paying contributions as well as from cost-sharing. Since 2007 a specific cost-sharing schedule has been in place for them. Households with a person who is capable of working are considered as “type 2” members. The cost-sharing schedule applied to them is higher than for type 1 members but lower than for regular NHI beneficiaries (see Table A1, Annex).

4.5.2. Medical Aid Program funding

The MAP is fully financed by government, except for the cost-sharing by beneficiaries described above. Some 80% of resources come from central government, and the remaining share from municipal and local governments. Both central and local governments transfer their respective funding to the 16 provincial governments that operate MAP funds. NHIC manages part of MAP on behalf of the government by acting as a purchaser, thereby remunerating providers for services. HIRA undertakes the review of claims. NHIC is then refunded by the provincial governments. When the resource allocations are insufficient, an additional budget needs to be approved by the parliaments of the central and local governments and will then be reflected in the following year's budget. Fig. 4.3 shows that MAP expenditure has increased significantly, particularly in 2000 and then again since 2004, with the 2006 amount being about six times higher than that of 1995.

Fig. 4.3. MAP expenditure (1995-2007) (constant prices in 1995)



Source: NHIC & HIRA statistical yearbooks

The increase in expenditure can be explained by a number of factors:

- The number of MAP beneficiaries increased by 31% from 1995 to 2007.
 - The proportion of elderly people (who are likely to need more health care visits) increased substantially among the beneficiaries.
 - Per capita utilization rates of MAP beneficiaries have multiplied: 3.6 times for the number of inpatient days (from 1995 to 2007) and 2.6 times for outpatient visits (from 1995 to 2006).
 - The average claims amount per beneficiary increased about five times from 1995 to 2007 (in constant prices), whereas medical fees increased only by the factor 2.3, suggesting that more services per claim have been provided by health facilities (see also Fig. 7.2)
 - The benefit package expanded (cf. Chapter 5).
- (MOH: MAP statistics)

Chapter 5. National Health Insurance Corporation

5.1. Resource mobilization through NHIC

The ability to raise resources by NHIC is determined by the size of the membership, the level set for contributions, as well as the ability to collect contributions. This section assesses the legal provisions and the practice. Currently, the various social security programmes (health insurance, unemployment insurance, pension) operate separately (i.e. they have different rules and procedures for collecting contributions). However, discussions are under way to harmonize and merge these processes (Jang, 2007). With NHI being the best developed scheme, according to stakeholders, the future harmonization process should take into account the institutional strengths and weaknesses of NHIC's contribution collection process, as outlined in this chapter.

5.1.1. Enrolment and membership basis

NHI covers 96.4% of the population (NHIC, 2007), while the remaining 3.6% (1.76 million people) are covered by MAP. NHI membership is mandatory. There are two categories of NHI insurees – the employees and the self-employed (cf. Article 6, NHI Act 1999).

- All employees, including employers, that is "owners of workplaces" are considered as employee insurees. This comprises industrial workers, government employees and teachers. This insuree category will be abbreviated as "EE" (employees) in the remainder of this document.
- The second category includes the self-employed, daily workers who are employed less than one month a year, military personnel and elected public officials without a monthly salary. Likewise, "workers and employers, public officials, and school employees as prescribed by the Presidential Decree [...]" form part of this category. The latter group refers to part-time workers (less than 80 hours a month), temporary workers, workers without a fixed work location, as well as the employers of (only) such workers, as per Article 10 of the Presidential Decree of the National Health Insurance Act 1999. This insuree category will be abbreviated as "SE" (self-employed).

Employees with contracts of less than 24 months can also be enrolled as SE insurees or, depending on their age, as EE dependants. This provides a strong incentive to businesses to employ staff on contracts of less than 24 months in order to avoid paying the employer's share of the contribution rates for the employees.

The number of companies with registered employees (EE insurees) has been rising rapidly over the past years because certain professions such as lawyers are no longer classified in the SE category. As a result, the number of EE insurees has increased from 23.2 million in 2001 to 29.4 million in 2007, and the proportion of SE insurees has decreased from 50% to 38%.

Employees are automatically enrolled by their employer. The NHIC register for employees can be easily compared with the records database of the Ministry of Public Administration, which key respondents considered to be quite comprehensive in comparison with that of other countries. With the rapid increase in the number of companies eligible for registration with NHI, more insurees have been added than before. SE insurees have to report their particulars to NHIC when they become eligible for insurance. In previous years, enrolment of SE workers was more difficult, requiring monitoring and enforcement measures, but this has improved and enrolment practice has become institutionalized, according to key informants.

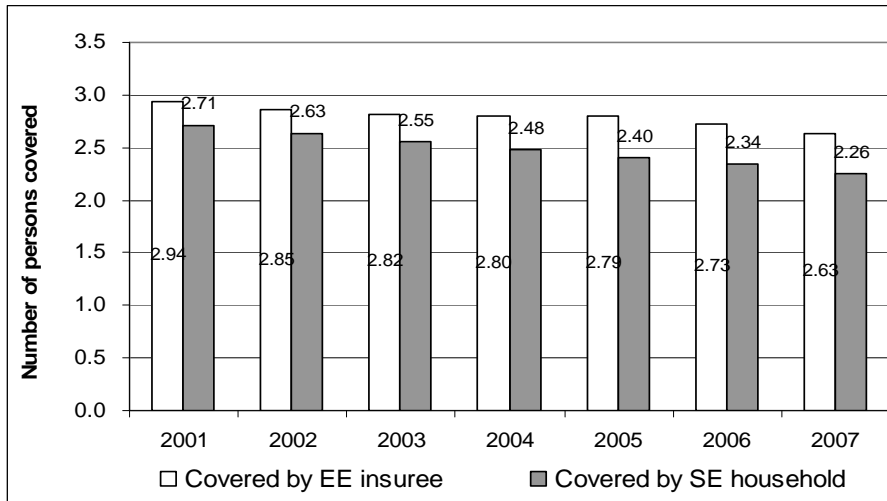
Within the EE group, the following categories of dependents are covered via the principal insurance member, although they do not have to live within the same household:

- linear descendants;
- linear ascendants of both spouses;
- brothers and sisters of the principal insuree if they do not have their own income.

In contrast, for the SE group, the household is the defining unit. The income of all household members (assuming they are related to each other) is taken together to determine the contribution amount for the household. This creates an incentive for family relatives to live, or be seen to be living, in the same household. Also, it is more attractive to live in a larger household as this lowers the contribution amount for each household member with an income. However, due to existing housing/renting practice in Seoul or in Korea, this incentive may exist in theory only. Self-employed persons who are not related to each other but are living together in the same house (flat-share) have the choice of being assessed jointly as one household or separately as individuals.

Fig. 5.1 shows that the number of persons covered via an EE principal insuree is higher than those covered by an SE household. The two categories are not directly comparable, but when taking a family living together in one household for comparison, the dependency ratio of an EE household is even larger, since there may be two EE insurees within a household (e.g. both partners working). This clearly reflects the enrolment rules by which employees can take more dependent family members on board, whereas fewer people can benefit from the dependent status in the SE category.

Fig. 5.1. Number of persons covered per EE principal insuree and per SE household*



Source: NHIC, 2007; NHIC & HIRA, statistical yearbook 2007

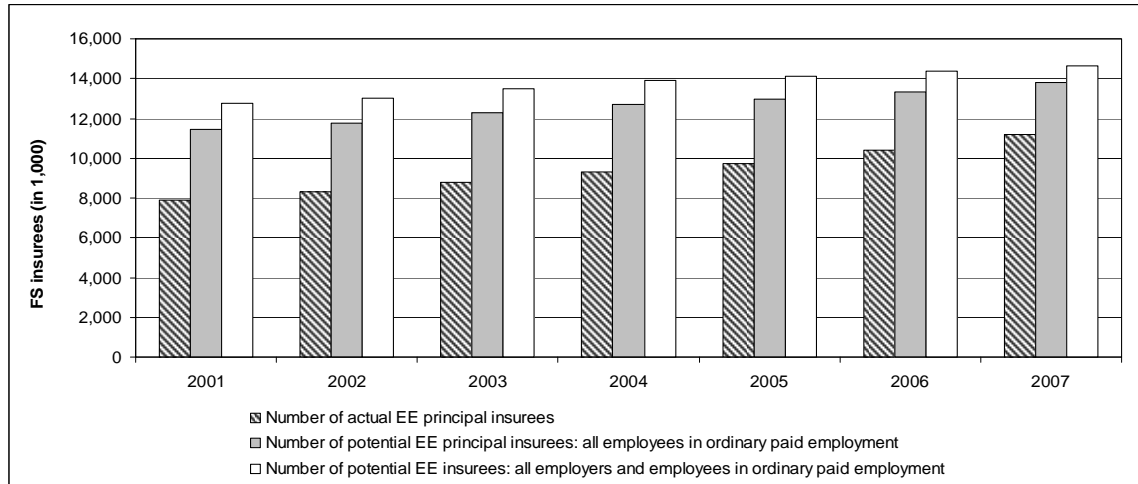
* The figures include the principal EE insuree and the affiliated insured members, and for the self-employed they include the head of the household and the affiliated household members.

Despite the well-established enrolment system, anecdotal evidence suggests that there remain some institutional issues to overcome:

- Among the employees, family relatives (spouses, children, parents, and siblings) can more easily become "free riders" by declaring themselves as EE dependents even when they have income from an SE type of work.
- The updating of records of EE dependents by NHIC is not done as frequently as may be required. For example, at the time of assessment, an EE dependent may not be earning an income but a few weeks later this could change.
- Persons in the SE category may not declare their income and it is difficult and costly to discover it.

Some part of the employed workforce is, therefore, probably not insured via the EE insuree category, even though they should be. Fig. 5.2 shows the gap between actual EE principal insurees and the estimated maximum potential number of EE principal insurees. This estimation assumes that all temporary employees and all employers with temporary workers would be categorized as EE insurees. If this proved to be possible, in 2007 there was the potential to increase the number of EE principal insurees by up to 30%, although in practice, the potential number of new EE members is probably lower. However, there is clearly some potential to raise additional revenue by ensuring that more of the employed population is enrolled as EE members, though it is difficult to be sure exactly how much revenue would be raised.

Fig. 5.2. Actual and potential number of EE principal insurees



Source: Estimates based data of NHIC, 2007 and KOSIS, 2007.

5.1.2. Calculation and collection of contributions

Contribution rules

Table 5.1 outlines the contribution rates and contribution rate values (to be explained further below) for EE and SE insurees respectively over the past eight years. Contributions from the EE and SE categories have increased evenly, the total increase of about 40% from 2002 to 2008 being quite substantial. With a contribution rate of 5.08% of salaries for the EE insurees in 2008, the level of contribution is still considerably below that of other OECD countries. It is also far from the maximum of 8% set by the NHI Act. These relatively low contributions are understandable given the history of the transition to universal coverage (see Chapter 3).

Table 5.1. Trends in contribution rates for EE and SE insurees

	2000	2001	2002	2003	2004	2005	2006	2007	2008
EE contribution rate (in %)	CE:2.8 GT:3.4	3.40	3.63	3.94	4.21	4.31	4.48	4.77	5.08
Δ increase		21.4%*	6.78%	8.54	6.85	2.38	3.94	6.47	6.50
SE (point value in Won)	NA	100	106.7	115.8	123.6	126.5	131.4	139.9	148.9
Δ increase		-	6.7	8.5	6.75	2.35	3.87	6.5	6.43

CE = Company employees; GT = Government employees and teachers

* for CE

Source: NHIC, 2007 and calculations and NHIC & HIRA statistical yearbooks

One reason why rates have been increasing is to improve the financial sustainability of the fund. On the other hand, people expect a larger benefit package in response to the increasing rates. This is a delicate challenge. Factors considered by the Health Insurance Policy Committee are the deficit and the increases in fee-for-service levels, as the objective is to achieve and maintain a financial equilibrium.

Table 5.2 presents the average, minimum and maximum contribution amounts for EE and SE insurees. The maximum monthly contribution is ₩2,275,840 for EE insurees and ₩1,418,594 for SE insurees. The contribution ceiling implies that the very rich will contribute a smaller proportion of their income than poorer people in theory, although this effect is rather marginal in practice. In 2007 there were only 4000 EE households above the EE ceiling (NHIC & HIRA, 2007a).

Table 5.2. Contribution amounts for EE and SE insurees (2006)

	For EE insuree	For SE insuree
Average contribution per	₩111,190	₩50,513 per household
	per principal insuree	₩21,594 per insured person
Salary level for average contribution	₩2,429,508	-
Minimum monthly contribution	₩12,540 (for part-time workers)	₩2,000
Minimum monthly salary*	₩300,000	-
Maximum monthly salary*	₩49,800,000	-

Source: NHIC & HIRA, 2007a

* Minimum/maximum relate to the salary level below/above which no contributions can be calculated. The actual minimum monthly wage for employed is much higher than the figure listed.

For the EE insurees, contributions are a fixed percentage of gross salary, with employer and employee each paying half. Other income types (rents, interests) are not taken into account. Until December 2006, the contributions were deducted from a specific standard value within each of the 100 salary groups. Hence, if one's income was above this set value, the contribution rate would in fact be lower than the assessed contribution rate for the group as a whole; or if a person's income was lower than the group average, they would end up paying a slightly higher proportion of their salary than the average for that income group. In 2006, the set contribution rate was 4.48%, but for those whose salary was above this group standard salary, it amounted to only 4.26%. For those whose salary was below, the actual contribution rate was 4.86% for the lowest salary groups. This was considered inequitable, so in December 2006 the calculation method was amended and, since then, contributions have been calculated on the basis of a person's exact salary.

In contrast to the employee category, the calculation of contribution amounts for insurees in the self-employed category is more complicated. In a first step, the household's total income is assessed, whereby income types are assessed at different weights, as shown in Table 5.3. In contrast to the EE, all types of income are included.

Table 5.3. Household income assessment weights for SE contribution calculations

Income type	Weights for income assessment
Business and work income	100%
Part-time work (less than 80 hours)	20%
Temporary workers	20%
Agricultural income	20%
Pensions	20%
Capital income (e.g. interest on savings)	100%
Real estate income (e.g. rents)	100%

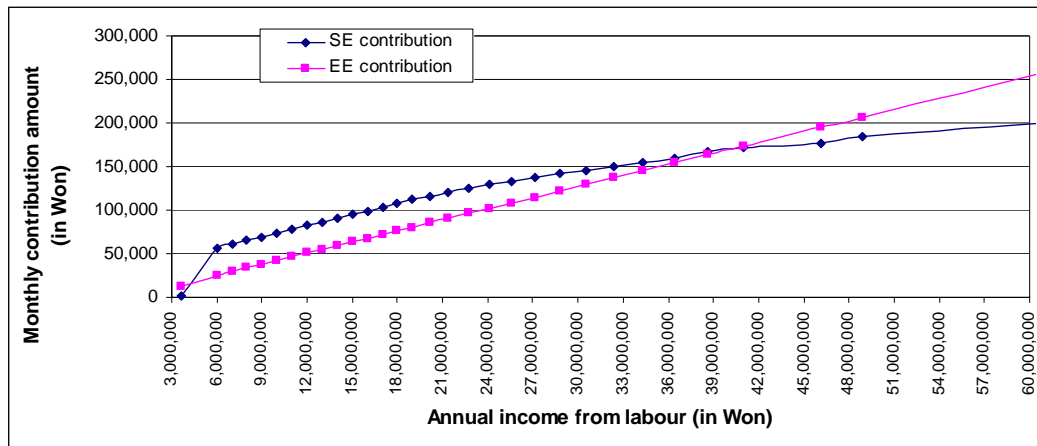
Source: NHIC 2007

For those above a yearly income of ₩5,000,000 the SE contribution amount is calculated on the basis of the aggregated point scores for income, property lease value, and the size of property and car, multiplied by a point value. For SE households with a total yearly income of less than ₩5,000,000, income is estimated by allocating point scores for the age and sex of the head of the household, the property lease value and the car tax paid. This is added to the point score for the property value tax and for the size and age of one's car. The total number of points is again multiplied with a point value. The assumption of the household income assessment rules is that the car and property reflect a household's actual income when it is not accurately reported. On the other hand, it is recognized in Korea that SE households may underreport their income and the collection of contributions from the self-employed may also suffer from evasion.

The above income assessment weights imply that a person or a household can earn more than ₩5,000,000 per year, but assessable income falls below that line. Thus, the different income assessment weights, as well as the property lease value and the car size, make comparison between the contribution rates of the EE and SE categories difficult.

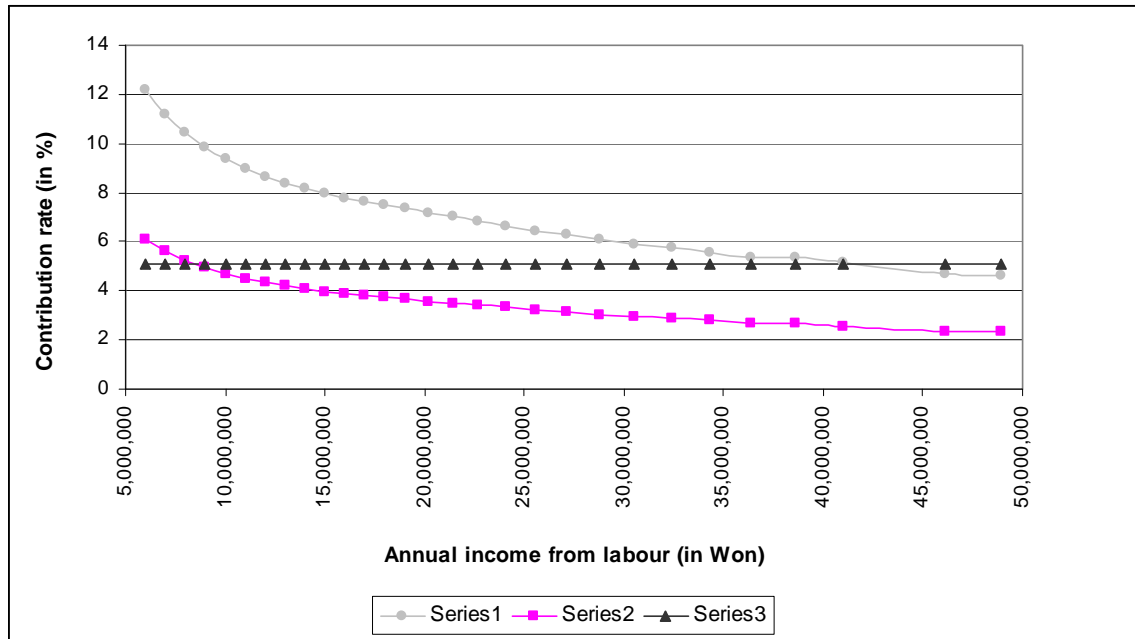
For income of SE insurees that is assessed and weighted at 100%, contribution payments of the EE and SE can be compared to a limited extent only, but it can provide a rough idea of the differences in payment, whilst it is important to keep in mind that EE contributions are based only on income from payroll. Taking contribution rates for 2008, Fig. 5.3 shows that, up to a yearly reported income from labour of around ₩40,000,000, an SE insuree whose reported income from labour is weighted at 100% will pay a higher contribution amount than an EE insuree with the same payroll income. Above that income, assuming there is no other income from other sources, the latter pays more.

Fig. 5.3. Monthly contribution amounts of EE and SE insurees for income from labour (weighted 100% for the SE insurees) (2008)



Source: calculations based on SE contribution tables (NHIC & HIRA, 2008) Note: For the SE insuree category, annual income from labour refers to reported income from labour, but the actual income may be higher. For the EE category, this relates to the annual salary.

Fig. 5.4. Contribution rates for EE and approximate contribution rates for SE insurees



Source: calculations based on SE contribution tables (NHIC & HIRA, 2008)

Notes and assumptions:

Series 1: Approximate contribution rates for an SE insuree, if reported annual income from labour equals actual income from labour.

Series 2: Approximate contribution rates for an SE insuree, if only 50% of actual income is reported.

30 points for property and car value assessment were added on top of the points accrued through reported income from labour for all income levels. In reality, with increasing income from labour, SE households are likely to have better housing with a higher property value and would hence accrue much more than 30 points. As a result, the curves of Series 1 and 2 actually fall less steep.

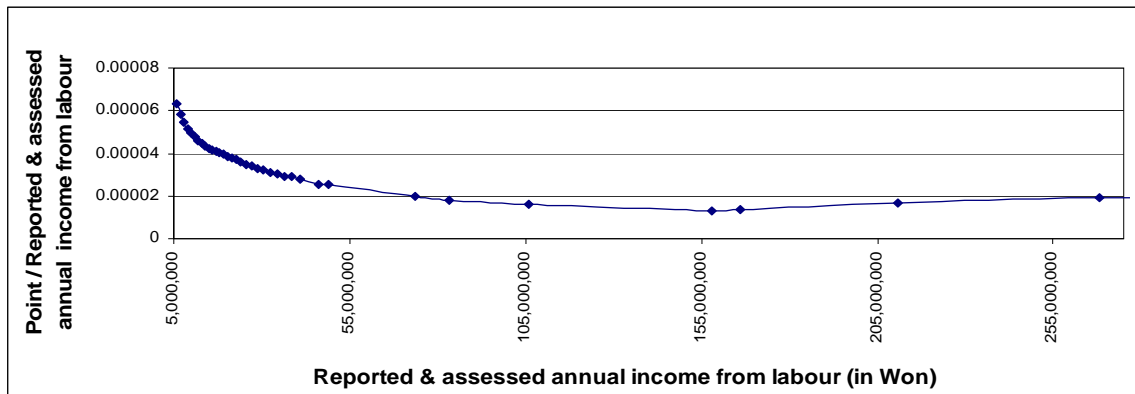
Series 3: Contribution rate for the employee insuree.

Fig. 5.4 suggests that lower-income SE households pay a higher contribution rate than low-income EE insurees or better-off SE households, assuming that their income from labour is weighted at 100%. On the other hand, if there is under-reporting of income from labour, only a very low-income SE insuree will actually pay more in contributions than the EE insurees. True SE contribution rates for a SE insuree whose income from labour is weighted 100% will probably fall between the squared and dotted line.

Fig. 5.4 also suggests that the proportion of income that SE enrollees pay in contributions declines as income rises, even if the absolute amount increases. This is also reflected in the point-to-income ratio (i.e. reported & assessed annual income from labour), as depicted in Fig. 5.5. Where a SE household's reported & assessed annual income from labour is below ₩16,600,000 per year, the marginal point of income decreases, rising again only at higher incomes. Similar patterns are also evident in the point value of the property lease amount (see Fig. 5.6).

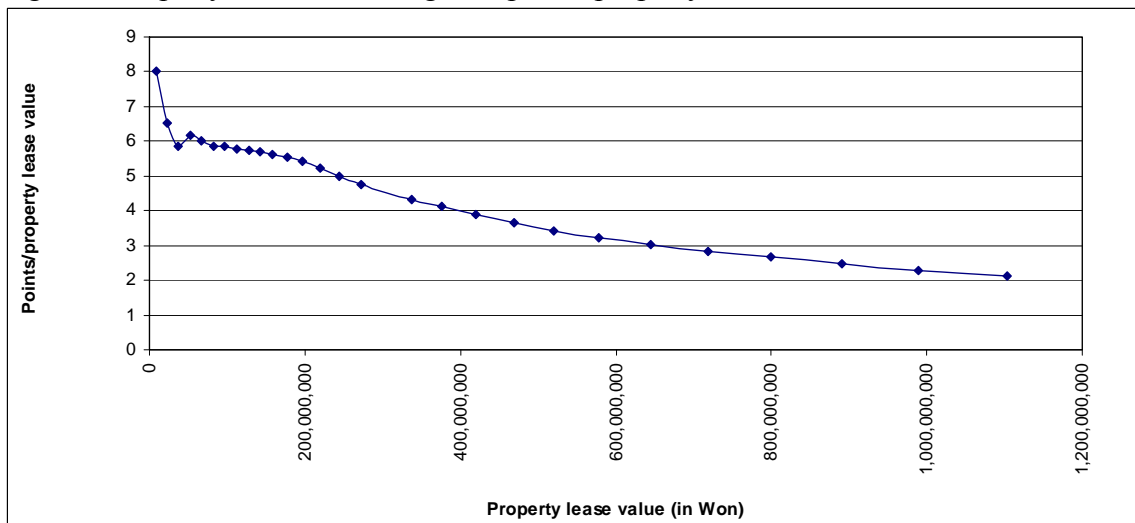
However, these conclusions are indicative rather than conclusive. Because the income from labour of SE households, which is assumed to be the main income source of households, is frequently only weighted at 20%, it is not possible to compare across all SE households, but only within the group of SE households whose reported labour income is assessed at 20% or within the group of SE households whose reported labour income is assessed at 100%. Indeed, combining different weights of income sources in calculating the contribution amount makes it difficult to judge whether the contribution rules for SE enrollees lead to progressive or regressive contributions across all households.

Fig. 5.5. Reported and assessed annual income from labour against SE points/income



Source: *ibid.*

Fig. 5.6. Property lease amount against points/property lease amount



Source: *ibid.*

Despite this, a number of issues relating to equity emerged from our discussions with Korean stakeholders, and are worthy of further consideration:

- SE insurees living in Seoul have reportedly higher incomes, but are also faced with higher housing prices. In the current calculation system, both their higher income and their higher expenditure on housing would have a double effect on increasing their contribution amount relative to people living outside Seoul.
- Pensioners are covered via their family members (children, siblings) if these people are insured in the EE category. If a pensioner lives in the same household as his or her family members who are covered under the SE category, 20% of the pension is included in the household income assessment. A grandparent without any income who lives alone has to pay at least ₩2000 per month, whereas grandparents do not have to pay this if they live with their children.
- Key informants reveal that transitions from one employment category to the other (particularly from the employee category to the self-employed) also raise concerns. When an employee becomes unemployed, that person will be treated as if they are self-employed for contribution purposes. In some cases, depending on the person's housing situation and car ownership, he or she may have to pay more than before.

In sum, NHI contributions are designed to be proportional to income and this is clear in the stated contribution rules. Through exemption and reduction of contributions for the poor, the NHI contribution is also intended to be progressive in that the poor contribute a lower proportion of their income than richer people. In practice, there remain concerns among Korean observers that a certain degree of inequity has emerged from the complexity of the contribution rules. These concerns are difficult to verify given the complexity, but the government of the Republic of Korea might wish to consider this question further as they continue to amend the health financing system over time. It is important to point out that these concerns are not unique to Korea, and other OECD countries reassess their contribution systems from time to time to assess if any equity problems have emerged.

Key stakeholders have also noted that people find the contribution system hard to understand. In fact, there is recognition in the NHIC itself that the calculation system would benefit from simplification. There is also recognition that the two insurance categories could be aligned to make them easier to understand and that this might increase horizontal and vertical equity. NHIC respondents stated that it is hoped to have one single contribution system within the next 5-10 years. Box 5.1 provides some reflection on equity in health financing.

Box 5.1. Equity in health financing

Discussions on inequality in NHI contributions across insured groups can be at different levels. First, what is the appropriate contribution base for the NHI? Second, how should the contribution base be assessed in practice? And third, should employees and the self-employed contribute at the same rate?

In most countries, social security contributions including SHI are based on income from labour. The ownership of assets is not a factor in adjusting the social security contribution base. In the formal economy, defining labour income is not a big problem, while in the informal economy actual income is difficult to identify. The Korean economy has a relatively larger "informal" sector compared to other OECD countries with similar levels of economic development (Chun, 2002). When the true income for the self-employed cannot be checked easily, asset indicators are commonly used as an adjustment for underreported income. This may well be the logic behind the practice of managing contributions by the self-employed in the Korean system.

The advanced financial system in Korea is a foundation for further development of a modern taxation system, including income registration. Efforts currently under way to unify social security contributions and to strengthen income registration would benefit the collection of NHI contributions in various ways (Jang, 2007). First, the number of non-contributing households would decrease as more households declare their income, increasing NHI revenue. Second, the calculation of contributions for the self-employed could be much simpler once their actual income can be identified.

Surveys from 2006 and 2007 show that only one third of households pay income tax and many do not declare their incomes. The incomplete income registration system results in difficulties for the NHI to collect health insurance contributions. For the employees with registered incomes, very few households do not contribute, but among temporary workers one third do not contribute (see Chapter 7.4). Given the current income registration system in Korea, NHIC is doing a fairly good job in capturing contributing beneficiaries.

Finally should the self-employed contribute an equivalent amount to both the employer and employee contributions made on behalf of employed people? The answer is not straightforward. Contributions to NHI by either employers or employees result in an increase in labour costs. However, the increased costs could be borne ultimately by employees or consumers or both. The employer's contribution would be mainly borne by employees if wage elasticity is smaller in the labour market than the price elasticity in the product markets. In other words, the employee would receive a lower salary than if NHI contributions were not paid. If this is the case as economists generally believe, the self-employed should pay the same rate as the employees (Brittain, 1972). In the opposite case, employers' contributions would be mainly borne by consumers who consume the products, and one would argue that the self-employed should pay only the employee's contribution. In some countries, like Germany, the employer's share of the contribution is considered to be part of the employee's salary. Therefore, the self-employed actually pay the full contribution rate (Busse, 2008).

Collection practice

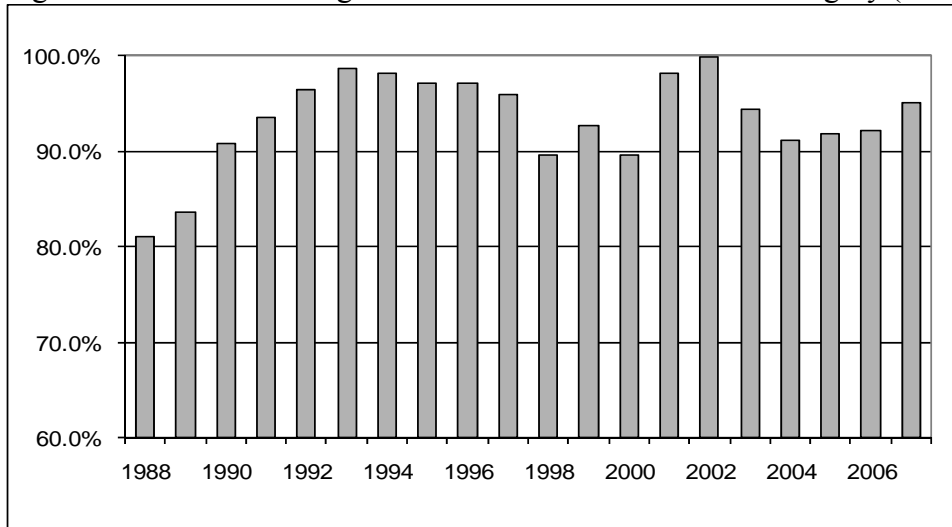
According to the rules, two types of households do not pay contributions to the NHI fund – those officially defined as poor and those who are covered through family members even though they are not living in the same household. In practice there is a third type of household whose income is low and who can delay payment for a certain period of time.

This has to be approved on a case by case basis. Household survey data suggest that 23.9% of households did not contribute directly to NHI in 2007 and that this percentage has been fairly consistent over the years.

For EE insurees, contributions are automatically deducted by the employer and transferred to NHIC. The SE households receive a monthly invoice from NHIC for their contributions. Some 90% of SE households transfer their contributions via the bank system, while a smaller group pays directly at NHIC branch offices or post-offices which operate as banks. New collection methods, like automatic bank transfer and credit cards, have been promoted to improve collection rates. SE insurees can also pay their contributions on a quarterly basis.

Collection performance, if accumulated over several years, is about 97%. However, for the SE specifically, the difference between actual versus target resource collection is much higher, as outlined in Fig. 5.7, with an average of 6% over the years 2000-2007. If we exclude arrears collected for the previous year, the difference between target and actual collection is on average 15% each year.

Fig. 5.7. Actual versus target resource collection for the SE category (in %)



Source: NHIC & HIRA statistical yearbooks

The number of both SE households and EE workplaces in arrears for more than three months has been increasing recently, as shown in Table 5.4. With more than a quarter of SE households in arrears with their contribution payments, this indicates either problems in the collection mechanisms or an inability to pay. If SE workers are unable to pay their contributions temporarily, they can apply for their contributions to be waived. The NHIC Health Financing Committee, which meets twice a year, decides on such cases as approved by Presidential Decree. About 20,000 households per year benefit from having their contributions waived although many more apply.

Table 5.4. Percentage of households in arrears with contributions

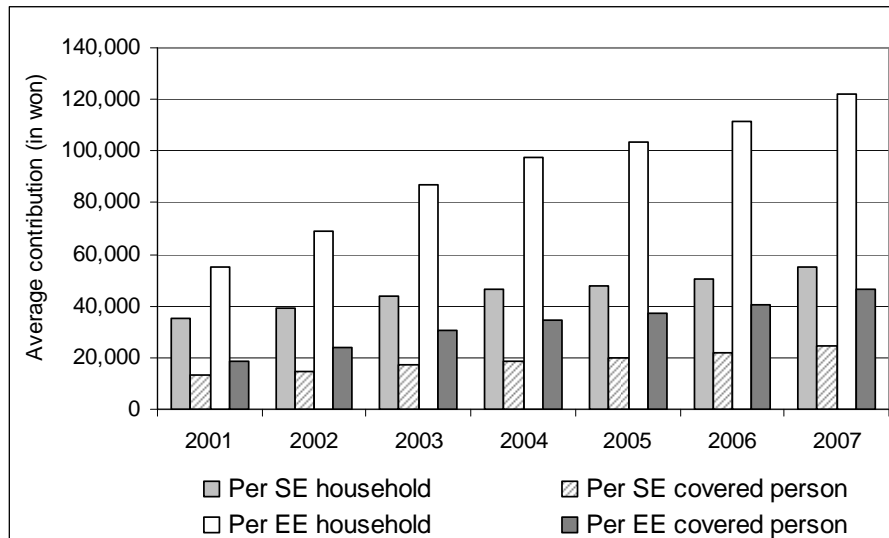
	2001	2002	2003	2004	2005	2006
SE	19%	15%	18%	23%	24.0%	26.2%
EE	4.0%	3.1%	4.4%	5.5%	5.6%	6.3%

Source: MOH, 2008

Another issue in resource collection is the extent of underestimation in the target revenue collection due to underreporting. Among the EE insurees, underreporting of salaries by employers is less likely as NHIC uses national taxation information to check up on resource collection. For the self-employed, NHIC admits that underreporting of income cannot be excluded but NHIC has not estimated the extent of evasion. In 2005, the NHI Act was revised to include a section on inducing beneficiaries to make sincere income declarations with the national tax services. If contributions are not paid, a penalty system is applied. Penalties for payment arrears of three months are set at 5%, increasing to 10% and 15% for arrears of six and nine months. Currently, identification of non-payment via the health insurance card is not possible, as the doctors would not agree to check a patient's payment status via the health insurance card at the point of seeking care. Thus, if a patient is three months behind in paying contributions, this would be revealed during the claims management process, and NHIC would then send the bill to the patient.

Fig. 5.8 presents the average contribution amount per month by EE principal insuree and SE households, as well as by EE and SE insuree, as they have evolved over time. Average contribution amounts per insuree are not an actual category in use, but it remains illustrative to compare the two.

Fig. 5.8. Average monthly contribution amount for EE and SE households and persons (current prices)



Source: Calculations based on data of NHIC (2007) and NHIC & HIRA (2008)

The figure reveals that average contribution amounts of the EE insurees have been about twice as high as those of the SE insurees since 2003. It clearly reflects the method of calculation of SE contributions, but also points to the fact that SE households' income is lower.

Total revenue from contributions is presented in Fig. 5.9. Revenue from the EE insurees rose by 163% between 2001 and 2007. This is mainly due to increases in the average salary of persons in the EE category (57%), followed by the increase in contribution rates (40%) as well as increased numbers of EE principal insurees (24%). The revenues of SE households also rose but at a lower rate (25%), and the number of SE households decreased by 5% between 2001 and 2007. Further, whereas the average point value increased by 40%, like the increase in contribution rates, the number of points for assessed household income increased by only 12%.

In 2005, while EE insurees constituted 55% of the total NHI-covered population, they contributed more than 70% to the revenues by contributions (see Fig. 5.9). Some 48% of SE households pay less than ₩50,000 per month, and more than 75% of SE households pay contributions of less than ₩100,000. In fact, out of those SE households with income, 59.6% had a household income below ₩5,000,000 per year (NHIC, 2008a). As mentioned above, the NHIC Department of Resource Collection thus intends to collect very small amounts from millions of SE households, thus lowering the administrative efficiency of resource collection. On the other hand, for equity purposes, exempting a large number of the SE households with low contribution rates and/or in arrears is not a better alternative. Ensuring equity while optimizing administrative efficiency through revised resource collection procedures may constitute the more viable option.

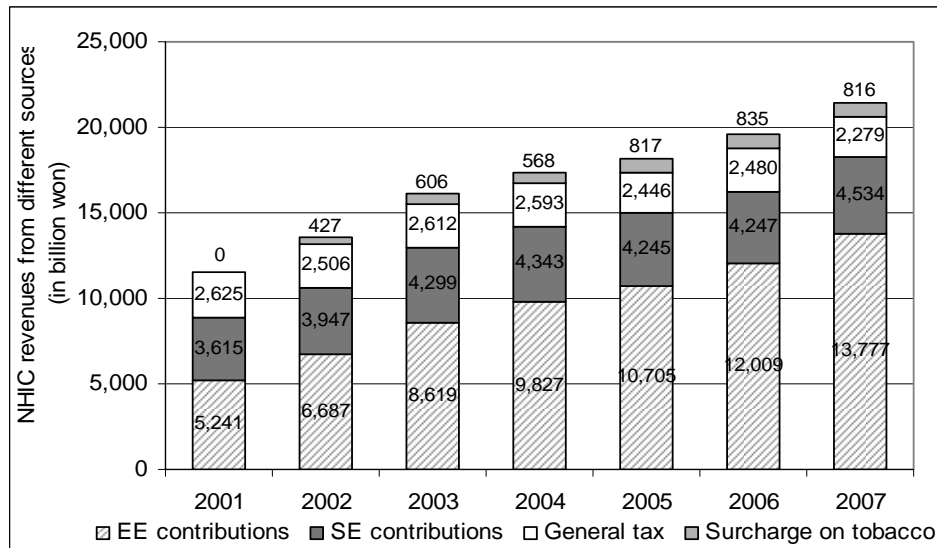
5.1.3. Government subsidies

Across the world, a number of SHI schemes receive regular government subsidies financed via general revenues. The rationale for this is based on the government's responsibility for and commitment to ensuring universal coverage and access to health care for all, independent of people's ability to pay. Thus, the government subsidizes the people with lower incomes. This ensures that the agency entrusted with the implementation of SHI, such as an autonomous SHI agency, receives sufficient funds to respond to the call for universal coverage. Examples are the United States' Medicare programme that is partly funded from general revenues (Stiglitz, 1986) and the Belgian SHI system whereby 35-40% of overall fund income is tax-financed (Normand & Busse, 2002).

Likewise, NHIC's revenues consist of contributions from EE and SE employees as well as government subsidies. Figs. 5.9 and 5.10 show the revenue developments and the shares of the respective revenue categories (2001 to 2007).⁶

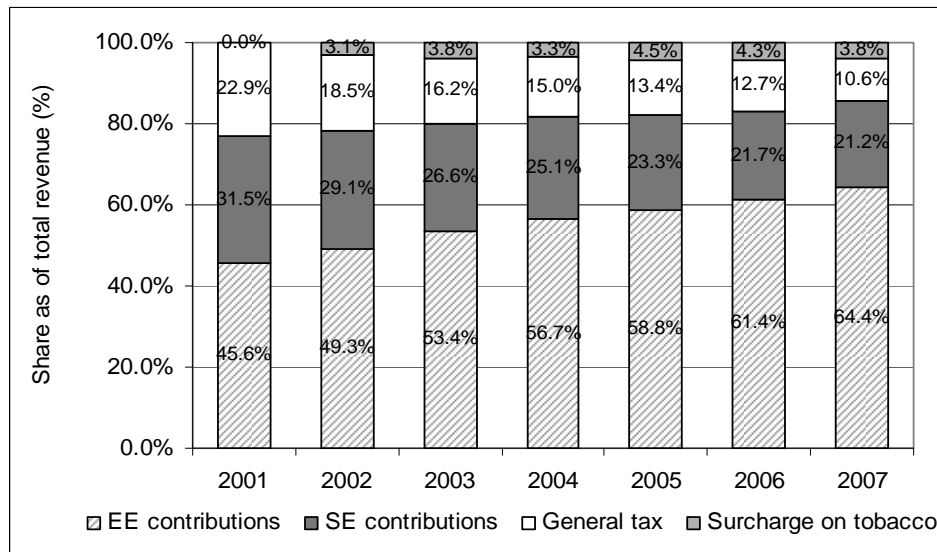
⁶ The government transfers of contributions for government employees as well as subsidies for the contributions of private school teachers are listed as revenues from FS contributions.

Fig. 5.9. Revenue trend from 2001 to 2007 (constant prices)



Source: NHIC, 1990-2008

Fig. 5.10. Shares of sources in NHIC revenues



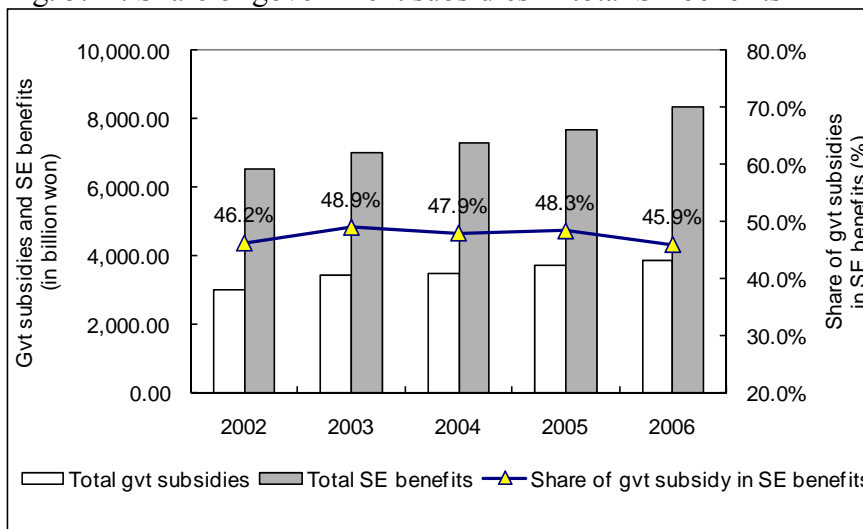
Source: *ibid.*

The logic for and volume of government subsidies to NHI have substantially changed over the past 15 years. Under the Medical Insurance Act, which was in place until 1999, the government was committed to pay half of the NHI health benefits for the SE insureds (OECD, 2003), as well as parts of contributions for the lower-income groups (Kwon, 2003a). Yet the law did not specify the actual amount or scale of subsidies. These subsidies actually amounted to 54.5% of total expenditure in 1988, steadily decreased to 24.6% in 1999, but then increased again to 37.9% in 2001 (Kim, 2002a).

The 1999 NHI Act foresaw two types of government subsidy – subsidization of contributions of persons in the SE category (Art. 67.3) and subsidization of SE health benefits (Article 92) though with no specified amount.

The rules were amended in 2002, and the government's financial responsibility changed in that the government subsidies were increased on the basis of the 2002 Special Act for Financial Stabilization of NHI. Government subsidies were financed via general taxes and from a new surcharge on tobacco sales. Total government subsidies were supposed to constitute 50% of total expenditure on the benefits and administration costs for the self-employed (NHIC, 2007). However, as Fig. 5.11 shows, the government subsidies fell slightly short of this target.

Fig. 5.11. Share of government subsidies in total SE benefits



Source: calculations based on NHIC, 2007 and NHIC & HIRA statistical yearbooks

With the amendment of the National Health Insurance Act in December 2006, the approach of linking the amount of subsidy to expenditure changed to linking it to revenue. The NHI Act now specifies that government transfers 14% of estimated NHIC revenues (Article 92.1). NHIC can receive additional government subsidies, coming from the Health Promotion Fund, amounting to "around 6%" of estimated NHIC revenues (Addendum, Act No. 8153, 30-Dec-2006). These legal provisions are valid until 2011.

Total government subsidies are thus supposed to amount to around 20% of NHI contributions, i.e. 16.67% of total NHIC revenues. This is an important share of NHIC revenues. Again in 2007, the total government subsidies fell nearly 14% short of the target amount, i.e. 2.3 percentage points.

In general, government subsidies from general revenue have been decreasing by 13% from 2001 to 2007 in total. Subsidies from the tobacco surcharge were increasing until 2006 but went down again in 2007. As the tobacco tax shows its effect, namely in reduced tobacco sales, this tax revenue could shrink. It may thus be impossible in the long term to maintain these government subsidies at 6% of NHIC revenue. With

increasing contribution rates, increasing salaries and more members being classified in the EE category, the same may hold true for government subsidies coming from general tax revenues.

According to key informants, it is difficult to determine the exact amount of subsidies required, as revenue from contributions has to be estimated. In addition, the Ministry of Strategy and Finance estimates are usually lower, thus explaining part of the gap. Furthermore, as NHIC revenues from contributions may be more volatile than NHIC expenditure, linking government subsidies to revenues creates a more unstable financial situation.

The fact that most SE households pay contribution rates below those of the EE insurees is based on historical reasons, as the SE calculation rules were set on the assumption that the government subsidizes the contributions of the SE insurees. It is questionable, however, whether all SE insurees should benefit from such subsidies, or whether only lower-income SE insurees with low contribution rates should be subsidized. Meanwhile, the logic of subsidy has changed, being unrelated to the contributions of SE insurees. Nevertheless, the question of whether SE insurees should pay the same contributions rates as EE insurees, or only the "employee share", also has implications for the rationale and the required amount of government subsidies to NHI.

5.2. Pooling and level of fragmentation

5.2.1. Pool composition of NHI

When the government decided to expand population coverage in 1977, it opted for a multiple fund scheme. Even though this led to higher total administrative costs (Kwon, 2003a), it was an important feature of the system and can be considered as decisive in reaching out to rural workers in the informal sector (i.e., the self-employed), while at the same time reflecting the current notion of solidarity between different population groups. As the insurance system gained acceptability and stability, the multiple funds were merged into a single fund in 2000.

Before the integration reform in 2000, contribution rates differed across the different insurance funds and also implied different benefit packages. Thus, horizontal inequity was a major concern and was one of the main reasons motivating the government to integrate the funds in a step-wise manner. With the integration reform, Korea undertook the critical step of overcoming a fragmented health financing system. In 2003, the NHIC's separate SE and EE accounts were finally merged. NHIC is now the sole pooling agency. The integration reform, mandatory membership, and the fact that no Korean resident can opt out of NHI to purchase a (substitutive) full-coverage private health insurance (PHI) plan, ensure this high level of pooling of risks and income.

All family dependents of employees are covered through the principal EE insuree unless they have their own income. Likewise, all members of the self-employed household are covered by the SE household insurance contribution. This set of institutional arrangements ensures an important degree of risk and income solidarity (cf. van de Ven et al., 2003). However, despite the solidarity principle being applied, equity in health financing is incomplete, as the previous section has pointed out and as Chapter 7 outlines in more detail.

5.2.2. Cross-subsidization and government subsidies

Legal guidelines state that government subsidies from general taxation are to be used for the following:

- health benefits of the SE insurees and their dependents;
- administration costs;
- subsidies for those who cannot pay their contributions.

The subsidies from the Health Promotion Fund are to be spent on:

- health promotion services and screening;
- tobacco-related diseases;
- health care for those above 65 years of age.

Despite these legally based allotment guidelines, the government subsidies are pooled with the other revenues of NHIC. As Table 5.5 shows, expenditure for these population groups is not in line with these allotments. The table also shows the level of cross-subsidy between the EE and SE groups. Apart from subsidies for the health screening programme – namely 1.6% of total expenditure on benefits (calculations based on NHIC statistics, 2007) from which both EE and SE insurees benefit – all remaining government subsidies go to the SE group. This is because the average EE contribution amount per capita is only slightly above the average per capita benefit amount, whereas the average SE contribution amount per capita is substantially lower (57% of the average per capita benefit amount), government resources to NHIC mainly serve to subsidize the SE workers. As such, the amount of cross-subsidies from the EE group to the SE group is relatively small and less than 2.5%.

Table 5.5. Cross-subsidization levels (data for 2007*)

Population groups	Group revenue as % of total revenue	Group expenditure as % of total expenditure on benefits	Revenue minus expenditure (%)	% points of government subsidies received	Cross-subsidies EE -> SE (%)
EE insurees: < 65 years	62.50	43.20	+ 2.47	0	-
EE insurees: > 65 years		16.83			
SE insurees: < 65 years	20.83	29.27	- 17.53	11.67 +	2.47
SE insurees: > 65 years		9.09			
Health screening	-	1.6		1.6	
Government subsidies (general revenue)	11.67	-			
Government subsidies (Health Promot. Fund)	5.00	-			

Source: calculations based on data from NHIC & HIRA, 2008

* For simplicity, this calculation ignores the surplus of 1.4% in 2007

Table 5.5 reveals that apart from subsidies for the health screening programme, namely 1.6% of total expenditure on benefits (calculations based on NHIC & HIRA, 2008) from which both EE and SE members benefit, all remaining government subsidies go to SE insurees. This is because the average amount of EE contribution per capita is only slightly above the average per capita benefit amount, whereas the average SE contribution amount per capita is substantially below (57% of the average per capita benefit amount). Government resources to NHIC mainly serve to subsidize the SE workers. As such, the amount of cross-subsidy from the EE group to the SE group is relatively small at less than 2.5%. Table 5.5 also reveals that the government subsidy allocations to specific expenditure items as prescribed by law (see Chapter 5.1.3) are not implemented in practice.

5.3. Purchasing

5.3.1. NHI benefit package

Contents of the benefit package

NHI benefits are provided for the prevention and treatment of disease and injury, for childbirth, and for health promotion and rehabilitation, but the focus is on curative care. Currently, about 5000 services and 10,000 medical items are covered (HIRA, 2008b; HIRA, 2008c). HIRA provides a detailed document listing the ICD codes of the conditions for which services are covered and those that are not. The NHI benefit package has been expanded considerably over the past 20 years, as outlined in Box 5.2. In particular, more services and medical items for cancer patients have gradually been included.

Box 5.2. Contents of the NHI benefit package

The benefit package has been gradually extended. The most important changes have been:

- 1989: Coverage of pharmaceuticals began.
- 1994: Maternity benefits expanded to dependent insurees.
- 1994: Cost-sharing rates of pharmaceutical lowered to 40%.
Inpatient cost-sharing rates increased from 10% to 20%.
- 1995: Duration of medical care benefits extended from 180 days to 240 days per year.
Compensation introduced for excessive cost-sharing (more than ₩500,000 per month).
- 1996: Computerized tomography included in the list of benefits.
Duration of medical care benefits extended from 240 days to 270 days per year.
- 1997: Duration of medical care benefits extended from 270 days to 300 days per year.
- 1998: Insurance benefits include prevention and rehabilitation services.
- 2002: Caesarean section is included.
- 2004: Military personnel receive insurance benefits.
- 2004: Cost-sharing ceiling introduced.
- 2005: Insurance benefits introduced for prisoners.
MRI included.
- 2006: Expansion of the number of insured who are eligible for the reduced contribution rate.
Positron emission tomography (PET) included.
- 2008: Cost-sharing for inpatient care only 10% for children below six years of age.

In addition to curative care, disease prevention and health promotion services are included in the benefit package for specific population groups with no cost-sharing requirements. For self-employed heads of household, for employed office workers and for insurees above 40 years, the NHI benefit package also includes health screening services once every two years (and yearly for non-office workers) as well as screening for major cancer types. Over the past years, NHIC has also started to engage in health promotion and disease prevention activities such as non-smoking sessions for students, non-smoking campaigns, health education, health promotion events and health information leaflets.

Some of the preventive and promotive health care services are also offered by the MOH and, as pointed out in Chapter 4, there may be some overlap, thus indicating the need for close coordination.

The number of medicines classified as prescription medicines and thus NHI-reimbursable has increased over the past years, with about 800 medicines per year added to the list. There are currently about 21,000 medicines listed on the NHI reimbursement list (HIRA, 2008b). By comparison, the number of medicines covered in most other OECD countries ranges from 3000 to 8000 (Yang et al., 2008). Since 2008, a "Positive List System" has been in place that will cover medicines with economic evaluation as one of the selection criteria.

In addition to in-kind benefits (health care services), there are various cash benefits for funeral expenses, cost-sharing compensation for specific cases, and for appliance

expenditure by the disabled – amounting to less than 1% of NHI expenditure on benefits (calculations based on NHIC & HIRA, 2008).

The non-covered services are listed in detail in the enforcement regulations relating to the NHI benefit standards and in the benefit package specifications (MOGL, 2008c; HIRA, 2008c). These comprise *inter alia*:

- certain dental care procedures;
- plastic surgery;
- certain skin diseases and acne;
- certain eye surgeries;
- hearing aids and glasses (other than for disabled people);
- oriental physiotherapy and certain oriental medicines and tests;
- new tests and procedures (e.g. DNA tests), or new medical supplies and new medicines;
- preventive health services, such as medical check-ups (other than mentioned above);
- vaccinations.

A total of 444 services, 6634 medicine items and 734 medical items are classified as non-covered (Cho, 2008; HIRA, 2008c).

Process for defining the benefit package

The health insurance benefits are determined by the regulations of the MOH (article 39 of the NHI Act). Specifically, HIRA is entrusted to produce the list of health care benefits and the guidelines for their application. A health technology assessment is applied to those procedures and treatment materials that are not yet classified as medical service costs or non-costs according to the NHIC rules on health care benefit standards (HIRA, 2008d). The assessment is based on the following criteria:

- cost-effectiveness;
- safety;
- affordability by NHI and appropriateness of costs;
- availability of similar technology;
- additional benefits.

The Medical Benefit Standards Department assesses the services under review, and the results are evaluated by the Expert Assessment Committee on Medical Services that has members from both inside and outside HIRA. The final decision is determined on the basis of the Health Insurance Policy and Coordination Committee's review and then notified by the MOH (HIRA, 2008a).

The inclusion of pharmaceuticals in the list of reimbursable items is contingent upon an economic evaluation and an assessment of benefit which were introduced in 2001. HIRA staff perform the economic evaluation. The appropriateness of including the medicine in the benefit package is assessed by the Committee for Drug Benefit Assessment (within HIRA). With new impetus since 2004, economic evaluation of pharmaceuticals is applied

more rigorously and, as a result, the number of new medicines approved has been declining (Yang et al., 2008). Pharmaco-economic guidelines have been developed for the purpose of the Positive List System which lists only a selection of highly cost-effective new medicines for health insurance benefits. Based on the economic evaluations, HIRA reviews the cost-effectiveness and budget impact of medicines that are added to the list. The Positive List System aims to encourage pharmaceutical companies to develop more effective medicines at lower prices (NHIC, 2007). De-listing of old medicines, medicines that have not been prescribed over the past two years, or medicines with low cost-effectiveness is also under way. So far, about 5,000 medicines have been de-listed. While the economic evaluation of medicines will not necessarily reduce expenditure on pharmaceuticals, it is argued that it results in a more efficient allocation of scarce financial resources and thus maximizes health outcomes (ibid.). Yang et al. (2008) also suggest that it will have a positive effect on the competitiveness of the Korean pharmaceutical companies.

In conclusion, efficiency criteria play an important role in determining the extension of the NHI benefit package, thus enhancing efficient use of resources. On the other hand, criteria relating to equity regarding health care needs, financial risk protection and other societal preferences are not yet explicitly integrated into the priority-setting and decision-making matrix. With respect to determining and limiting the number of reimbursable medicines, there are also managerial implications to be taken into account. Pharmacists may prefer a lower number of and lower-priced reimbursable medicines, as this reduces the number of medicines kept in stock as well as their transaction costs.

5.3.2. Purchasing structure and mechanisms

Before the integration reform in 2000, the structure of the SHI system was characterized by multiple payers. Since 2001, NHIC has been the main purchasing agency, operating as a single payer. It also operates as a purchaser for MAP, and the same processes of purchasing, provider payment and claims apply. Apart from a few exceptions, providers receive the same remuneration rates for MAP as for NHI patients.

There is a clear purchaser-provider split within the SHI scheme in Korea. By law, all hospitals and clinics, whether public or private, as well as pharmacies, are obliged to subscribe as providers under the NHI and cannot opt out. Likewise, none of the providers may reject a patient. Thus, as a monopsony, NHIC purchases health services from all providers – a total of 75,108 health care institutions in 2006 (NHIC & HIRA, 2007a). It is a collective contracting process in that representatives of providers negotiate the provider remuneration rates with NHIC and the MOH within the Health Insurance Policy Committee. Patients can choose which provider and at which level to go.

Overall, the purchasing/service provision mechanism and process is well regulated. The following key aspects are specified and established:

- services covered;
- fee-for-service rates;

- benefit standards;
- cost-sharing rates for insured services;
- claims management;
- payment schedule.

In order to develop and test new purchasing arrangements and provider remuneration mechanisms as well as other purchasing-related activities (surveillance, quality improvement), NHIC has established an NHIC hospital which is managed by NHIC and which also helps NHIC establish the costs of service provision.

5.3.3. Provider payment mechanisms

Fee-for-service scheme and setting of fee-for-service rates for medical services

The fee-for-service (FFS) scheme in place for health care providers dates from the time that SHI was first introduced in Korea. It is widely accepted in the economics literature that FFS schemes that are reimbursed by insurance create incentives for over-provision, resulting in increased numbers of visits and increased numbers of services (Carrin & Hanvoravongchai, 2003). This is particularly the case when there is neither volume control nor an overall budget cap in place. For this reason, the NHIC is unable to predict exactly how much the system is likely to cost from year to year and must bear the full costs of this uncertainty.

A specific problem of the FFS scheme identified by Korean experts was that the rates did not reflect the relative value of resource inputs. As a result, the profit margins resulting from the difference between NHI remuneration and costs varied substantially across services. This gave providers the incentive to focus on providing those services with higher margins. Apart from the negative consequence of increasing costs, this also had negative health-related effects. One example is the frequently cited very high rate of caesarean sections in the 1990s, amounting to 43% of all births in 1999 (Kwon, 2003b). Furthermore, over the years this also led to a distortion in the distribution of specialists (ibid.), with radiologists and other specialist groups being overrepresented given the higher income opportunities in these fields.

An important step in reforming the FFS scheme was the introduction of resource-based relative values (RBRVs). They took several years to develop, and they were implemented in 2001 for outpatient care (Kwon, 2003b). The RBRV system sets a score for each medical procedure relative to others on the basis of resource costs required to provide services. In principle, RBRVs were set on the basis of the following elements (HIRA, 2008b):

- total work (time, effort, work amount, manpower);
- overhead costs;
- costs of malpractice (liability insurance).

However, in practice the RBRVs key informants suggest that other factors also entered into the final weights.

The first version of the RBRV system was criticized in the country. From a methodological point of view, it was criticized *inter alia* because the RBRV scale was uniform across hospitals and physicians' clinics, such that RBRVs did not reflect the real relative value. According to Kwon & Reich (2005), doctors managed to influence the implementation of the RBRV system "by pushing the government to increase the fees for relatively underpriced services but not to reduce the fees for overpriced ones [...]". As a result, all fees were raised. Even though this led to some redistribution of physician income, it was not seen to fully neutralize the distortions in incentives across different medical services.

Due to these concerns, HIRA has been in the process of revising the RBRVs for each service and medical supply item (HIRA, 2008c). The new system foresees upward or downward adjustments *within* specialties. Adjustments are to be achieved over five years, with a 20% adjustment being realized each year from 2008 to 2013. Confining adjustments to within specialties has lowered the resistance of physicians since no specialty should lose out against another. Inappropriate incentives within a specialty will thus be overcome, which represents great progress since an individual physician will no longer have the incentive to opt for better-priced services that may not be appropriate to the individual patient. However, possible distortions between specialties could remain, since specialties that historically started out with higher fee rates than the resource costs will remain at higher levels.

The FFS remuneration is calculated by multiplying the relative value scores by the conversion factor (unit price). This is then further adjusted depending on the level of care, as outlined in Table 5.6. This differentiation between levels of care is important. However, it must be kept in mind that the lack of functional differentiation between higher and lower levels of the system means that higher level facilities compete for non-complicated cases with lower level facilities. The costs of treating uncomplicated cases are, therefore, higher than they would be with a more formal functional differentiation of the level of care.

Table 5.6. Adjustment factor per provider level⁷

	Adjustment rate
Tertiary hospital	1.30
General hospital	1.25
Hospital	1.20
Clinic	1.15

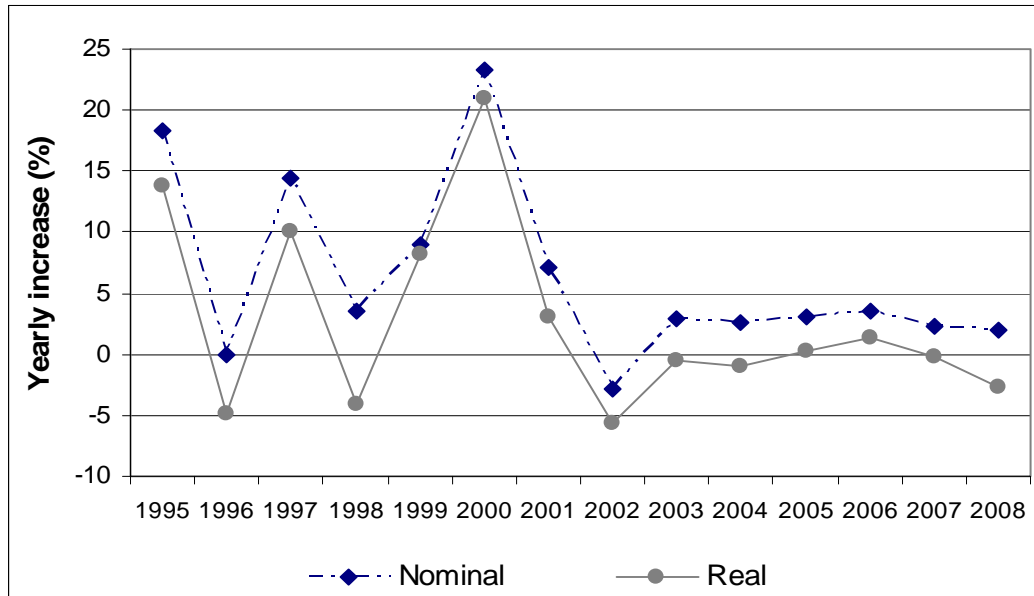
Source: HIRA, 2008b

Fee rates were set at low levels when SHI was introduced in Korea but they have increased substantially over the years. The large fee increases of 1999, 2000 and 2001 occurred subsequent to a physicians' strikes against the separation reform. Government

⁷ The adjustment factor is not applied to consultation fees and prices of medicines and medical supplies.

raised fees around 43% over the three years (around 37% inflation-adjusted - see Fig. 5.12). This was meant to compensate for physicians' loss of income as a result of the separation reform. Since 2002, after controlling for inflation fees have either declined or have increased at a very low rate. Thus, from 2001 to 2006, the total nominal increase in fee rates was 10% against a nominal increase in total medical expenditure of 60% over the same period (HIRA, 2008b).

Fig. 5.12. Yearly increase in FFS conversion factor rate in %



Source: based on NHIC & HIRA, 2008

Until 2001, fees were set unilaterally by the MOH. Fee negotiation was introduced in 2001, but in the initial years the government still set the rates because the negotiating parties did not come to an agreement (Kwon, 2003b). Now, rates and RBRVs are reviewed by the Medical Benefit Standards Department of HIRA. The final decision on the increase in remuneration rates is negotiated and taken by the Health Insurance Policy Committee.

However, despite the fact that RBRVs were adjusted and that the conversion factor has been increasing over the years, it remains unclear to what extent remuneration rates really cover provider costs. The use of costing studies is nowhere explicitly mentioned in the context of setting provider remuneration rates. Without clear costing data, the remuneration setting process is guided more by policy objectives such as the financial equilibrium of NHI and by group interests of doctors. One study has suggested that doctors are certainly able to cover their costs and that they enjoy relatively high incomes in comparison to other Korean professionals (Kim & Ruger, 2008). Physicians' incomes and clinic profits have substantially increased since the separation reform. Average annual revenue per clinic was estimated to have increased from ₩299 million to ₩338

million between 1998 and 2001, and estimated average annual profit increase per clinic due to the reform ranged from ₩50 million to ₩83 million (Jeong, 2004).

We have been told that doctors' complaints that NHIC remuneration rates are still too low are nurtured by high expectations and comparisons with doctors' incomes in Japan and the USA. For example, during a discussion with the writers, doctors argued that their colleagues in the USA are paid 20 times more for an endoscopy, concluding that Korean physicians are underpaid. We suggest that it might help the process of setting remuneration rates if there was an accompanying open discussion of hospital and clinic profit margins as well as doctor income levels, set in context with Korean standards and overall economic constraints.

The doctors' apparent dissatisfaction with remuneration rates may reinforce the incentives set out by an FFS scheme – i.e. over-provision. In fact, the Korean utilization pattern for outpatient care is characterized by a very high number of visits of very short duration, and physicians recommended that a patient come several times to the office even for minor cases (key informants, cf. KIHCM, 1999 in Kwon, 2003b). This might reflect a provider reaction to the perception that their remuneration rates are low. As the number of physicians increases over the years, increasingly more doctors will have to "share" a more or less stable population, and it is not clear whether the outpatient utilization rates can continue growing in the same manner as in the past.

In sum, the Republic of Korea faces a common problem of social health insurance systems in which there is fee for service reimbursement. Cost control is difficult. The government has reacted by setting fees, more recently after discussions with stakeholders. However, it appears that providers and/or patients have reacted by increasing the volume of services, thereby increasing costs. Other countries have overcome this problem through mechanisms such as volume controls or overall budget caps and this is something that might be considered in the Korean context to ensure financial stability and sustainability of the SHI.

Diagnosis-related groups (DRGs)

The government and NHIC have wanted for a long time to move to a different provider payment mechanism for facilities, namely DRGs and/or global budgets. Under DRGs, hospitals are provided with a fixed payment per case regardless of how intensively they decide to treat the patient. The incentive for both DRGs and global budgets is for facilities to eliminate any over-provision of services and unnecessary lengths of stay, although it is sometimes argued that there are new incentives for under-provision (e.g. lower average length of stay and reduced use of resources).

Discussion on DRGs started in the early 1990s and various demonstration programmes were undertaken from 1997 to 1999. In 2002, DRG case payments were finally introduced on a voluntary basis, with 51 DRGs for seven disease groups. These groups were:

- caesarean section (3 DRGs);
- appendectomy (6 DRGs);
- lens procedures (12 DRGs);
- tonsillectomy and adenoidectomy procedures (4 DRGs);
- inguinal and femoral hernia procedures (8 DRGs);
- anal and stomal procedures (6 DRGs);
- uterine and adenexa procedures for non-malignancy (12 DRGs).

The Korean DRG-based payment system is actually a mixed payment system. The major portion of the payment to the provider is fixed prospectively, with a smaller portion taking into account the actual costs of treatment via both outlier payment and patient cost-sharing (Kwon, 2003b). DRGs now contain services that were previously not covered by NHI and for which people had to pay cost-sharing and other out-of-pocket payments.

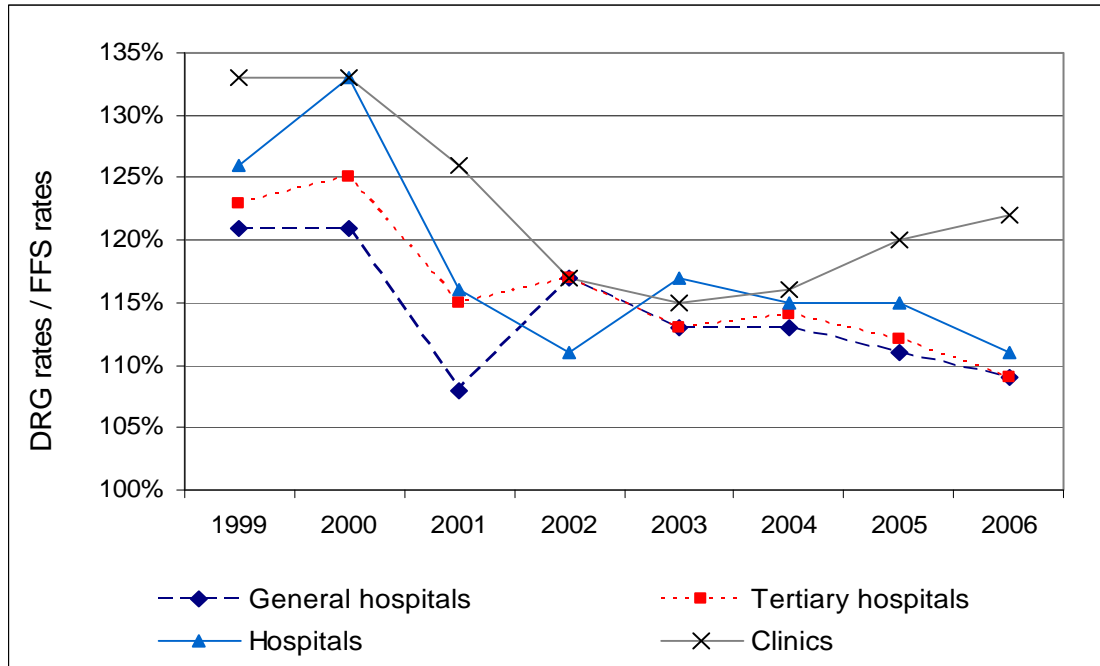
As Kwon (2003b) explains, criteria for selecting the disease groups included:

- lower than average variation in medical expenses;
- little disagreement and variability among physicians on treatment methods;
- lower degree of uncertainty about treatment outcomes;
- high frequency of utilization;
- smaller proportion of uninsured services.

At present, DRGs are applied only to a limited number of diseases and the participation of facilities is voluntary. Mandatory application of DRGs in all facilities has been resisted by some key stakeholders. Among the fears about DRGs expressed to the writing team were a concern that hospitals and providers would lose income if they were introduced, that the MOH may lower DRG rates at a later stage, and that it reduces clinical autonomy and quality. However, international experience suggests that quality would decrease only if there was supplier-induced under-provision as a result, something that has not yet been documented.

In 2007, 2350 providers participated – i.e. nearly 70% of all providers. Participation is highest among clinics, reaching 78% in 2007. The incentives for clinics to shift to the DRG system are more pronounced, as the rates are higher than the FFS remuneration rates. In contrast, the participation of tertiary hospitals decreased from 9.5% to 2.3% in 2007, as the difference between DRG and FFS remuneration became smaller (HIRA, 2008b). For tertiary hospitals, DRGs appear less attractive, as they treat more complex cases with outliers. Fig. 5.13 provides an overview of the differences in DRG remuneration rates and FFS rates.

Fig. 5.13. Comparison of DRG rates and FFS rates



Source: HIRA, 2008b

DRG rates have been set partly on the basis of case-costing and partly on the RBRVs for the respective service. The DRG rate covers all services related to the treatment, except meals and certain services/tests such as MRI and other specific radiography, sonogram, certain treatment tests, and oriental medicine. Likewise, special treatment and special room charges (see further below) are not covered. However, overall the DRG payment system resulted in an expansion of benefits related to the diseases covered. As the DRG payment rate implies higher coverage for the patient – i.e. lower cost-sharing – DRG rates have been set at a higher level in order to make it attractive to facilities to join the DRG system.

It is too early to judge the effects on the related health financing performance indicator, namely equitable and efficient service delivery. Judgement is also difficult, since the current system is not fully in place at all providers and then only on a voluntary basis.

Box 5.3 presents some initial insights.

Box 5.3. Impacts of the DRG system

Earlier DRG impact studies noted service shifting – namely a reduced number of tests in inpatient care and increased application of tests before hospitalization, a reduction in average length of stay, and a supplier-induced demand for increased outpatient visits. Use of antibiotics was also lowered, which in principle is a positive effect given the Korean context of apparent over-use of antibiotics. However, use of some antibiotics increased after discharge, though with a total net decrease (cf. Kwon, 2003c; Cho, 2008). It is also positive to notice that C-section rates have not increased by DRG-participating facilities (Lee/Lee 2007). Furthermore, during the DRG pilot phase, out-of-pocket expenditure fell by about 20% (Choi, 2008). Still, even several years later, HIRA continues to observe early discharge rates and postponement of procedures after discharge. Likewise, up-coding (DGR creep) occurs with a significant effect on total DRG expenditure.

With respect to cost-containment, the MOH's expectation was that DRGs would reduce costs in the long term due to changes in provider behaviour. However, in the absence of volume control or a budget cap, DRG remuneration that is even higher than the respective FFS remuneration might not achieve a cost reduction. In fact, during the DRG pilot period from 1997 to 2001, treatment costs per case increased in similar ways in both the DRG and FFS systems (10.6% and 12.1% respectively) (Choi, 2008). Another institutional challenge remains: since participation in the DRG system is voluntary, providers with high costs and more complex cases (especially large hospitals) prefer to remain in the FFS system. This may also mean that the higher DRG rate in comparison to the respective FFS rates are not sufficiently convincing for providers with more complex cases. In contrast, providers that have a lower cost structure (e.g. clinics) are more likely to join to increase their profit. It seems that it will be difficult to gain the benefits of the DRG system in terms of cost containment when it is voluntary.

As a result, the government intends to introduce DRGs in all hospitals and to have a wider range of DRGs by 2010 that takes account of outliers and hospital specifics. Furthermore, due to the above challenges, discussions and pilot projects in the Ilsan NHIC hospital are focusing on a mixed payment model of diagnosis procedure codes as in Japan, with case payment being based on daily charges. Experience in other countries has shown that the introduction and extension of DRGs requires close collaboration with providers and stakeholders, given the need to obtain objective data to set DRG reimbursement rates. It is also necessary to get public support and to inform people, and specifically patients, of the health care expenditure challenges.

Pay-for-performance scheme

In addition to the regular remuneration process through the FFS scheme and the DRG system, NHIC and HIRA are undertaking a pay-for-performance pilot project in all 43 tertiary hospitals. Claims payments are linked to the achievement level of selected quality indicators, namely acute myocardial infarction rates and caesarean section cases. If quality indicators are met, NHIC adds 1% to the total amount of claims for these cases,

and – in the future – plans to deduct 1% in case they are not achieved. Some hospitals consider this as a double cut, since the regular claims review process already adjusts the claimed amount and results in a small reduction of payment of 1% on average. Key informants consider the pay-for-performance scheme as very resource-intensive. HIRA argues that ways need to be found to organize this scheme more efficiently, possibly by linking it to other ongoing quality management activities (HIRA, 2008d).

Special treatment charges and non-regulated fees for non-covered services and benefits

Patients have to pay special treatment charges for being treated by doctors with a certain amount of work experience and special room charges for admissions to an "above standard/special" (i.e. better-equipped) hospital room with fewer than five beds. Special treatment charges are regulated by the Medical Act (MOGL, 2008b) and the "Enforcement regulations regarding special treatment charges" (MOGL, 2008c) which set out the maximum to be charged by a hospital. These special treatment charges are quite significant, as Table 5.7 below reveals. Special room charges, on the other hand, are not regulated or limited at all, so the hospitals can set their own prices.

Table 5.7. Special treatment charges

Treatment item	Special treatment charges (as a percentage of NHIC treatment fees covered)
Outpatient care consultations	up to 55%
Inpatient care consultations	up to 20%
Laboratory diagnosis tests	up to 50%
Imaging	up to 25% (in case of radiology, up to 50%; angiography, up to 100%)
Anaesthesia	up to 100%
Psychotherapy	up to 50% (longer treatment, up to 100%)
Inpatient surgery	up to 100%

Source: MOGL, 2008b

Patients have to pay fully for non-covered services, where user charges are not regulated, leaving the providers free to set their own rates. In general, publicly-owned facilities have lower user charges for non-covered services than other providers (Choi, 2007 in Ruger & Kim, 2007). The absence of regulation results in relatively higher rates and profit margins at private providers than for the covered services (HIRA, 2008b). Providers may offer both covered and non-covered services during the same episode of illness. As such, private providers could have an incentive to substitute non-covered services for covered ones.

We have been told by stakeholders in Korea that the public is concerned that the special treatment charges and user fees for non-covered services are used to cross-subsidize for lower reimbursement rates for covered services. Since hospitals have to keep only 50% of their rooms as "standard" rooms, a large number of patients may not be able to stay in a "standard" room in order to avoid the special treatment charges. Furthermore, it is reported that the minimum requirement of keeping 50% of rooms as "standard" ones is neither complied with nor effectively monitored and enforced.

Verifying this claim is difficult because there is no full health information management system that captures the volumes and types of non-covered services provided. The reasons for this, according to NHIC and HIRA, are the limitations of government in regulating non-covered services. Hence, there is no way to assess whether and to what extent over-provision occurs. Even when the NHIC expands the benefit package, the NHI benefit package ratio (the NHI benefit amounts as a share of the sum of total NHI treatment amounts and out-of-pocket payments) may not improve if and when providers increase the user charges for non-covered services.

Reimbursement system for pharmaceuticals

Western medicines have been included in the NHI benefit package since 1989. Since the separation reform has been in place, only doctors can prescribe whereas pharmacists only dispense. For NHI purposes, medicines are differentiated into NHI-reimbursable medicines and those not reimbursable. NHI-reimbursable medicines cover most "professional" medicines (elsewhere often called prescription medicines) yet certain ones are not included. Furthermore, NHI-reimbursable medicines also include some "general" medicines (i.e., non-prescription medicines or over-the-counter medicines). With the new remuneration system, pharmacists make profits only through the volume of NHIC-reimbursable medicines sold – i.e. through the number of prescriptions and the size of the medicine dosages – apart from selling over-the-counter medicines to patients without a doctor's prescription.⁸ Pharmacists are remunerated on the basis of five fee types, namely:

- pharmacy administration/management fee (fixed);
- basic dispensing fee (fixed);
- medication explanation fee (fixed);
- dispensing fee (non-linear increase with increased number of medicines up to a maximum);
- administration of pharmaceuticals fee (non-linear increase with increased number of medicines up to a maximum).

For each of these five activities, a RBRV is set, which is then multiplied by a conversion factor. Questions have been raised in Korea whether five different remuneration fees are required to ensure adequate and fair remuneration of pharmacists, as well as the administrative costs of managing five different fees.

With the separation reform, pharmacists are authorized to supply generics and lower-cost medicines in place of expensive ones so long as their efficacy has been verified by a bioequivalence test. When they wish to do this, they are required to receive the doctor's agreement. Alternatively, they can get the patient's agreement, in which case the doctor simply needs to be informed by fax. As part of a demonstration project, the substitution of generics for high-cost medicines is financially rewarded by the NHIC by paying the pharmacy 30% of the difference in price. Substitution of a higher-cost medicine for a lower-cost medicine may also occur when a pharmacy does not have the required

⁸ In some (rural) areas, patients may also receive medicines from pharmacies without a prescription.

medicine in stock. This is being reviewed by HIRA and is authorized only within specific limits. It takes about two months before pharmacists are remunerated by NHIC. Given loan payments and other transaction costs during this time, pharmacists have a strong interest in lower-cost medicines to reduce their operating costs.

The pharmacy dispensing fees are based on the respective RBRVs multiplied by the respective unit costs. RBRVs for pharmaceutical dispensing have been set by HIRA in the process of its RBRV review project. The conversion factor is negotiated between NHIC and the pharmaceutical association, and is then finalized within the respective national committee.

Pricing of medicines was revised in November 1999, also changing the remuneration amounts that doctors and pharmacists received. The MOH introduced "actual transaction pricing" (ATP) – or a "no-margin policy" through which providers are reimbursed for the price they pay for a medicine rather than for the official list price. In contrast to earlier years, the reimbursable medicine prices no longer reflect the wholesale price but effective discount prices. Pharmaceutical companies complain that these rates are too low, whereas civic groups argue that they are still too high. As a result of ATP, medicine prices fell by about 30% between 1999 and 2000 (Kim & Ruger, 2008). Bae's analysis (2007) of claims data from 2001 to 2004 also shows that average medicine prices have been decreasing (cf. Jeong et al., 2005b).

For innovative new medicines, price-setting was based on comparison with the A7 nations' "adjusted average prices".⁹ Given that Korea was one of the fastest adopters of new medicines, it was found that often only a small number of countries had already adopted a new medicine and hence the basis for price comparison was very small (Yang et al., 2008).¹⁰ For other medicines, reference pricing has been discussed but has not been implemented. A new pricing mechanism has been in place since 2007, by which HIRA provides an upper price limit after internally reviewing the economic evaluation results and by considering all possible price information available in both domestic and overseas markets. The price is then decided after negotiation between the insurer and the pharmaceutical companies on the basis of the upper limit proposed by HIRA (NHIC, 2007; HIRA, 2008a).

As part of the separation reform package, the pharmacists' remuneration fees were also increased (Kwon 2003c). In fact, as a consequence of substantial fee increases following the separation reform, estimated average annual profit increases were enormous, ranging from ₩23 million to ₩87 million per pharmacy between 1998 and 2001 (Jeong, 2004). This amounted to an increased profit margin of 7.5-28.5% for pharmacists. In combination with the sharp increases in the medical fee rates, the objective of containing

⁹ The prices are calculated by adding the Korean value-added tax and a distribution margin to ex-factory prices in the following seven countries: France, Germany, Italy, Japan, Switzerland, UK, USA (HIRA, 2008d).

¹⁰ The A7 pricing information is still used by pharmaceutical companies when handing in their medicine data to be assessed for reimbursement.

health expenditure through both the no-margin policy and the separation reform has not yet been fully achieved (see further below).

Nevertheless, substantial changes have been introduced over time in the remuneration process of pharmaceuticals and price-setting. The main objective of rationalizing medicine prescription and medicine consumption has been achieved, as demonstrated by the evidence provided in Box 5.4.

Box 5.4. Achievements of the separation reform

Improvement in rational medicine prescription behaviour

The number of medicines prescribed went down from 5.9 per claim in 2000 to 4.2 in 2008 (Jeong 2009b). Likewise, claims containing prescribed antibiotics against the number of total claims from doctors' clinics decreased from 55.7% in 2000 to 29.6% in 2008 (ibid.). The decreases in antibiotics use showed some positive effect on the resistance rates of certain antibiotics (Lee, undated). The prescription rate of injections decreased by 18% within the first year, although the number of injections continued to decline, by 30% within two years, even after physicians were again permitted to prescribe them (Lee, undated).

Given that Korea's average number of NHI-reimbursable medicines per outpatient visit still remains relatively high by OECD standards, there is still room for further decreases in prescribing behaviour. Moreover, there is some evidence that medicine dosing periods have increased (Kim & Ruger, 2008) which increases utilization and costs.

Improvement in rational medicine consumption behaviour

Since the separation reform, patients are required to go first to a clinic or hospital and then visit a pharmacy. For minor ailments and over-the-counter medicines, people may well find that visiting a doctor is too inconvenient. As a result, as one study showed, the percentage of persons visiting medical institutions for minor ailments fell by 62% from November 2000 to May 2002 (Cho, 2002, in Kim et al. 2004).

On the other hand, at least in the short-term, medicine expenditure and total NHI expenditure has not fallen.

In fact, pressure for an increase in medicine expenditure was to be expected due to the increased dispensing fees for pharmacists, at least partly offsetting the pressures for a decline related to lower numbers of medicines being prescribed and lower medicine prices overall. At the same time, it appears that the share of higher-cost medicines increased as did the duration/quantity of medicine dosages (see below for further explanations).

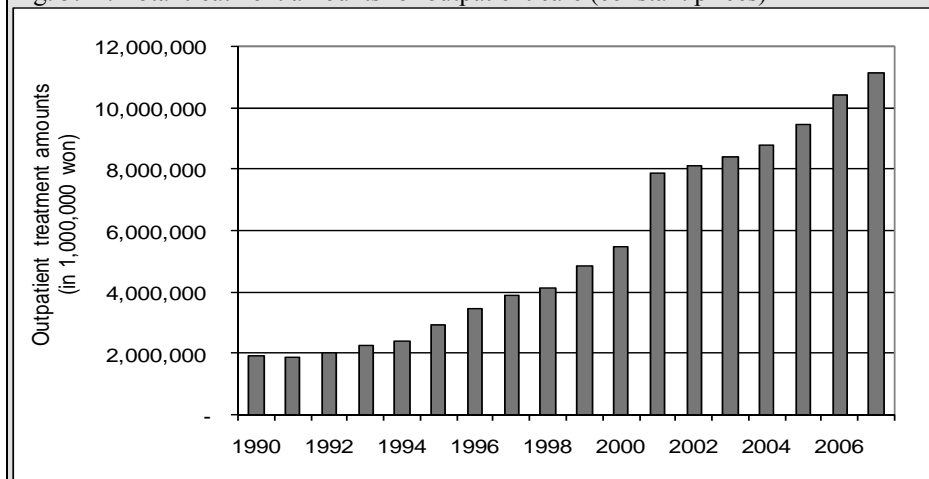
NHIC expenditure for outpatient care could also be expected to increase following the 1999-2001 increases in medical fees and the increased number of outpatients. The latter is due to the fact that reimbursement of over-the-counter medicines with a doctor's prescription encourages patients to use more outpatient services in order to have medicine-spending reimbursed, and in fact an overall increase in outpatient visits was noted immediately after the implementation of the separation reform (Kim et al., 2004, cf. Kim 2002b). Box 5.5 provides some evidence, but the long-term effects of the separation reform will need to be assessed as well.

Box 5.5. Anticipated effects of the separation reform

Increased NHI expenditure

The costs of pharmaceuticals per episode have increased by 12%, presumably as a result of the increased number of high-cost medicines prescribed as well as the increased dosage length (Kim & Ruger, 2008). Based on data from the System of Health Accounts, Jeong (2006) estimated that the impact of the separation reform was around ₩1.7 trillion in 2001 (which is 13% of the total outlay of NHI) and more than ₩2.0 million trillion in 2003 (15% of NHI's total outlay). His analysis confirms that the dispensing fees and the larger share of expensive medicines are the main causes of increased expenditure on medicines (cf. Jeong & Lee 2008). Thus, the overall lower medicine prices as a result of the ATP was an important step, but did not offset the factors leading to expenditure increases (cf. Jeong et al., 2005b). Fig. 5.14 presents total treatment amounts for outpatient care and reveals the sharp increase in expenditure, particularly in the year 2001.

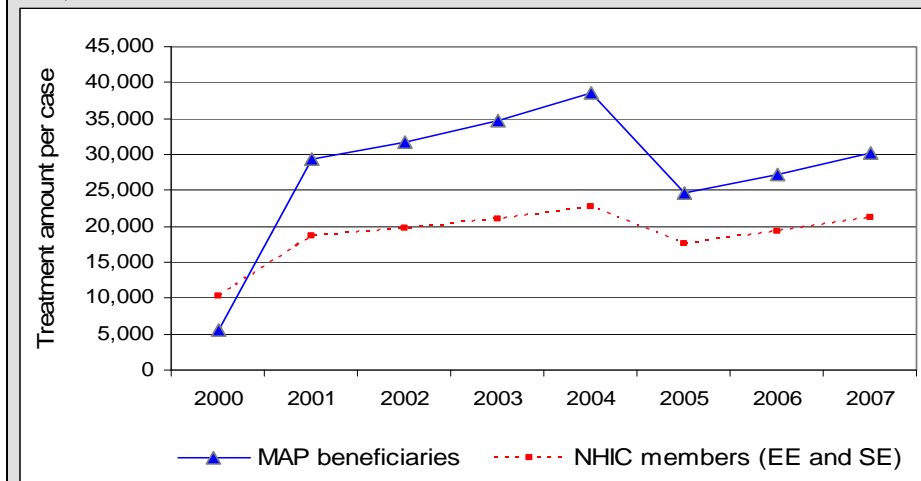
Fig. 5.14. Total treatment amounts for outpatient care (constant prices)



Source: NHIC & HIRA statistical yearbooks

Fig. 5.15 equally shows that costs per pharmaceutical claim have been increasing since the separation reform.

Fig. 5.15. Costs per pharmaceutical claim by NHI and MAP beneficiaries (in constant prices, 2000)



Source: NHIC&HIRA, 2008; MOH, annual: MAP statistics

Increased out-of-pocket expenditure for patients

The separation reform also led to an increase in cost-sharing for medicines in line with the cost increase for pharmaceuticals per episode. In addition, patients now encounter cost-sharing for outpatient consultations at physicians in order to buy some medicines which they previously could buy over the counter, as well as those linked to increases in medical fees.

There are many positive and important achievements of the separation reform as described above. It is almost inevitable that with any reform in any country, some effects emerge that are unanticipated. This has happened in Korea as well, and these issues are being investigated by the relevant authorities. These include the apparent incentives for providers to prescribe higher cost medicines and longer treatment periods. It is important to note that most of the available evidence is as yet of short-term nature, and that other long-term effects will need to be monitored to obtain a complete picture.

Incentives for physicians to prescribe fewer medicines or lower-cost medicines

A major institutional question relating to the remuneration system for pharmaceuticals is that physicians do not seem to have strong incentives to prescribe fewer medicines or lower-cost medicines and generics, unless the client demands it. While pharmacists can overrule a physician's prescription with the patient's agreement, or can try to obtain the physician's agreement, it is not clear what impact this has on physician prescribing behaviour. On the other hand, doctors can no longer make profits on medicines, so the previous incentives for over prescription seem to be removed although they are apparently susceptible to other incentives. Key informants report that doctors receive various incentives, commissions, rewards and non-cash benefits from pharmaceutical companies promoting their products (key informants, cf. Kwon, 2003c; Kim & Ruger, 2008). This might explain the previous data suggesting that there has been a switch towards higher cost medicines in recent years and an increase in the duration of treatment - see Box 5.6.

Box 5.6: Changes in prescription patterns

Kim & Ruger (2008) report that the percentage of high-price prescriptions for outpatients increased from 26% (March 2000) to 34% (March 2001) at physicians' offices, and from 59% to 73% at general professional hospitals. Likewise, the percentage of patients using relatively high-price, brand-name medicines, even when alternatives of equal quality are available, has more than doubled (from 26% in May 2001 to 54% in May 2002) (ibid). Bae's analysis (2007) with claim data from 2001 to 2004 shows that the proportion of high-cost medicines continues to increase.

Incentives for pharmacists to substitute generics for higher-cost medicines

Even though pharmacists can substitute generics for higher-cost medicines to some extent, we are told that this mechanism is limited in practice. Firstly, the number of approved bio-equivalent generic medicines amounts to only 788 products (Lee, undated). Secondly, both physicians and consumers have low confidence in the therapeutic effect of generics. Thirdly, doctors disapprove of the pharmacists'

substitution of generics, as rewards from pharmaceutical companies depend on the number of prescribed and actually dispensed medicines. According to key informants, pharmacists are in practice severely restricted in replacing medicines for fear of spoiling the relationship with the doctor. They report that doctors convince patients that substitution results in low quality and thus advise patients to go to other pharmacies. In light of strong competition, with one pharmacy for about 2000 people, pharmacists have an interest in keeping smooth relations with doctors. It is also relevant that many pharmacists receive their clients from only one or a few specific clinics.

Checks-and-balances system between physicians and pharmacists

The exposure of the physicians' prescriptions to pharmacists and patients may make physicians more conscious of their prescription behaviour. Yet, on the other hand, there are no incentives for pharmacists to engage in a rigorous check of physicians' prescriptions. Furthermore, since pharmacists' dispensing fees rise with the number of medicines as well as dosage length, it is financially not attractive to them to correct high medicine use. In light of the delicate relationship between pharmacists and doctors, pharmacists might not be expected to be very active in reducing overuse of medicines except in severe cases.

HIRA has recognized these issues and has established a pilot project through which physicians receive a higher remuneration for a lower medicine prescription rate. The results are published.¹¹ There are still some conceptual and methodological issues and challenges to be addressed, such as whether a doctor who has made significant improvements in prescribing should be rewarded for this achievement, or whether the reward should go to one who is already at a lower prescription level. Above all, the project creates an environment for publicly addressing the problem of over-prescribing. These are important reform steps that have increased efficiency in purchasing medical services and pharmaceuticals. Further institutional changes might be considered by the Korean authorities to continue the process of improving efficiency and equity in delivering the benefit package. For example, this pilot scheme might be extended to include medicine dosages as well as the number of medicines. Incentives could be introduced for prescribing generics instead of high-cost medicines, and ways of eliminating the ability of doctors to benefit from the pharmaceutical companies' incentives could be tested.

¹¹ The prescription rate of an individual doctor is divided by the average prescription rate.

5.3.4. Claims management and review

HIRA is in charge of the claims management and review, which is undertaken by about 1000 persons, 650 of whom are part-time medical staff who operate their own clinics.

Some 95% of facilities submit their claims electronically through the electronic data interchange system (EDI) or by sending in CDs or diskettes. Upon submission, claims are automatically reviewed by a software program which checks the data input (e.g. codes, prices, data gaps or data input errors) and the application of benefit standards. On the basis of this automatic check, facilities can resubmit their claims if necessary (HIRA, 2008a). This check also assesses whether the cost-sharing payments charged are correct. The introduction of EDI has greatly increased efficiency and speeded up the process. It also contributed to transparency.

Less than 20% of outpatient claims and about 80% of inpatient claims undergo a so-called "close review" process, where claims are compared with standards of medical care in more detail. In case of discrepancies, a substantial number of the claims undergoing close review are then sent to a so-called "committee member review" for clarification. A claim may also undergo a full committee review to settle disputes on differing clinical views. If NHIC, providers or patients are still not satisfied, they have the right to make an appeal to HIRA to reverse a decision by the National Health Insurance Act (HIRA, 2008a). Finally, HIRA can also revert to on-site investigations in cases of fraud. The closed review is also used to develop indicators and to test artificial intelligence in order to shorten the process.

While some technical errors occur in filling in the claims on the EDI, one of the main reasons for close review of claims is the difference between HIRA standards and a doctor's practice and understanding of clinical autonomy, as well as discrepancies in application of fees. Clinical autonomy is an issue of frequent dispute between doctors and insurance-related actors (MOH, NHIC, and HIRA).

After the first automatic computer check of claims, 99% of the providers' total amount claimed from HIRA is paid by NHIC. The adjustment rate was thus only 1% in 2007 (HIRA, 2008d). With such a low adjustment rate, it might be useful for the authorities to consider if a much smaller number of inpatient claims should undergo a close review, or the adjustment rate could be modified. As yet, there is also no agreed sampling method in place for selecting claims for review.

There may be some conflict of interest as some doctors involved in the review process come from the private sector. On the other hand, the scope of regulatory capture is limited given the clear standards that guide the review process.

Until 2008, the review of MAP claims was undertaken by a separate department given that the MAP is based on a separate law. The claims management process for provider remuneration for MAP beneficiaries followed the same procedures as for NHI

beneficiaries, except that the government reimburses a higher amount to providers because of the lower cost-sharing rates of MAP beneficiaries. It was acknowledged that MAP patients may not receive the same level of medical attention. The administrative effort required of providers in the claims management process is more intense. This may make it less attractive for doctors, or at least private providers in urban areas, to treat MAP patients, except for psychiatric treatment which is reimbursed at a higher rate than that for NHI patients (key informants).

5.3.5. Quality management

There is no specific accreditation scheme in Korea, and physicians' offices have to apply for a licence from the provincial government of the area in which they wish to operate. However, the MOH runs a hospital evaluation programme that assesses every three years the patient rights, task-specific performance, quality of clinical treatment and patient satisfaction of each of the 400 hospitals. The evaluation is undertaken by the Korean Health Industry Development Institute, together with MOH staff and representatives of the hospital association. On the basis of this evaluation, hospitals are scored and ranked. The programme has been operating for several years, but only in 2004 were results finally published following pressure from civil society. However, only the ranking of the top 43 hospitals is provided to the public, while the precise hospital scores are not disclosed.

According to MOH officials, the performance of hospitals has improved since the results were published. Nevertheless, the evaluation scheme has also been criticized, largely by physicians with their own offices. There is concern about the objectivity, fairness and correctness of the tools applied. It is felt that the hospital assessment favours big hospitals rather than the lower levels, which could lead to a situation where patients will focus even more on tertiary care (key informants).

In addition to the MOH hospital evaluation programme, the HIRA Department of Assessment undertakes a quality assessment programme. Curative care in hospitals and clinics, as well as utilization and appropriate use of medicines, are reviewed by means of a list of quality indicators. The department also evaluates the appropriate use of medicines. Furthermore, as mentioned in the previous section, HIRA operates a pay-for-performance demonstration project. The threshold indicators defining performance are developed for each year. Results of this initiative were published for the first time in 2007. Key informants suggested that one of the key challenges of the initiative is that hospitals do not agree on the objectives and indicators and, as such, it is difficult to set national goals. As in other countries, hospitals also argue that the quality-based purchasing programme constitutes an administrative burden and cost given the additional data collection requirements.

Another new system is the "comprehensive management for appropriate medical services" that is designed to encourage providers to improve voluntarily the quality of their health care services by ameliorating their service patterns. HIRA assesses and classifies the providers on the basis of claim reviews and quality assessment results in

order to determine the type of HIRA interventions needed. About 20% of facilities benefit from intervention activities, ranging from phone calls to field-visits, group discussions and educational programmes (HIRA, 2008d).

In light of the possible incentives for under-provision linked to DRG-based payments, it could be argued that quality control and quality management are needed. The establishment of these quality assessment programmes points in the right direction. As they develop further, it would be important to assess how these three programmes (the MOH hospital evaluation programme, the HIRA assessment, and the pay-for-performance pilot), in addition to individual hospitals' specific quality management initiatives and the regular HIRA claims review process, fit together and to what extent they overlap. Another question that should be considered is whether forms of quality control should be instituted for uninsured services which are not currently assessed.

5.3.6. Rational benefit package consumption

For efficient and equitable service delivery, the actual level of consumption of the benefit package by patients is of great importance. In all social health insurance systems, there is a risk that consumption of the benefit package may be too low because of financial barriers, or lack of knowledge of entitlements, or because patients have no way to address sub-optimal delivery of the benefit package. On the other hand, consumption may be too high due to moral hazard. This section looks at the institutional set-up that determines benefit package consumption, namely the cost-sharing schedule and patient appeal mechanisms.

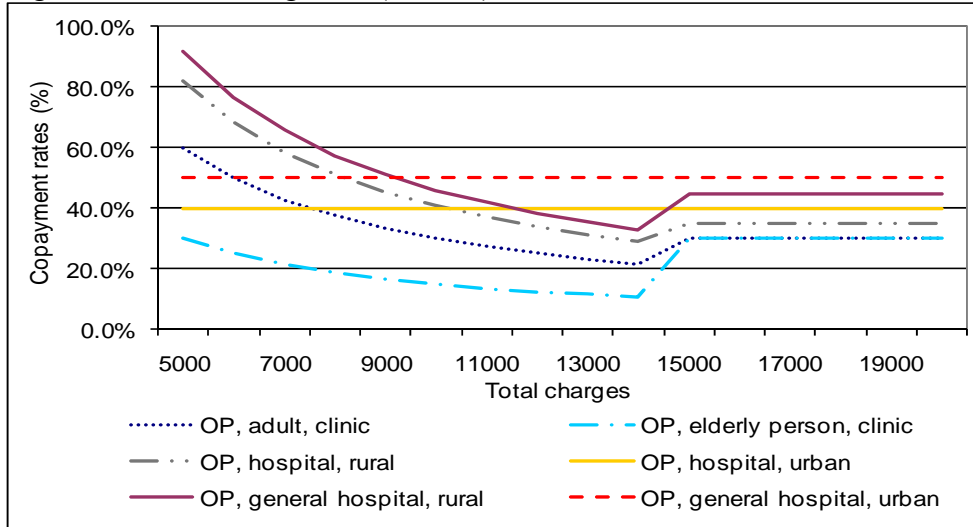
Benefit package consumption rules for NHI members

In Korea, patients enjoy full provider choice – i.e. they can choose both public and private providers, western medicine and oriental medicine providers, and may also use several providers during the same episode of illness. Furthermore, in the absence of a gate-keeper system, patients are free to make first visits to tertiary facilities, since higher-level facilities accept patients without referral letters.

Cost-sharing plays an important role in the NHI system. The intention is to control consumption and avoid waste. NHIC cost-sharing rates are the same for public and private providers. Inpatient cost-sharing rates amount to 20% of total treatment costs, whereas the outpatient cost-sharing rates differ according to the level of care, the area where the provider is based (urban versus rural) and the age of the patient (below 65 years or over 65 years) (NHIC, 2008a). Cost-sharing for pharmaceuticals also varies according to these age categories. This age differentiation does justice to the fact that elderly people often have a lower income yet have more health care needs. For minor ailments requiring outpatient care (below ₩15,000) or prescribed medicines below ₩10,000, people above 65 years pay only half of the flat amount. The cost-sharing schedule also takes account of the different service provision situation, as well as income levels of the rural population, in that cost-sharing rates at rural (general) hospitals are

lower than at urban (general) hospitals for total user charges above ₩9000. These selective differentiations for elderly people and for the rural population reduce the regressive effect of cost-sharing to some extent. Fig. 5.16 applies these cost-sharing rates on an exemplary range of total treatment charges. Tables A2 and A3 (Annex) outline the outpatient cost-sharing schedule in detail.

Fig. 5.16. Cost-sharing rates (in Won) as share of treatment costs



Source: based on NHIC, 2007

Although cost-sharing rates for outpatient care are higher at general and tertiary hospitals than at clinics and hospitals, there still remains a strong preference for seeking outpatient care at higher levels (key informants). This is also due to the fact that the number of family doctors is relatively low and does not currently meet the need for primary care physicians (Cho & Rho, 2003). This possibly reflects the fact that Koreans have a strong preference for specialized care at hospital outpatient departments. The outpatient cost-sharing rates are generally considered as low, according to key informants, which might help to explain the high outpatient utilization rate in Korea. It also could be argued that it makes provider-induced over-provision possible (e.g. requesting patients to come for a second or third visit when this may not be necessary). Furthermore, medicine reimbursement with a doctor's prescription encourages patients to use more outpatient services in order to have medicine spending reimbursed.

The take-up of the health screening benefit was only 52% in 2005 (NHIC, 2007), but it is lower for the SE insurees. The cost-sharing rate of 20% for the health screening tests may be one reason for the lower take-up. In addition, however, we were informed that there might be lack of trust combined with lack of knowledge of the NHI offer, or that the programme is perceived as being of low quality by the SE group.

NHIC operates a cost-sharing ceiling. If total cost-sharing payments reach ₩2 million within a period of six consecutive months, the patient is exempted from any further cost-sharing. Further studies are under way to differentiate the cost-sharing ceiling according

to income status – i.e. the ceiling would be further reduced for lower-income groups by establishing two or three ceiling levels. These changes are based on the recognition that the high cost-sharing rates in Korea erode financial risk protection, particularly for lower-income households. Yet, with a cost-sharing ceiling per six months, there is no complete stop-loss mechanism in place, since a patient may be faced with cost-sharing payments just below ₩4,000,000 a year and hence may not benefit from the ceiling mechanism at all. An EE insuree earning the average salary of ₩2,555,815 would thus have to pay 13% of his/her salary income in cost-sharing, and for somebody with a salary of ₩1,250,000 or less – namely for about 33% of EE principal insurees – this would amount to 27% of salary income and even more for those below that income. The Korean authorities might wish to consider if additional mechanisms or modifications would be appropriate to extend the level of financial risk protection from high out-of-pocket expenditure.

In addition to these established cost-sharing rates, patients have to pay extra charges (so-called special treatment charges) for specialists working in tertiary care hospitals with more than 10 years work experience, as well as an extra charge for "above standard/special" rooms. In addition, patients have to pay user charges for non-covered services and meals during inpatient care. In many instances, because only 50% of rooms must be designated as standard rooms, there might not be space in standard rooms so that patients have to pay extra for "above standard/special" rooms for which special treatment charges are due.

Fig. 5.17a/b provides an overview of the trends in cost-sharing and other out-of-pocket expenditure (excluding cost-sharing) by NHI beneficiaries. Chapter 7.4 looks further at the implications of this spending pattern.

Fig. 5.17a. Cost-sharing expenditure

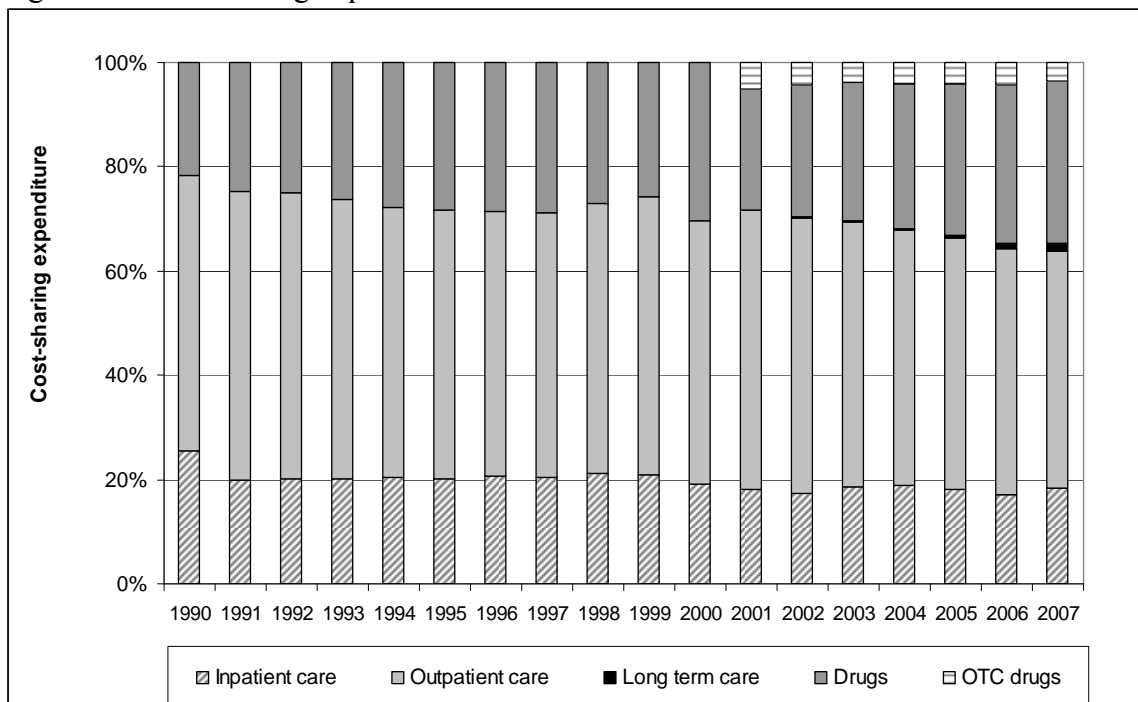
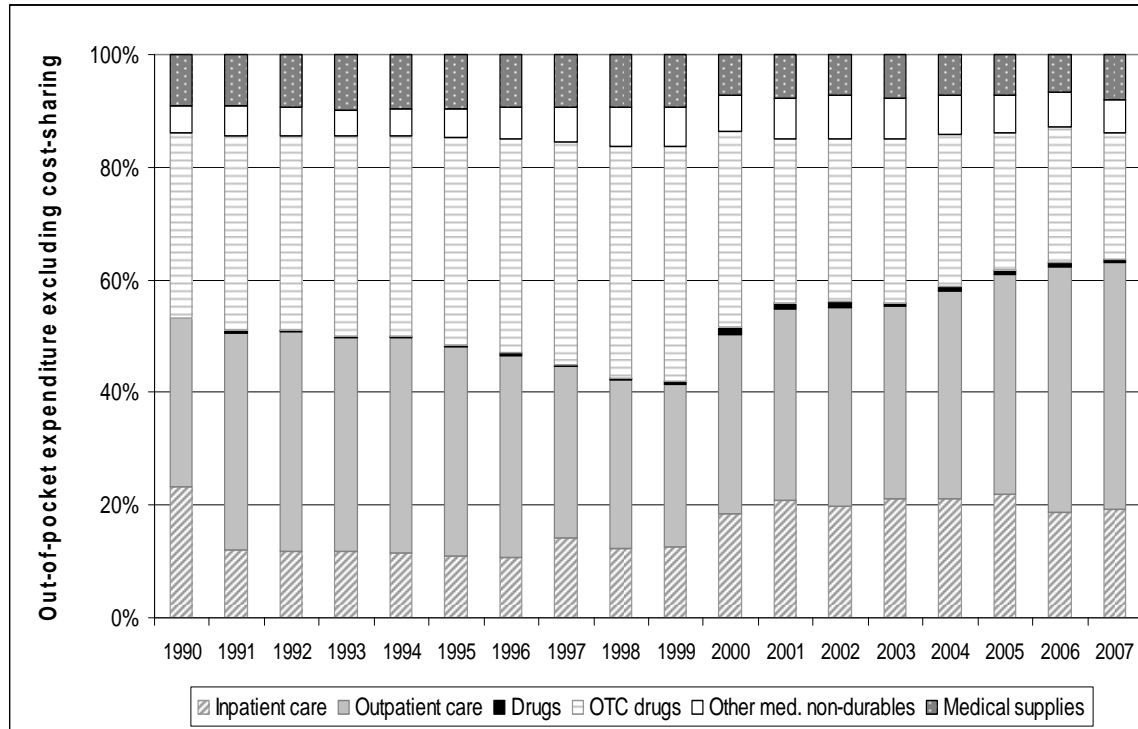


Fig. 5.17b. Out-of-pocket expenditure (excluding cost-sharing)



Source: data from Jeong (2009a)

In cases of dispute regarding cost-sharing and out-of-pocket expenditure, NHIC provides an appeals mechanism which patients can also use to review of any decision by NHIC (or HIRA). Furthermore, patients can ask HIRA to check their total bill for out-of-pocket expenditure in case they suspect over-charging by providers. Since 2002, NHIC has intensively promoted the issuing of medical receipts by providers (NHIC, 2007). No information is available, however, on the extent of use of these mechanisms.

In order to improve consumption of the benefit package, NHIC has introduced a case management programme for chronic diseases, with about 700 people covered. Another pilot programme has been set up for pregnant women, which serves to change the prevailing perceptions around childbirth in order to ultimately reduce the number of caesarean sections. There is no specific patient rights charter but hospitals have developed their own statements.

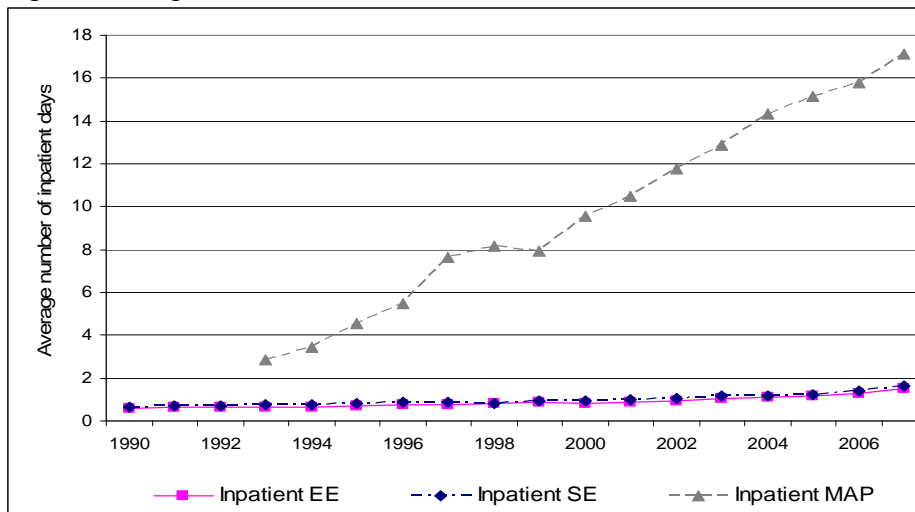
Benefit package consumption rules for MAP beneficiaries

Rules regarding rational consumption of the benefit package are somewhat different for MAP beneficiaries. First, the referral system strictly applies to them. Secondly, the cost-sharing schedule for MAP is different. Until July 2007, MAP class 1 patients were fully exempted whereas class 2 beneficiaries had to pay lower rates.

In view of the high utilization rates of MAP beneficiaries, the MOH has introduced cost-sharing rates for class 1 patients and has increased them for class 2. Table A1 (Annex) provides a detailed account of the previous and the most recent cost-sharing schedule. In general, for outpatient care at clinic level, MAP class 1 beneficiaries pay a flat amount whereas class 2 MAP beneficiaries pay 15% of treatment charges at hospital level against the 35-50% that NHI beneficiaries pay. For inpatient care, class 2 MAP beneficiaries pay 15% of treatment charges, which is close to what NHI beneficiaries pay. However, class 2 MAP beneficiaries with severe or chronic diseases, as defined by the MOH ordinance, pay lower rates. Class 1 beneficiaries who are less than 18 years of age, pregnant or nursing, or who have a rare and incurable disease, are fully exempted from cost-sharing.

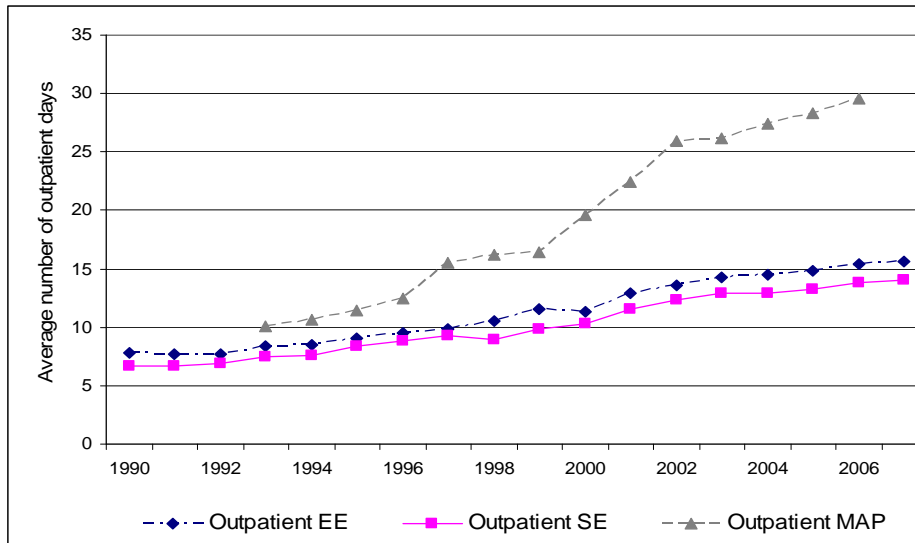
A challenge for MAP is the rising utilization rate of MAP beneficiaries, as outlined in Fig. 5.18a/b. In 2006, outpatient utilization rates were about twice as high, and inpatient utilization rates were 9-10 times as high, as those of NHI patients. A study based on 1998 data of the Korean Health and Nutrition Survey revealed that 40% of MAP beneficiaries had a prevalence of three or more chronic diseases/conditions compared with 16-19% for NHI insurees (Ruger & Kim, 2007). This results in a yearly benefit amount of ₩1,791,213, which is 3.7 times higher than for NHI patients (cf. Chapter 7.3).

Fig. 5.18a. Inpatient utilization of EE, SE and MAP beneficiaries



Source: NHIC & HIRA statistical yearbooks

Fig. 5.18b. Outpatient utilization of EE, SE and MAP beneficiaries



Source: NHIC & HIRA statistical yearbooks

Because of concern with these higher costs, the government has revised the cost-sharing system and has introduced a monitoring system. Some 43,000 MAP class 1 patients are in this monitoring and case management programme. Health staff provide advice to them if their utilization rate becomes high. If there is no change in utilization rates, the MAP beneficiary will have to use a designated facility, thus limiting provider choice.

Another plan is to introduce a financial allotment system with the MAP funds in order to monitor where the increase takes place and to inform the local government more rapidly of MAP patients with higher utilization rates. While this is an important measure for financial monitoring, it is also important to assess the key reasons for the higher utilization rates and whether they are simply related to greater needs.

Chapter 6. Stewardship of the Korean social health protection system

6.1. Regulation and monitoring of providers

As Korea's health care provision is dominated by private health care providers who in practice seek to make a profit, regulation of provision is of particular importance for a functional health care system and for protection of the public. Although regulation has gradually increased with the development of the Korean system, it is still not strongly regulated by international standards as outlined in Table 6.1.

Table 6.1. Areas falling under / missing regulation

	Regulated
Health care infrastructure and human resources	
Number of doctors	Yes
Number of hospitals	No
Location of doctors	No
Location and size of hospitals	No
Number and distribution of high-technology diagnostic services	No
Number and distribution of hospital beds	No
Number of hospital rooms at regular NHIC rate	Yes
Health care delivery	
Number and distribution of high-tech diagnostic services	No
Use of high-tech equipment through diagnostic algorithms	No
Age and duration of high-tech medical equipment	Yes
Referral system and functional differentiation	Yes
Service price	
Fees for non-covered services	No
Special treatment charges	Weak
Special room charges	No
Private health insurance	
Premiums	No
Benefit package	Partly
Enrolment	No

The number of enrolled medical students is regulated. There is a debate on which number of doctors is optimal, although opinions between the Ministry of Education and MOH differ. The latter would like to regulate it more strictly. Likewise, the medical associations would like to reduce the number of entrants to the profession while civic groups prefer an increase in the number of doctors in order to improve competition. The lack of regulation in the location and number of hospitals is one of the reasons for under-provision in rural areas and over-provision in urban areas, as outlined in Chapter 2.

At the same time, there does not seem to be a clear investment plan for high-technology diagnostic services and equipment or guidelines on appropriate use. This might be one of the reasons for the high level of provision presented in Chapter 2. Hospitals and physicians are free to decide whether to invest in high technology equipment and, if they

do so, they are hardly restricted in their utilization which can lead to over-provision in order to increase profits. Overall, this would contribute to inefficient use of scarce resources.

Fees for non-covered services are also not regulated. This makes it difficult for the government to control the growth of overall expenditures. It might also restrict the ability to increase the NHI coverage depth by including additional services, because providers may currently consider the fees for non-covered services as a way to subsidize the (perceived) low NHIC remuneration rates.

Many countries allow top-up private health insurance (PHI), but this generally means that the rich benefit more than the poor. While this is essentially a political issue, a more technical question is whether the PHI is regulated sufficiently to ensure that the insurers do not simply insure healthy, young, low-risk patients and exclude high-risk patients.

Another important question raised by international experience is the ability to monitor and enforce existing regulations. For example, even though at least 50% of hospital rooms should be kept as "standard" rooms, for which the standard NHIC approved charge applies, a number of key informants suggested that many hospitals do not comply with this. As such, patients are forced to pay the extra special treatment charges for "above standard/special" rooms. Along the same line, they may often not have the choice between a senior doctor and an ordinary doctor, and thus may also have to pay the special treatment charges.

Although there is formally a referral system between different levels of care, it is useful to ask if the monitoring and enforcement system could be strengthened to improve efficiency, in addition to steps to increase coordination between the different levels. At present, competition is strong between the different provider levels, so hospitals can compete with clinics for low risk patients, for example, while clinics can also have inpatient beds (OECD, 2003).

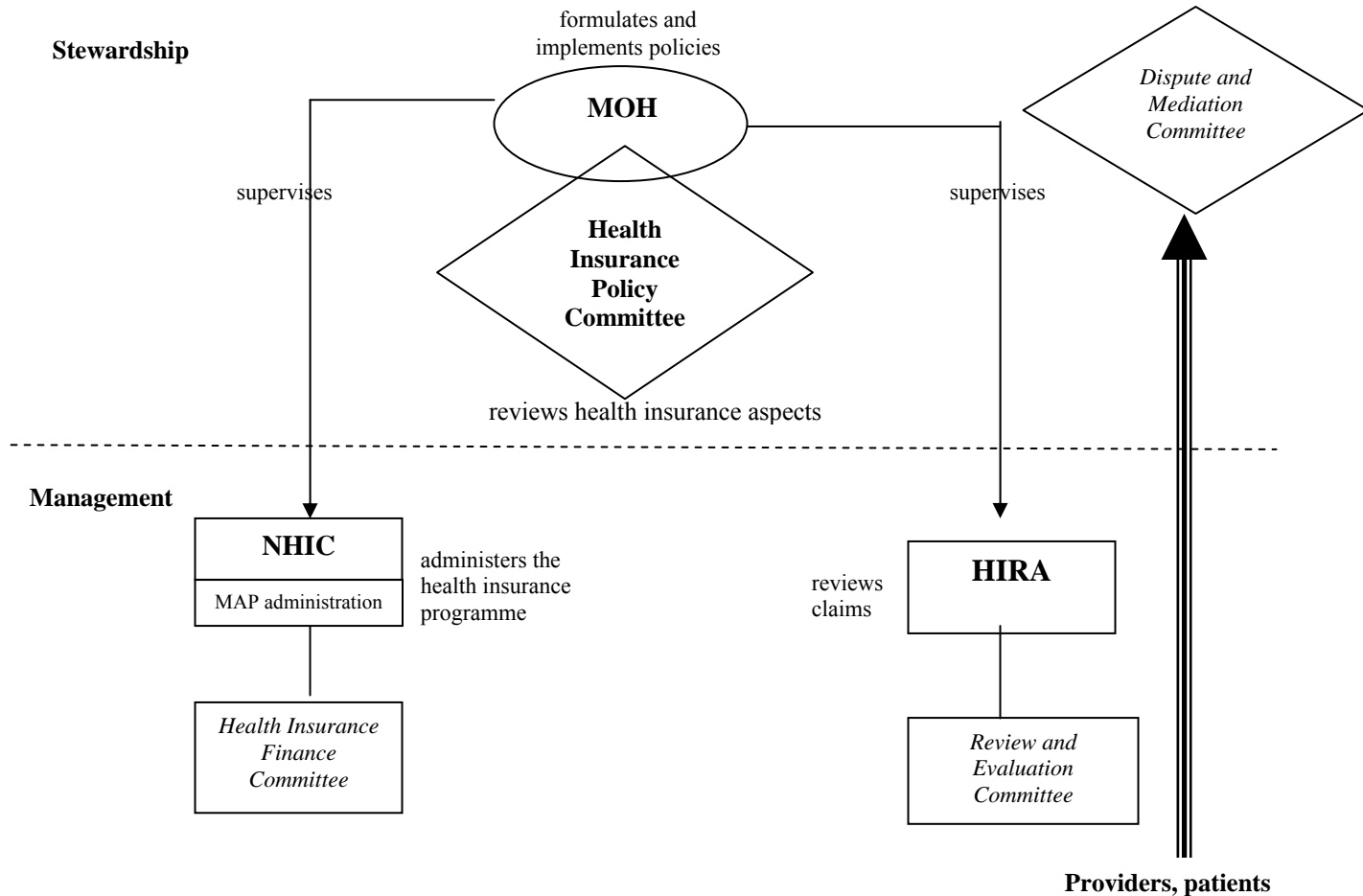
In sum, we believe it would be useful to continue to strengthen the regulatory role of government in health care provision along the lines suggested above. These could be accompanied by measures to strengthen the monitoring and enforcement of regulations that exist.

6.2. Governance and administration structures

The legal framework for social health protection (i.e. NHI and MAP) is based on the NHI Act 1999 with its respective Presidential Decree, and the 1977 Medical Aid Act with its respective Presidential Decree and MOH Enforcement Ordinance. The governance structure is determined by the NHI Act. The MOH together with the Health Insurance Policy Committee are the stewards of the social health protection system, whereas NHIC and HIRA with their respective committees can be considered as the managing and implementing organizations. Fig. 6.1 provides a visualization of the governance/

administration structure and is followed by a description of these governing/management bodies.

Fig. 6.1. Governance and administration of social health protection



Health Insurance Policy Committee

The Health Insurance Policy Committee is under the MOH and is in charge of reviewing and deliberating on health insurance, and specifically on the following aspects (NHI Act Art. 4 and Presidential Decree Art. 2-2):

- health care benefit standards and costs;
- contribution rates of the employed insured;
- contribution point of the self-employed;
- RBRVs;
- ceiling of costs for medicines and treatment materials;
- costs of oriental medicine;
- other aspects related to NHI.

While previously having 20 members, the committee is now composed of 25 members (since 2008). The Vice-Minister of Health, Welfare and Family Affairs acts as the chairperson. Twenty-two members are appointed by the minister upon recommendations

from the various stakeholder groups represented. The committee's composition is presented in Table 6.2.

Table 6.2. Composition of the Health Insurance Policy Committee

Stakeholder groups	Number of persons recommended by stakeholder groups
Labour unions	2
Employer organizations	2
Citizen organizations	1
Consumer organizations	1
Farming and fishery organizations	1
Self-employed union	1
Medical and pharmaceutical associations	8
NHIC	1
HIRA	1
Government worker	
Appointed by	
Ministry of Strategy and Finance: government worker	1
MOH: government worker	1
MOH: persons with knowledge of health insurance	4

Source: NHIC, 2007

In comparison to the previous composition, the weight of the medical and pharmaceutical associations on the committee has been strengthened, while that of the public interest representatives was lowered. The Ministry of Labour is not represented but civil society is now represented.

NHIC board of directors

NHIC is led by the president who is appointed by the Minister of Health, Welfare and Family Affairs and who is the chair of a representational board of 18 directors (see Table 6.3). The NHIC board of directors has no representation from the medical and pharmaceutical communities, from providers, or from the Ministry of Labour.

Table 6.3. Composition of the NHIC board of directors

Stakeholder groups	Number of directors recommended by stakeholders (appointed by MOH)
Labour unions	2
Employer organizations	2
Consumer protection bodies	2
Farming and fishery organizations	2
President of NHIC	5
	Number of directors appointed by the respective stakeholders
Minister of Education	1
Minister of Government Administration and Home Affairs	1
Minister of Health, Welfare and Family Affairs	1
Minister of Strategy and Finance	1

Source: *ibid.*

The board of directors is in charge of the following tasks:

- setting basic policies of NHI;
- annual business programmes;
- operation of assets;
- financial planning, preparation of the budget draft and closing accounts;
- amending regulations;
- decisions to purchase and dispose of assets;
- loans and repayments.

NHIC Health Insurance Finance Committee

The Health Insurance Finance Committee, operating under NHIC, was newly established with the NHI Act. It is in charge of reviewing matters relating to health insurance finance and the remuneration contracts with providers, as well as of reviewing and adjusting contribution rates of the employed insured and the self-employed insured. Another rationale for this committee is to achieve consensus among the different stakeholders of the NHI programme. The Health Insurance Finance Committee is composed of 30 members, as outlined in Table 6.4. There is no representative of the medical and pharmaceutical communities or of providers.

Table 6.4. Composition of the Health Insurance Finance Committee

Stakeholder groups	Number of persons recommended by stakeholders
Labour unions	5
Employer organizations	5
Self-employed (agricultural and fishery organizations, the urban self-employed persons organizations and the citizens organizations)*	10
Representatives of the public interest: relevant public officials and persons with extensive knowledge and experience in health insurance*	10

Source: NHIC (2007)

* as prescribed by Presidential Decree

HIRA Board of Directors

HIRA's president is appointed by the MOH. The president is the chairperson of the board of directors, which in total has 17 members (see Table 6.5):

Table 6.5: Composition of the HIRA board of directors

Stakeholder groups	Number of directors recommended by stakeholders (appointed by MOH)
Labour unions	1
Employer organizations	1
Consumer organizations	1
Farming and fishery organizations	1
Government official of Ministry of Health, Welfare and Family Affairs	1
Medical-pharmaceutical organizations	5
NHIC	3
HIRA	3

Source: NHIC (2007)

HIRA Health Care Review and Evaluation Committee

The Health Care Review and Evaluation Committee, which is under HIRA, is in charge of reviewing claims as explained in detail in Chapter 5. The review committee comprises a total of 30 full-time review members, including the chairman of the committee, and a maximum of 600 part-time review members. In the committee, matters are usually decided by vote, with at least 50% of votes required and with at least 50% of total committee members being present. In case there are equal votes on each side, the president has the deciding vote. A number of stakeholders felt that the voice of patient and consumer groups is weak and would benefit from strengthening.

6.3. Stewardship tools and decision-making space

Apart from the legal framework provided by the NHI Act, the actual stewardship tools consist of presidential decrees and MOH ordinances. These determine the rights and obligations of NHIC members as well as NHIC's and HIRA's functions and activities, such as:

- eligibility status (type of NHI insuree);
- details of the contract between NHIC and providers;
- quality-based purchasing matters;
- management operation and increase of assets;
- board operations;
- delegation of tasks within NHIC to lower levels;
- (voluntary) benefit package elements such as funeral expenses and sickness allowance, and frequency of health screenings;
- amount and collection method of the charge from NHIC to HIRA.

It is noticeable that these regulatory tools also regulate several managerial elements, as listed below:

NHI Presidential Decree:

- cost-sharing schedule;
- definition of delay periods for which penalties apply;
- HIRA tasks in connection with review of insurance;
- benefit costs and evaluation of the reasonability of insurance benefits;
- definition of cases in which the NHIC can dispose of a loss;
- penalty surcharges.

MOH Ordinance:

- procedures for reporting on eligibility status;
- claims management (and claims review);
- quality-based purchasing matters;
- contribution payment procedures;
- forms, issuing and use of health insurance cards;

- method and procedure of the claim, review and payment of health care benefit costs;
- details of the medical care receipt issued by providers in an emergency situation;
- criteria, procedures and methods relevant to the evaluation of the reasonability of health care benefits.

Regulations relating to the organization, the personnel affairs, the remunerations, and the accounting and budgeting of NHIC are determined with the approval of the Minister of Health, Welfare and Family Affairs following a resolution of the board of directors.

In conclusion, the boards of directors of NHIC and HIRA, as well as the committee bodies, represent a wide range of stakeholders from the public, private and civil society sectors. It may well be that a few important stakeholders may feel left out, though again this is a political rather than a technical matter. In comparison to other SHI systems in Western Europe, NHIC has less of a semi-autonomous position than its European semi-public counterparts. As such, the sole steward in social health protection so far is the MOH which takes all financial and technical decisions, whereas NHIC is the administrative organization. There are some potential overlaps in functions between NHIC and HIRA, particularly with regard to policy-related analysis and research.

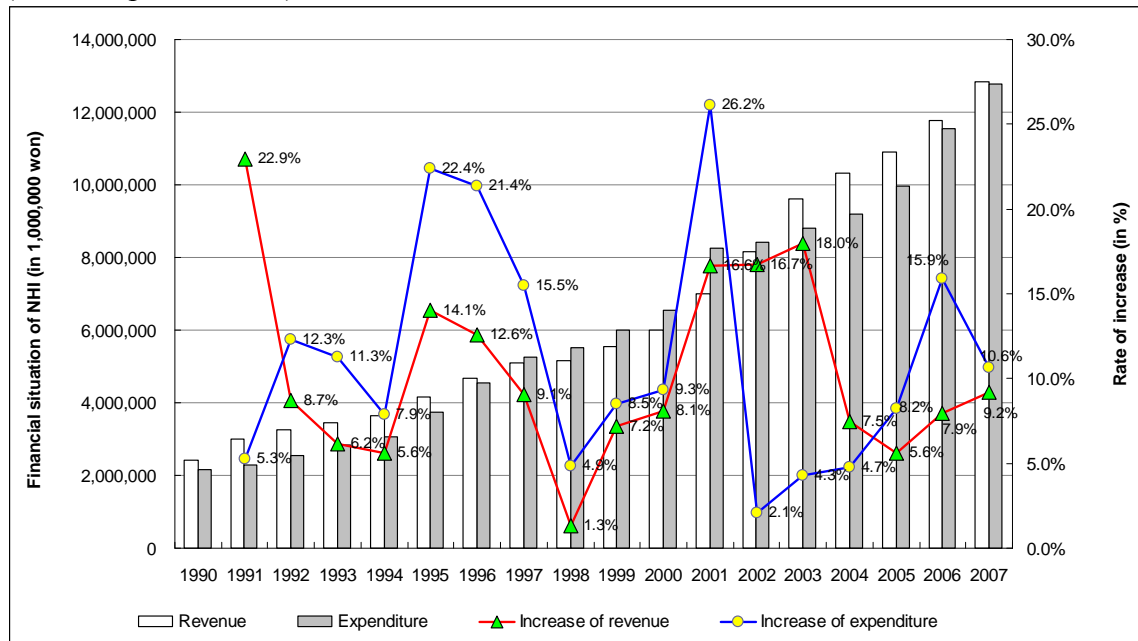
Section III. Assessment and the Way Forward

Chapter 7. Health financing performance assessment

7.1. Level of resource mobilization

In 2007, Korea spent 6.3% of its GDP on health (Jeong 2009a). Although this figure is still lower than the OECD average, it grew faster in Korea in recent years for various reasons. The financial stability and sustainability of NHI has been of particular concern in the country since the late 1990s, as depicted in Fig. 7.1.

Fig. 7.1. Financial situation of NHI (revenues and expenditure from 1990 to 2007) (constant prices, 1990)



Source: NHIC (1990-2008)

The strongly increasing deficit in the years 2000 and 2001 was largely due to increases in fee-for-service rates and other side-effects of the separation reform. In the years following the separation reform, the accumulated NHIC deficit was balanced by additional government funding based on the Stabilization Act. Since 2004 the surplus has been shrinking again and the long-term financial balance of the fund is once more of concern to policy-makers. The main reasons for the increasing expenditure are:

- the expanding benefit package;
- the increased number of claims per persons;
- the increasing average value of claims per person;
- the increasing total population;

Furthermore, on the revenue side, contribution rates and government subsidies are growing at a slower rate than expenditure, equally affecting the financial balance of the NHI fund.

Projections of NHI revenues and expenditure have been made for various scenarios up to 2030 to show potential surpluses and deficits. It is estimated that a financial balance can be achieved by 2015 with modest increases in the contribution rates of 6% per annum and fee increases of 1% (Kim et al., 2007).

7.2. Level of population coverage

A key issue of health financing performance is the extent of the population covered by social health protection mechanisms. Coverage increases financial accessibility, improves financial risk protection and generates resources in the form of contributions (Carrin & James, 2005).

In Korea, 97% of Koreans are covered by NHI, whereas the remaining population enjoys coverage by MAP. Thus, all Koreans are guaranteed a degree of financial risk protection. Therefore coverage width is 100%.

7.3. Degree of pooling within the health financing system

In universal coverage schemes such as tax-funded and SHI schemes, prepayment is combined with spreading risk among members of a pool. This offers greater protection against high-cost health expenditures and thus improves financial accessibility. However, it is important that no groups of the target population are excluded and that the risk pool(s) are sustainable. Only then can beneficiaries with an equal health risk profile equally benefit from the same amount of resources.

With the integration reform in 2000, Korea undertook the critical step of overhauling a fragmented health financing system. However, there remains some degree of segmentation within the system, as MAP remains separate and is also financed separately. Given that the benefit packages for NHI beneficiaries and MAP beneficiaries are nearly identical this separation may be of little concern. Table 7.1 shows that the average benefit amounts per capita from NHI and MAP are unequal. The two are not directly comparable since the average cost-sharing ratio of MAP beneficiaries is about 1.8%, whereas that of NHI beneficiaries is about 26%. Even when adjusting for this difference in cost-sharing, the average value of MAP benefits is still 3.7 times higher although it should also be remembered that these people have higher health needs and are less wealthy.

Table 7.1. Average benefit amount across health financing schemes (data for 2006)

	NHI	MAP	PHI
% of total health expenditure	42.59%	7.07%	1.4%
Beneficiaries as a share of total population	96.21%	3.79%	38-53%
Average benefit amount per beneficiary*	All: ₩483,960 EE: ₩527,574 SE: ₩495,641	₩2,107,310 When applying the NHIC cost-sharing ratio: ₩1,597,341**	₩29,093-40,577

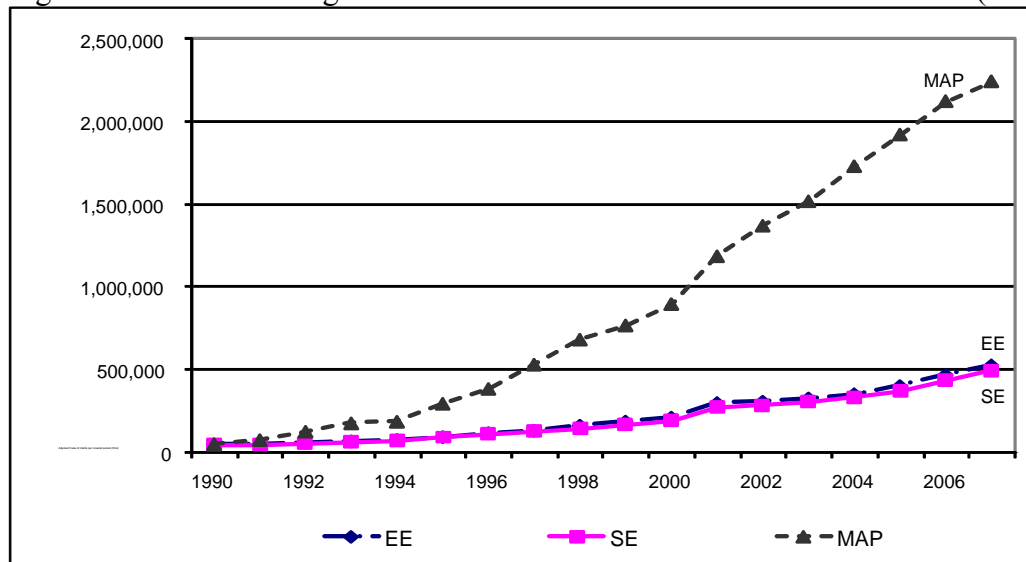
Source: data presented in Chapters 4-6, NHIC & HIRA statistical yearbooks

* This includes administration expenditure.

** Ratio of cost-sharing to total treatment amount: 26.0% for NHI beneficiaries, 1.8% for MAP beneficiaries.

While less significant, there are also differences in the average benefit values for EE and SE insurees. Even though the two groups find themselves within the same pool, the above data suggest that there are differences in need and/or health care-seeking behaviour and/or access to and utilization of care. Fig. 7.2 outlines how the average benefit value has developed over the years.

Fig. 7.2. Trends in average benefit amount for NHI and MAP beneficiaries (current prices)



Source: NHIC & HIRA statistical yearbooks

Finally, the better-off, who are more likely to purchase supplementary PHI, have additional risk protection, and the implications of this will be discussed later.

7.4. Level of financial risk protection

7.4.1. Prepayment ratio

Individuals can pay for their health care either through out-of-pocket payments or through some system of prepayment. Other things being equal, prepayment is preferred to out-of-pocket payments in terms of improving financial accessibility to health care. That is, prepayment offers better protection against the uncertainty of needing health care. Indeed, out-of-pocket expenditure for health services restricts access to only those who can afford it, and is likely to exclude the poorest members of society. Thus, a higher ratio of pre-paid health financing to the costs of the utilized health services generally suggests a better performing health financing scheme although it is sometimes argued that some extent of co-payment will be necessary to prevent over-use (Carrin & James, 2005).

Currently, the prepayment ratio (i.e. total health expenditure minus out-of-pocket expenses) is relatively low in comparison with other OECD countries. In 2006, in Korea, prepayments accounted for 64% of total health expenditure, whereas the average level in the OECD was about 800% (OECD, 2008). In Korea, the main part of prepaid health financing is from NHI contributions and government taxes. General government expenditure on health as a share of total health expenditure amounted to 54.6% in Korea in 2006 (Jeong 2009a). In comparison, this share was 72.3% for 27 OECD countries, with 17 countries having a ratio greater than 70% (WHO, 2004 in Carrin/James 2005).

Prepayment with respect to NHI – i.e. the total NHI treatment amount for all types of care covered minus cost-sharing was 74.0% in 2006 (based on data by Jeong, 2008). Yet when also considering out-of-pocket expenses for special treatment charges and other non-covered services, prepayment with respect to NHI was 53.6% in 2006. It has increased slightly over the past few years from 50.3% (Jeong & Shin, 2006).

7.4.2. Out-of-pocket payments and catastrophic expenditure

Out-of-pocket payments are recognized as the most regressive method of financing health services since everyone, no matter how rich or poor, faces the same price for the same services. However, progressivity indexes applied to the prepayment do not yield meaningful discussion in measuring out-of-pocket payments. Therefore, the analysis on out-of-pocket payment focuses on households' financial burden.

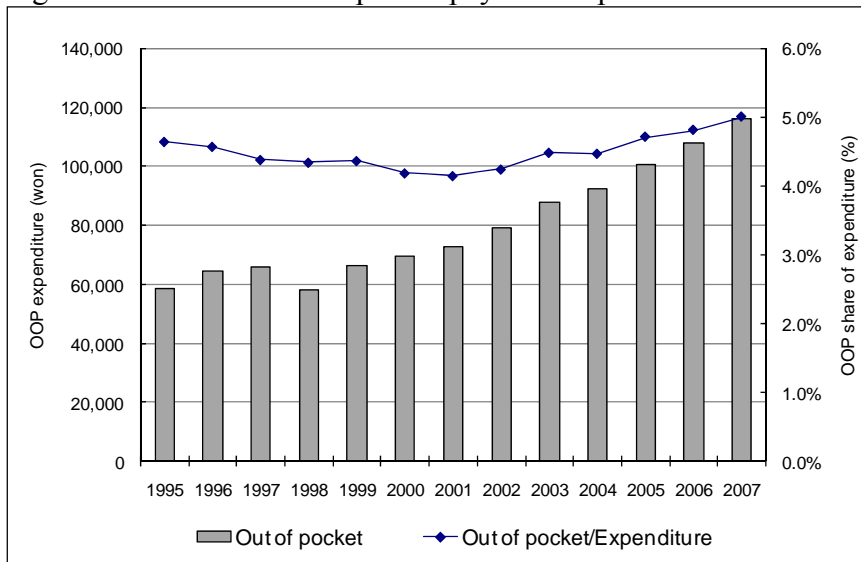
While it may not be a bad thing if households voluntarily allocate more of their budget to health, it is not desirable in any health financing system for households to reduce their other basic spending in order to cope with medical bills. According to the methodology developed by WHO, when out-of-pocket expenditure as a share of a household's capacity to pay exceeds 40%, it is considered as catastrophic expenditure. Household capacity to pay is measured as household consumption excluding the median level of basic food

expenditure (Xu et al., 2005). This section looks at household out-of-pocket payments and their respective financial burden for households and particularly at patterns of catastrophic expenditure.¹²

Household out-of-pocket expenditures on health

Household out-of-pocket expenditure was ₩58,422 for the urban population in 1995 and ₩116,195 in 2007 (Fig. 7.3). During the same periods, the average out-of-pocket expenditure as a share of total household expenditure was 4.6% and 5.0% respectively. From 1995 to 2001, the out-of-pocket payment share decreased slightly. The lowest point was observed in 2001, at 4.1%. It started to increase from 2001 and reached 5.0% in 2007.

Fig. 7.3. Household out-of-pocket payment expenditure



Source: Household Income and Expenditure Survey data, 1995-2007

OOP = out-of-pocket

In the household survey, out-of-pocket payment is reported in three broad categories – services (inpatient, outpatient and dental services), equipment (spectacles, hearing aids, etc.), and medicines (prescription, traditional Korean medicines and over-the-counter medicines, the latter labeled as "western medicines"). The out-of-pocket payment for services is the largest component and has been increasing over time. Since 1997, expenditure on services accounts for more than 60% of total out-of-pocket expenditure (Fig. 7.4 a).

The second largest component is medicines, which constituted 40% of total out-of-pocket expenditure in 1995. It has decreased over time, except from 2000 to 2001 which may be explained in part by the separation reform of 2000. In 2007, purchases of medicines made up about 23% of total household out-of-pocket health expenditure. Expenditure on equipment and medical supplies is relatively small.

¹² Data presented in the following sections is based on the analysis of the Household Income and Expenditure Surveys of 1995-2007.

The structure of out-of-pocket expenditure varies among quintiles. As income increases, the share of service expenditure increases while the share of medicine expenditure decreases. For the poorest quintile nearly half of the out-of-pocket expenditure is spent on medicines and half on services, while for the richest quintile less than 20% is spent on medicines and more than 80% on services (Fig. 7.4b).

Fig. 7.4a. Out-of-pocket expenditure components, 1995-2007

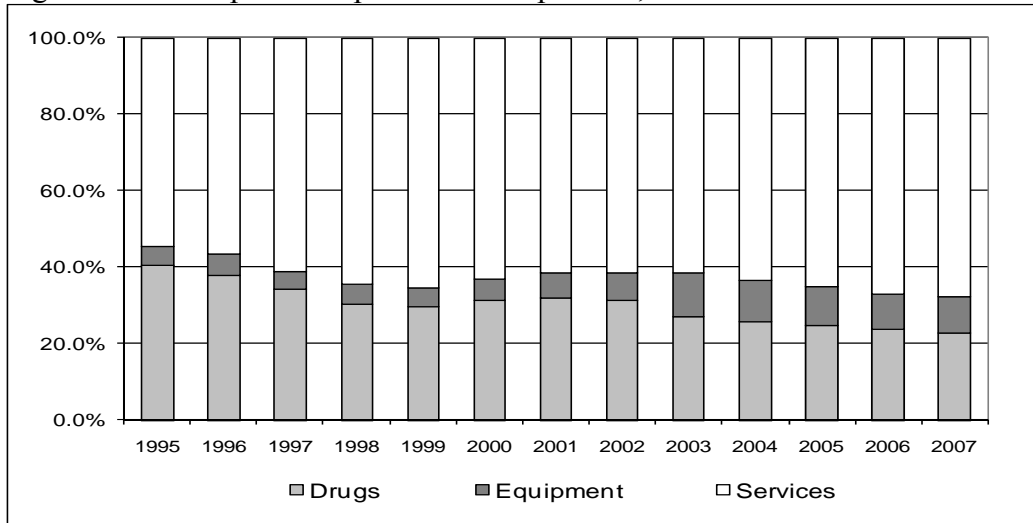
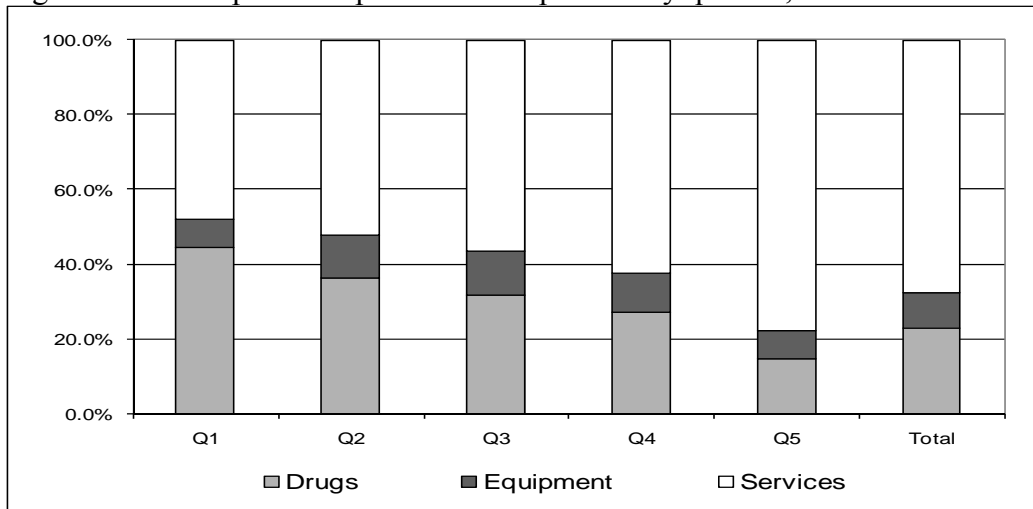


Fig. 7.4b. Out-of-pocket expenditure components by quintile, 2007



Source: Household Income and Expenditure Survey data, 1995-2007

Expenditure on services includes both cost-sharing for services covered by the NHI as well as full charges paid for excluded services. Overall, inpatient services count for 28%, outpatient 37% and dental 29% (Fig. 7.5a). The coverage of dental services by NHI is comparatively limited. Again, across income groups the structure varies. In lower-income groups, outpatient services are the main category, while inpatient and dental services increase as income increases.

Fig. 7.5a. Out-of-pocket expenditure service components, 2007

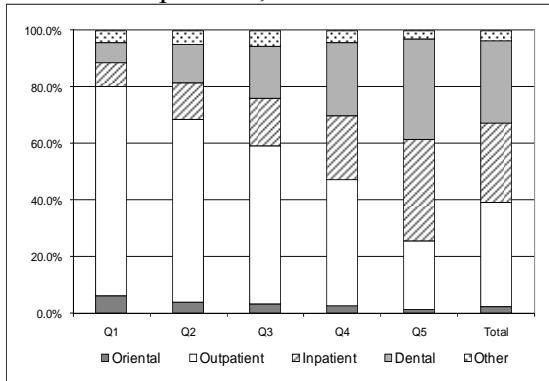
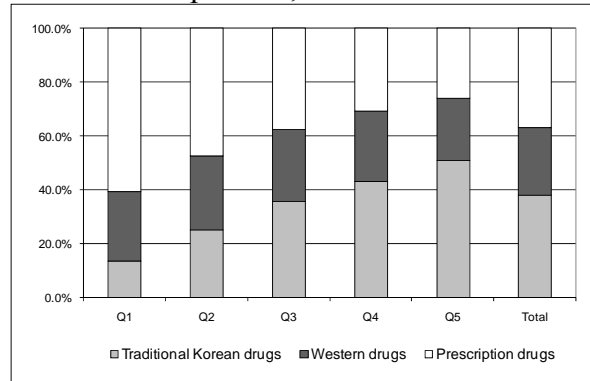


Fig. 7.5b. Out-of-pocket expenditure medicine components, 2007



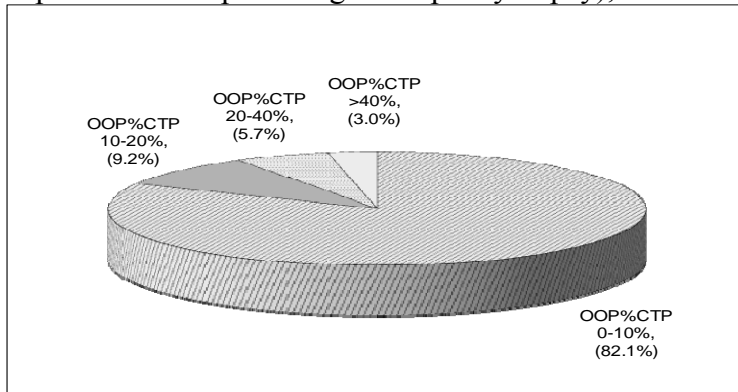
Source: Household Income and Expenditure Survey data, 2007

The medicine expenditure component includes cost-sharing for those medicines covered by the NHI and full cost for those medicines not covered. The medicines covered by the NHI are labelled as "NHI reimbursable medicines", which include prescription medicines and some over-the-counter medicines. Traditional Korean medicines and most other over-the-counter medicines ("western medicines") are not covered. Household survey data show that, in general, the NHI-reimbursable medicines (i.e., prescription medicines), western medicines and traditional Korean medicines account for 37%, 25% and 38% respectively (Fig. 7.5b). The lower-income groups spend a larger share on NHI-reimbursable medicines (prescription medicines), which are often critical for treatment. The higher-income groups spend more on traditional Korean medicines which are often for disease prevention and health promotion. Expenditure for western medicines is similar across income groups.

Catastrophic expenditure: trends and causes

Data from 2007 indicate that 82% of households spent less than 10% of their capacity to pay on health, 9% spend between 10% and 20%, 6% spend 20-40%, and 3% of households spend more than 40% of their capacity to pay (Fig. 7.6).

Fig. 7.6. Distribution of households' financial burden (measured by out-of-pocket expenditure as a percentage of capacity to pay), 2007

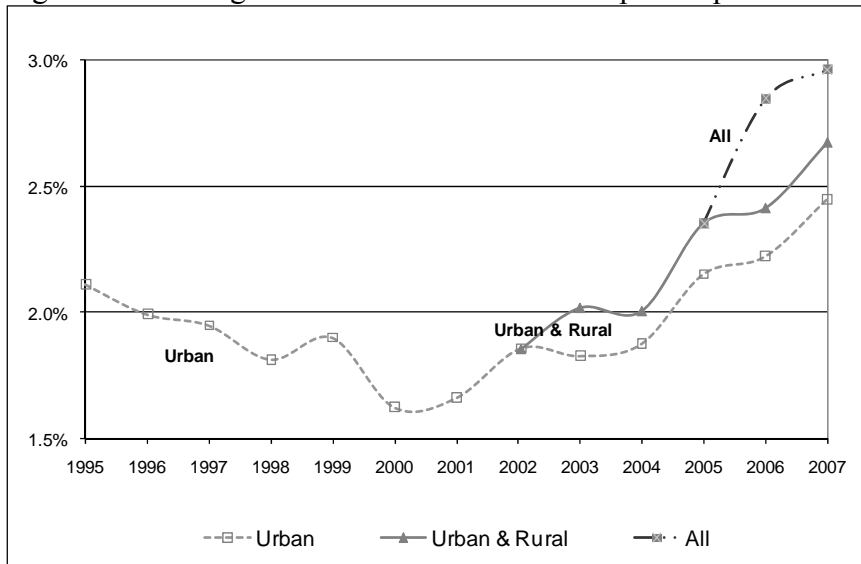


Source: Household Income and Expenditure Survey data, 2007

OOP = out-of-pocket; CTP = capacity to pay.

In 1995, 2.1% of households faced catastrophic health expenditure. This ratio subsequently fell to its lowest point of 1.6% in 2000. It has, however, increased continuously since then and reached 3% in 2007, higher than in most high-income OECD countries where less than 1% of households encountered catastrophic expenditure (Xu et al., 2007, Xu et al., 2003). Fig. 7.7 shows the figures from different survey sampling frames. When the sample includes both urban and rural households, catastrophic expenditure is higher compared to when only the urban population was sampled, which is the case in the 2003 to 2007 surveys. When one-person households were included in the sample (since 2006), the figure became even higher.

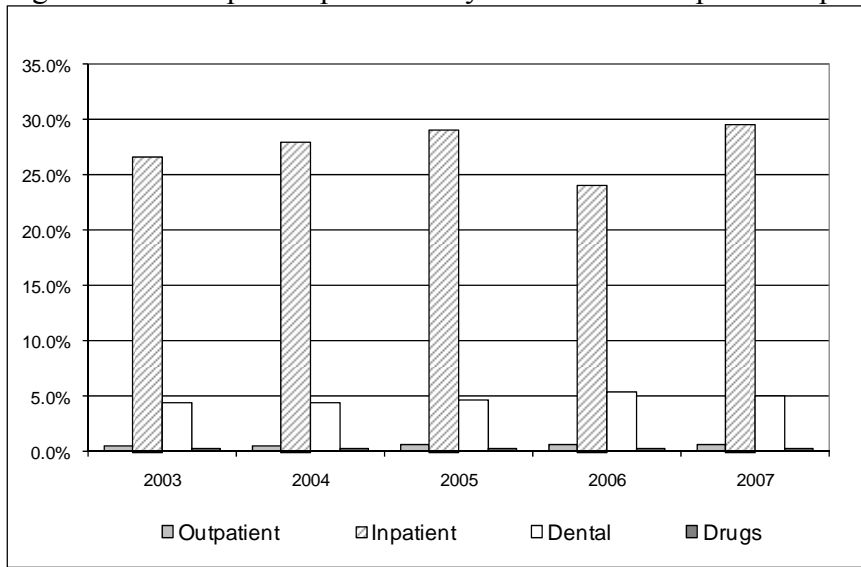
Fig. 7.7. Percentage of households with catastrophic expenditure



Source: Household Income and Expenditure Survey data, 1995-2007

Survey data suggest that catastrophic expenditure is more likely to occur when household members need inpatient services. More than 27% of households requiring inpatient services encountered catastrophic expenditure in 2003. By 2007, this figure was almost 30%. To a lesser extent, around 5% of households faced financial catastrophe from expenditure on dental services (Fig. 7.8). Out-of-pocket payment for outpatient services and medicines cause very few households to face financial catastrophe.

Fig. 7.8. Catastrophic expenditure by different out-of-pocket expenditure components

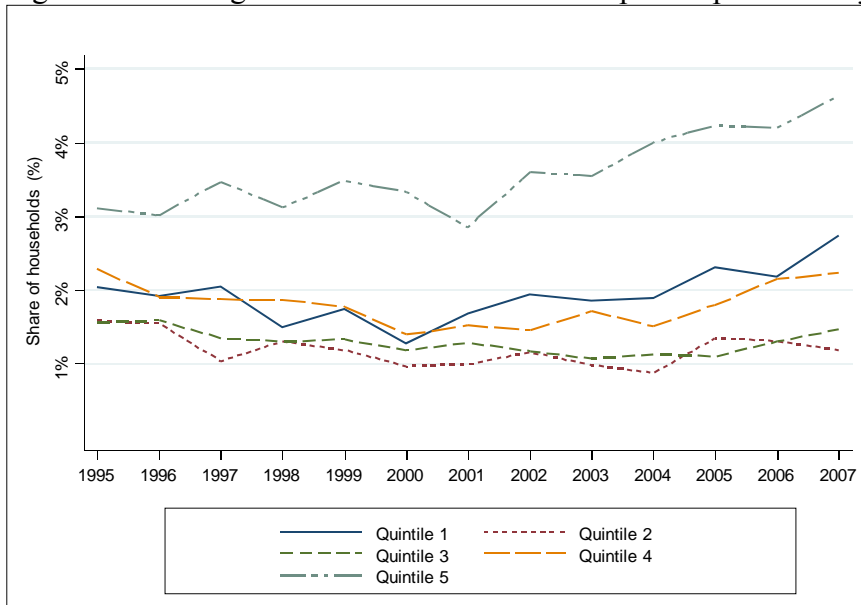


Source: Household Income and Expenditure Survey data, 2003-2007

Distribution of catastrophic expenditure among socioeconomic groups

Catastrophic expenditure occurs in all income groups. The percentage of households with catastrophic expenditure is rather similar in the second and third quintiles. The fifth quintile has the highest percentage of households with catastrophic expenditure. However, the catastrophic expenditures among the fifth quintile are caused mainly by inpatient and dental services. Catastrophic expenditure has been continuously increasing in the poorest quintile since 2000, a positive achievement, but has also increased in the richest quintile in recent years.

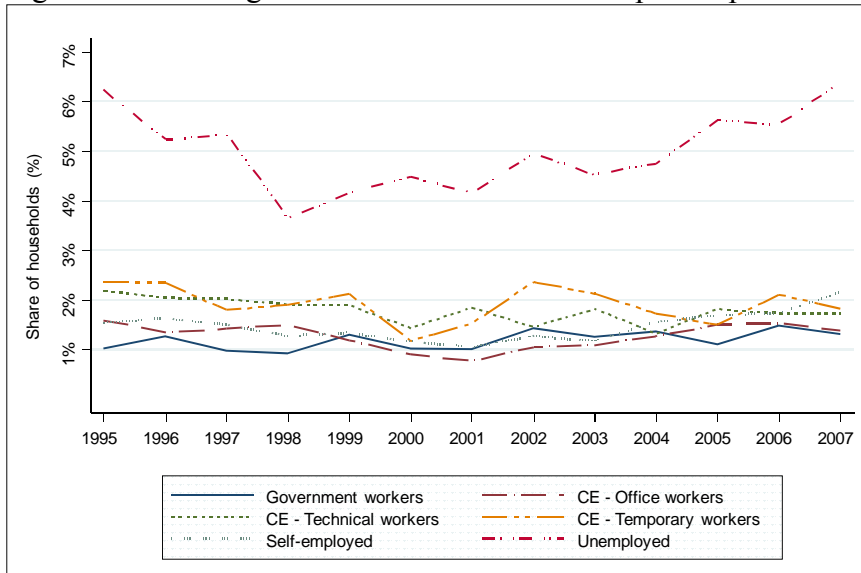
Fig. 7.9. Percentage of households with catastrophic expenditure by quintile



Source: Household Income and Expenditure Survey data, 1995-2007

Assessing catastrophic expenditure by insured categories is equally insightful. Even though the ratio of NHI contribution to household consumption is smallest for the unemployed group, they are the most vulnerable to financial catastrophe through out-of-pocket payments. The percentage of households with catastrophic expenditure in this group has been increasing since 1998. Households of government employees and teachers (GT) and company employees (CE) have faced catastrophic health expenditure the least for many of the years. The other groups are all rather similar over the time period.

Fig. 7.10. Percentage of households with catastrophic expenditure by insurance types



Source: Household Income and Expenditure Survey data, 1995-2007

Furthermore, it is not surprising that elderly people spend more money on health services. Accordingly, the data indicate a far higher percentage of pensioners' households experiencing catastrophic health expenditure. In 2006 and 2007, 10% of pensioners' households faced catastrophic health expenditure compared to just 2% of other households.

In sum, several interesting results emerge from the household out-of-pocket expenditure analysis. The out-of-pocket payment for inpatient services is highly correlated with catastrophic expenditure while medicine and outpatient expenditure rarely cause financial catastrophe for households. In 2007 one out of three persons who used inpatient service incurred catastrophic expenditure. This reflects the cost-sharing level of inpatient care which is 20% of covered services in addition to special treatment or room charges and other out-of-pocket expenditure for non-covered services.

Medicines are the most frequent items of expenditure within household health spending. Generous medicine coverage allows everyone to benefit from NHI and therefore helps to maintain public support for NHI. However, there is trade-off between smaller benefits for everyone and bigger benefits for a few. First the generous medicine coverage inevitably limits coverage of other services, given a fixed amount of total revenue, such as inpatient

services. Currently, the inpatient services have rather limited coverage where a wide range of service fees are not covered by national insurance.

Discussions in the country to further rationalize the benefit package, restrict medicine reimbursement (shortening the medicine list, increasing cost sharing, regulating and encouraging rational prescription behaviour) and increase inpatient services in the benefit package are currently under way. This analysis reinforces the view that this direction is appropriate and more effort may be needed to move the process along quickly.

7.5. Level of equity in health financing

There are no standard criteria to assess or even define equity: different societies have different judgements on what is equal or unequal. In health financing, the equity criteria depend mainly on the notion and level of solidarity between the better-off and the worse-off, between the healthy and the sick, and also between the young and the old. They also depend on the redistributive effect of the general taxation and the overall income distribution. Thus equity in health financing is a concern in all societies and the principle of “paying according to ability to pay” is widely accepted in that those who have more or earn more also pay more than those who have little or earn little. How this principle is interpreted, however, also varies across settings.

Equity in NHI contributions

Percentage of households making direct contributions to the NHI

According to the rules, two types of households do not make direct contributions to the NHI fund. These are persons who are officially defined as poor and those who are covered through family members even though they are not living in the same household. In practice there is a third type of household whose income is low and who delay payments for a certain period of time. This, however, must be justified case by case. The survey suggests that 23.9% of households did not contribute directly to the NHI in 2007. This percentage has been fairly consistent over the years (Table 7.2).

Table 7.2: Percentage of households who did not contribute to the NHI in 2007 (unit: %)

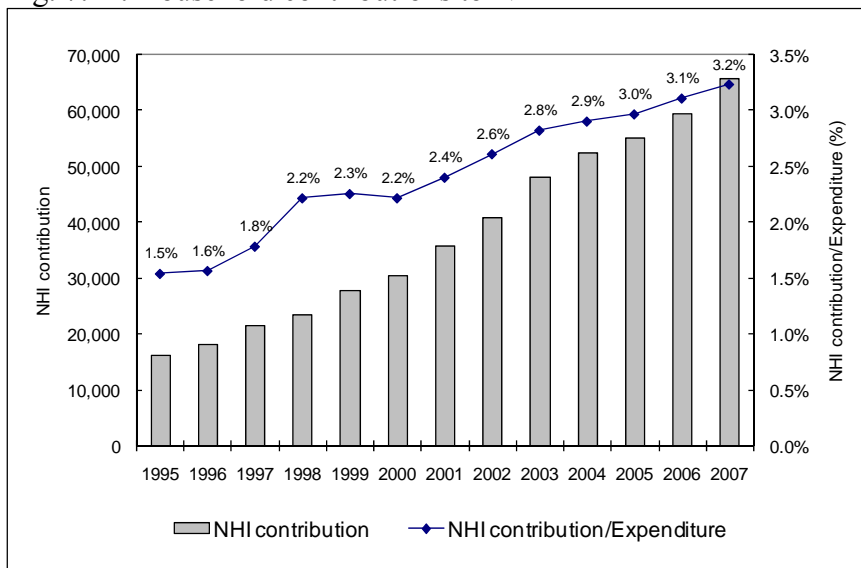
	GT	Company employees			Self-employed	No job	Total
		Office workers	Technical workers	Temporary workers			
Quintile 1	2.7	27.6	22.6	48.2	31.3	71.0	50.1
Quintile 2	3.7	12.1	13.4	30.2	19.3	59.6	25.8
Quintile 3	0.2	7.9	11.2	24.7	14.3	55.0	17.7
Quintile 4	0.6	4.9	8.2	19.1	10.6	54.6	13.3
Quintile 5	1.4	5.4	8.7	26.8	8.0	50.6	12.7
Total	1.2	7.8	12.5	33.0	15.4	62.5	23.9

As shown in the data, lower-income groups have more non-contributing beneficiaries than the higher-income groups. In the poorest quintile, half of the households are non-contributing beneficiaries which makes the Korean health financing system more equal. This positive effect is partly offset by approximately 13% non-contributing households in the richest two quintiles, something that might warrant closer examination by the authorities.

The level of NHI contribution

In general, household contributions to NHI increased over time in both absolute terms and as a percentage of household consumption (see Fig. 7.11; this does not include the employer's contribution). In 1995, NHI contributions were 1.5% of household consumption. By 2007, the figure had doubled. The growth rate is not the same over time, resulting from a combination of changes in contribution rates and in household consumption. The significant increase from 1996 to 1998 may well reflect the economic crises when the households reduced their overall consumption. Since 2000, NHI contribution by households has been increasing steadily.

Fig. 7.11. Household contributions to NHI



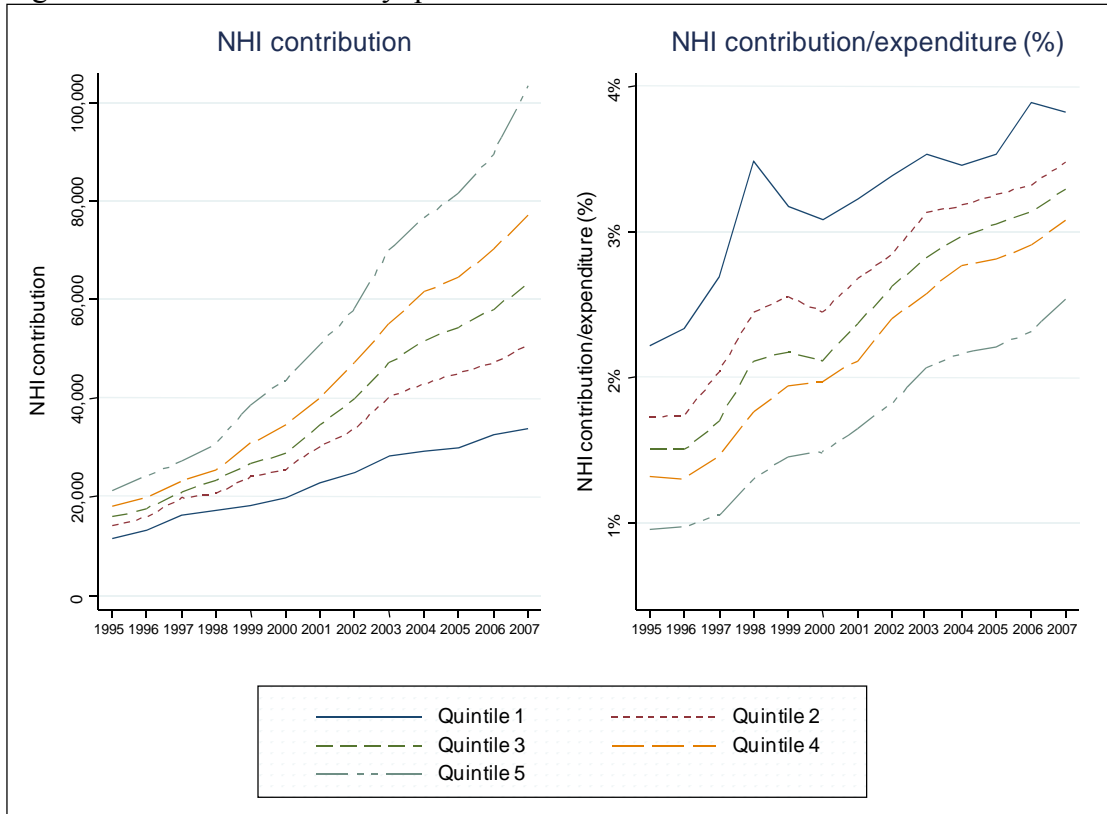
Source: Household Income and Expenditure Survey data, 1995-2007

The distribution of NHI contributions by income

By design, NHI contributions are intended to be proportional to income (see Chapter 5.1.2). Household survey data show that the higher-income (measured by consumption expenditure) groups pay more to NHI in absolute terms. The difference between the income groups has grown over time. In 1995, the average contribution for the richest quintile was about twice that of the poorest quintile while in 2007 it was three times more (Fig. 7.12).

However, lower-income groups pay a much larger share of their income than higher-income groups. This pattern has held in the past decade. NHI contributions as a share of household expenditure among the poorest quintile are about twice as large as in the richest quintile. The three middle-income quintiles have relatively smaller differences compared to the first and the last quintiles. On a population basis, this is offset to some extent by the greater number of exemptions to people in the low income groups as well as the existence of MAP.

Fig. 7.12. NHI contribution by quintiles



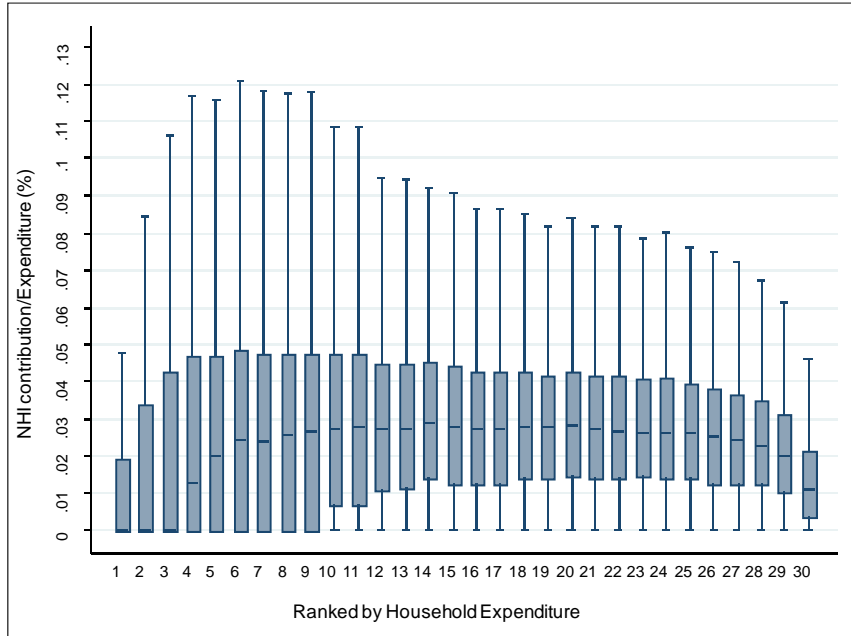
Source: Household Income and Expenditure Survey data, 1995-2007

In technical terms, NHI contributions are unequal when measured by the redistributive effect, which is the difference between Gini coefficients on income (measured by total expenditure) before and after NHI contribution. In 2007, the Gini coefficient before NHI contribution was 0.338, and 0.340 after the contribution, implying that NHI contributions made the distribution of expenditure slightly less equal. This is a result of the higher contribution rates among low income groups as described above.

Fig. 7.13 shows the distribution of NHI contributions as a share of household expenditure by income group. The y-axis shows the fraction of NHI in household expenditure and the x-axis shows income groups ranked from the lowest to the highest. The horizontal line in the middle of the box represents the median. The box extends from the lower 25th percentile to the upper 25th percentile. The upper and lower adjacent lines show the

extension beyond the 25th to 75th percentile range. There are huge variations within each income group.

Fig. 7.13. Distribution of NHI contribution as a share of household expenditure (2007)



Source: Household Income and Expenditure Survey data, 2007

In this analysis, only household contributions are captured – in other words, the employer's contribution is not included. This is due to a lack of information for identifying how much of the burden each party carries, whether employees, consumers or shareholders. The employer's contribution would be mainly borne by employees if wage elasticity is smaller in the labour market than price elasticity in the product markets. Otherwise, the burden would be split mainly by consumers and shareholders. In reality it may well be carried to some extent by all three parties. Different assumptions would result in different distribution patterns. However, even taking the extreme assumption of all employers' contributions being borne by the employees, two features are clear. The very lowest income group is relatively well protected in terms of paying a relatively small proportion of income in contributions - although the proportion is still roughly the same as in the highest expenditure group. On the other hand, the proportion of income paid in contributions generally falls with increases in income/expenditure as shown in earlier sections.

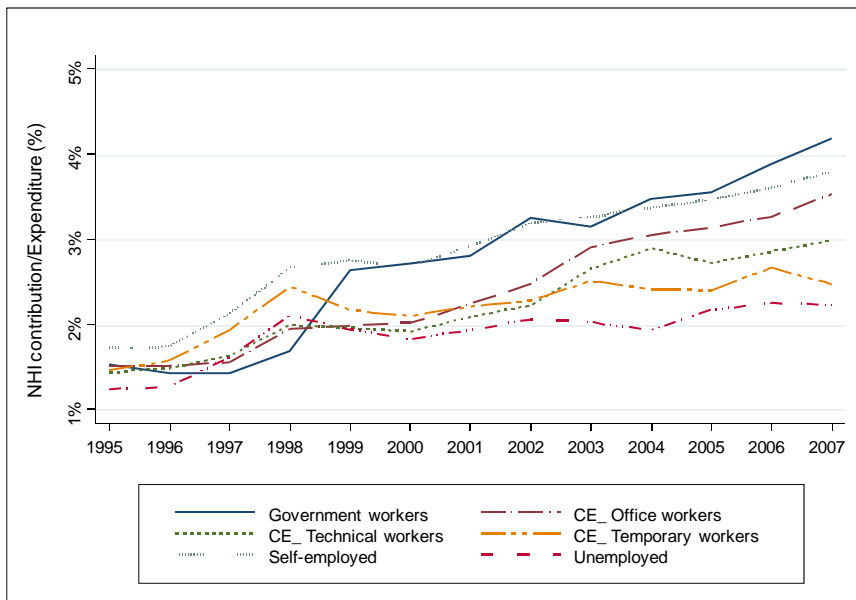
Distribution of NHI contributions by different insured groups

Since the integration reform in 2000, NHI contributions have been pooled at the national level with a unified benefit package. However, different contribution estimates are applied to employees and to the self-employed. For the employee category, the contribution is set as a flat rate percentage of payroll income while for the self-employed the contribution rate is far more complex. In this section we explore in reality how much

each group contributes to the NHI. In looking at the result, one should bear in mind that the contribution reported in household surveys includes only the households' contribution.

Data show that before 2000 the household contribution in the SE category was the highest in terms of the share of total household consumption. Unlike other groups, from 1998 to 1999 the household contribution by the GT group (government workers and teachers) increased significantly. From 1999 to 2004, the GT group and the self-employed were the leading groups while in recent years the GT group had the highest contribution rate. It is followed by the self-employed, CE office workers, CE technical workers, CE temporary workers and those reporting having “no job” (Fig. 7.14). The gaps between different groups have widened in recent years. However, without knowing income levels and the number of principal EE insurees in households, these differences do not allow meaningful interpretation.

Fig. 7.14. NHI contribution as a share of total household expenditure by insured groups



Source: Household Income and Expenditure Survey data, 1995-2007

Note: For the employee category, only the employees' part of the contributions is included.

Fig. 7.15 shows the composition of households in each insured group. This pattern is quite different across insured groups. Income level is not homogeneous in any of the groups. Among the GT, 40% of the households are from the richest quintile, while among those reporting having no job more than 40% are from the poorest quintile. The five income quintiles are represented similarly for the self-employed and CE technical workers.

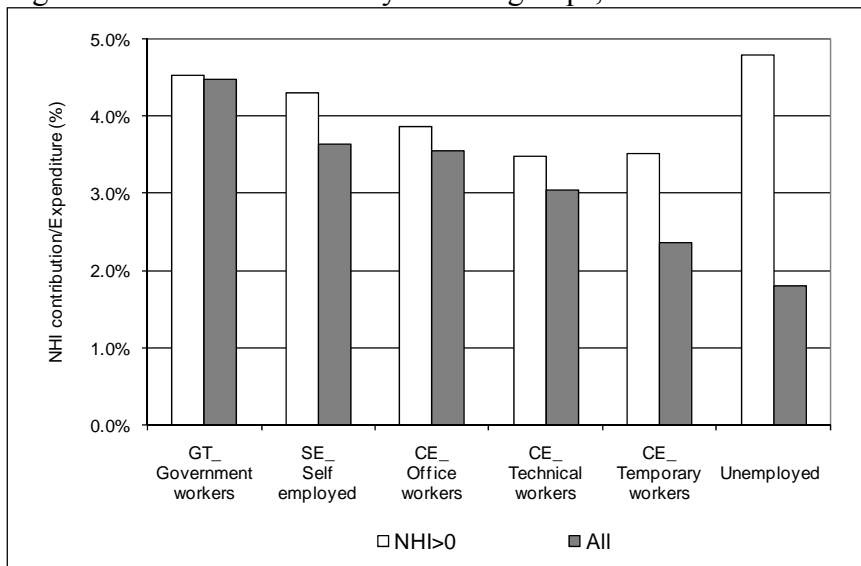
Fig. 7.15. Income levels in each insured group, 2007



Source: Household Income and Expenditure Survey data, 2007

Further analysis shows that the difference in NHI contributions is smaller among those contributing households than all households together. Fig. 7.16 illustrates NHI contributions as a share of household expenditure for all households and contributing households (NHI contribution > 0). For the contributing households, the contribution is between 3.5% and 4.5% in all insured groups except those reporting having no job, for which it is 4.8%. The difference in NHI contributions among the insured groups is partly caused by the number of non-contributing households in each group.

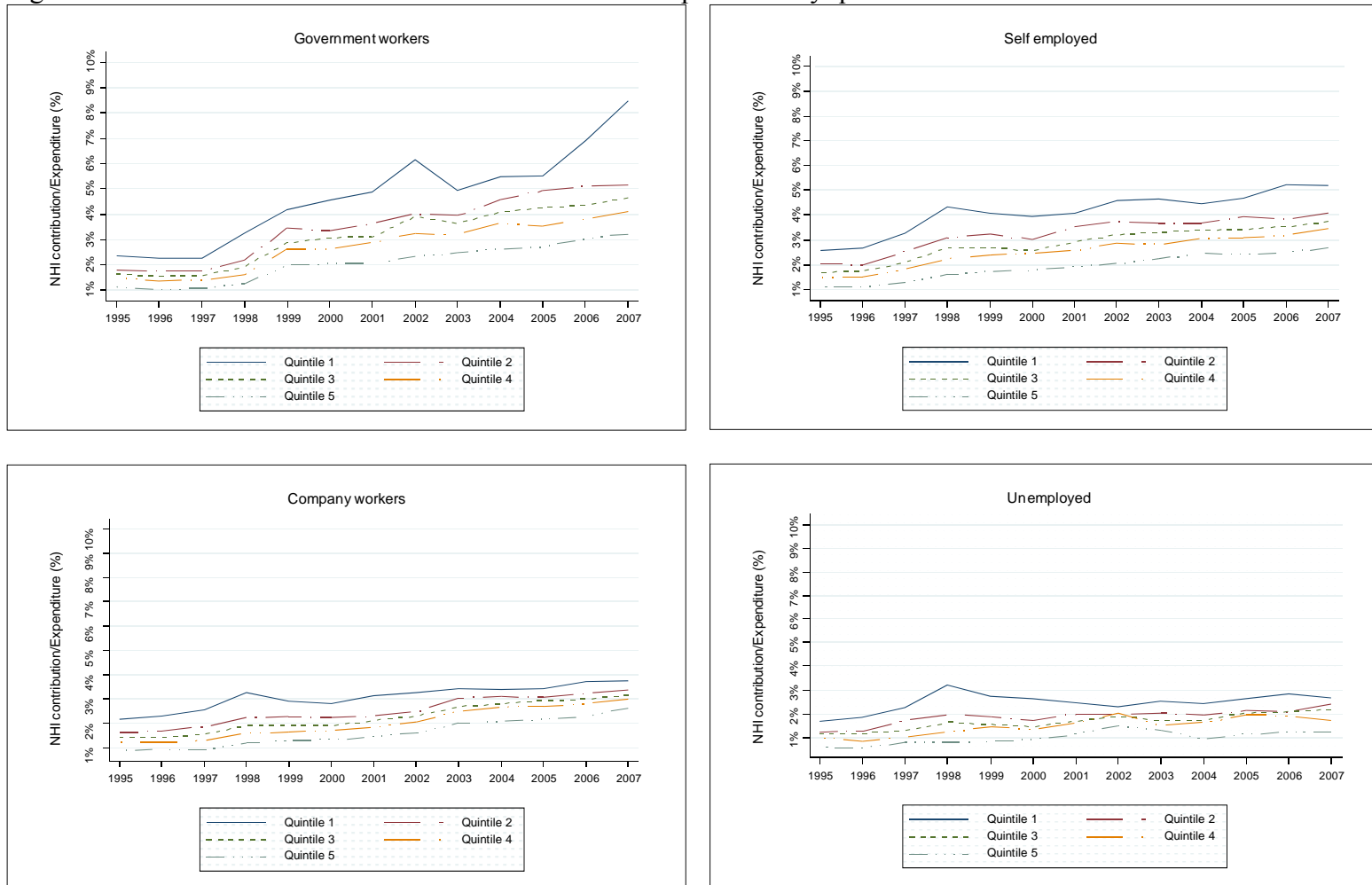
Fig. 7.16. NHI contribution by insured groups, 2007



Source: Household Income and Expenditure Survey data, 2007

Above all, results consistently show that, in every insured group, lower-income quintiles contribute a higher share of household consumption expenditure than higher-income quintiles although further disaggregation showed that when the population was divided into 30 expenditure groups, the very lowest group had more protection than the others. The difference between the poorest and richest quintiles is smaller among CE workers than in the other groups. GT households have the largest variation among the four categories. The poorest quintile of GT does not have a stable trend, which may be explained partly by the fact that very few GT households fall in the poorest quintile. The SE category also shows a bigger variation across quintiles. This may well reflect the difficulties in identifying the SE insurees' real income in practice (Fig. 7.17). The results also suggest that the employees do not pay more through employee contributions than do the self-employed. However, when adding in the employer's part, the EE contribution is higher than that of the self-employed. This also suggests that, given the complex method of capturing the real income of the SE insuree, the leakage still exists.

Fig. 7.17. NHI contribution as a share of total household expenditure by quintile



Source: Household Income and Expenditure Survey data, 1995-2007

Equity in taxation

The overall equity in general taxation has an indirect impact on equity of health care financing since part of the tax revenue is used on health services (although only a small part). In the households surveyed, some direct taxes such as those on income, property and private vehicles are reported. Fig. 7.18a shows that direct tax as a share of household consumption expenditure increases as income increases. In other words, the direct taxes are progressive. Indirect tax, such as value added tax (VAT) is set at a flat rate of 10% for goods and services subject to it so the rich pay the same tax on any purchase as the poor. The government has been making constant efforts to increase the share of direct tax in its total revenue. In 2000, direct tax revenue accounted for 52% of total internal tax revenue (Chun, 2002). However, more households pay contributions to NHI than pay direct taxes such as income tax (Fig. 7.18b) so the higher proportion of income required to pay contributions among the poorest quintile remains a concern.

Fig. 7.18a. Taxation and consumption of tobacco as a share of households' expenditure, 2007

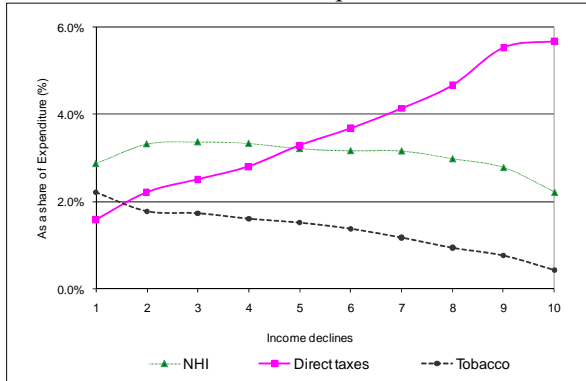
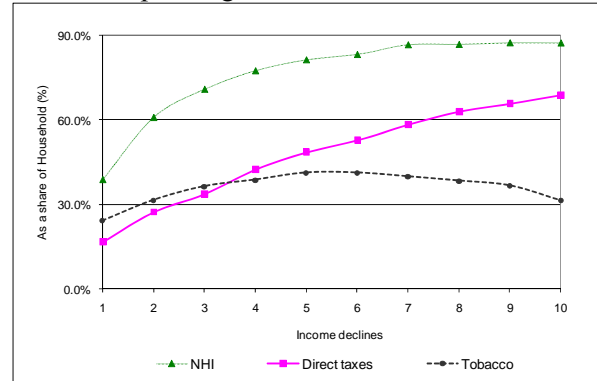


Fig. 7.18b. Percentage of households paying for taxes and spending on tobacco, 2007



Source: Household Income and Expenditure Survey data, 2007

As outlined in Chapter 5, since 2002 the government has been using a tobacco surcharge to subsidize the NHI in order to eliminate the deficit. Government subsidies from the tobacco surcharge have been gradually increased since then, while subsidies from general taxation have remained at similar levels to before.

In Korea, the tobacco tax combines *ad valorem* and specific taxes regimes. Those used on health are specific taxes which are levied according to the volume of the product purchased. By definition, specific taxes are regressive but are believed to be more effective in reducing consumption. Results from household survey data show that the low-income groups allocate a larger share of household budget to the purchase of tobacco, which makes the tax regressive even under the *ad valorem* tax regime (Fig. 7.18a). On the other hand, the poor benefit most from the health impact associated with the reduction in smoking associated with higher taxes, which is why public health people argue that tobacco taxes are progressive.

In conclusion, in all systems it is important to continually monitor the equity implications of the way funds are raised, because many economic factors change over time. This

analysis suggests that it would be useful for the authorities in the Republic of Korea to consider if there are ways to improve equity particularly in terms of NHI contributions.

A related factor is the development of the overall social security system in society. With a comprehensive benefit package and universal coverage in the social security system, the same income for employees and the self-employed would be treated in the same way. If only employees enjoy a comprehensive social security benefit, then the same income would result in different living standards.

7.6. Level of efficiency in benefit package delivery

This health financing performance indicator is difficult to quantify, and the assessment of its attainment is based mainly on the institutional analysis provided in Chapter 5. As outlined there, with respect to the NHI, there is room for the government to consider a number of institutional aspects that might increase the efficient and equitable delivery of the benefit package. In particular, consideration of whether volume or budget controls .

Chapter 8. The Way Forward

8.1. Achievements and challenges

The Korean health financing system has undergone many important developments and reforms since 2000. These have contributed to ensuring that 100% of the population is covered by a system of financial risk protection that allows them access to a range of health services, ultimately improving people's health. Special efforts have been made to provide additional financial protection and access to the poor through MAP and contribution exemptions for people with financial problems, and there has been continual focus on how to increase efficiency and control costs.

To pay for the continued expansion in the volume of services, NHI contribution rates have been steadily increasing. Collection of contributions has improved through more effective collection mechanisms and the spread of the EDI. More and more members are categorized as EE insurees, thus ensuring more stable resource collection. Importantly, the volume of government subsidies from general government revenues has also been specified in the legal provisions.

The integration reform resulted in the pooling of contributions by all Koreans in one pool, thus maximizing income and risk solidarity and leading to greater equity in health financing and health benefits. It also helped to lower administrative costs by reducing the total number of staff employed in NHIC.

The introduction of long-term care insurance for the elderly serves to extend financial risk protection to those in need of such care. Equity in health financing is further enhanced through ongoing plans for a differentiated ceiling for cost-sharing.

As to purchasing, many changes have taken place. The introduction of the RBRV system reduced distortions in service delivery. Moreover, increases in fee-for-service rates were kept under control since 2003. The provider remuneration system has been diversified as DRGs have been introduced at least for a selected number of diseases. Quality-based purchasing initiatives such as the pay-for-performance pilot project have been introduced. The EDI-based claims review system has been optimized and is now used by over 99% of providers, thus also lowering administration costs.

The benefit package has been expanded. Some disease prevention and health promotion services are now included. The introduction of long-term care allows for a more efficient use of resources, as providers can better specialize on either acute care or long-term care. Furthermore, the benefit package is being rationalized through health technology assessments. A positive medicine list system has been introduced in order to remove less cost-effective medicines and to reduce the number of reimbursable medicines. This should result in more efficient use of resources and in cost-containment if not in cost

reduction. Likewise, the separation reform contributes to more rational medicine prescription and consumption.

In moving forward, the Korean government faces some old and new challenges, as with all health financing systems in the world. The financial sustainability of NHI has been an ongoing concern for policy-makers. Public spending on health through general taxation and the affordability of contributions are both influenced by factors within and outside the health system, such as economic growth, tax policy, employment and the overall political agenda. To maintain the government subsidies to NHI at the level of 20% of NHI revenues from contributions, these subsidies would have to rise in line with increases in wages and contribution rates.

Currently, the prepayment ratio is relatively low and the share of out-of-pocket payments is higher than in most of the high-income OECD countries. This is reflected in higher rates of financial catastrophe from out of pocket payments. Financial risk protection might be enhanced by considering mechanisms to supplement or strengthen the existing cost-sharing ceiling. Related to this is the question of whether the financial protection related to outpatient services, inpatient services and medicines could be fine-tuned. Currently there is a generous medicine benefit on the one hand and rather high cost-sharing and other user charges for inpatient services on the other.

The level of contribution rates for the different income groups could also be a focus of policy debate. In general, the highest income groups contribute a lower proportion of their incomes to NHI than the poorer groups, although this is not just an issue in the Republic of Korea.

The existing segmentation between MAP and NHI was raised by various stakeholders, as well as the reported stigmatizing of MAP beneficiaries. There may also be only small differences in income between the lowest-income SE members and MAP beneficiaries.

Health service needs are increasing, particularly as a result of an increase in the ageing population. This is expected to increase health expenditure through both the growing need for services and the diversification of type and quality of services. Many ways of improving efficiency and controlling costs have been discussed in Korea and were raised in discussions with key informants. Other suggestions were made in earlier parts of this report, including regulation of private investment on costly technology and in the costs of services not included in the benefits package, and more intense monitoring and enforcement of existing standards. The possibility of volume control or a budget cap was also raised to complement existing cost containment mechanisms, while extending the DRG system to all services and providers would also add to the armament of cost-containment strategies.

8.2. Reflections on the way forward

The following sections provide some reflections on that policy-makers in the Republic of Korea might like to consider in moving forward, building on the many strengths of the existing system. We organize the various suggestions into four areas:

- the financial stability of NHI;
- financial risk protection;
- equity considerations;
- purchasing, provider remuneration and efficiency;
- the depth of coverage and the benefits package.

These reflections originate from a technical perspective, based on experiences in other countries and interchanges with technical experts and key informants in Korea. We hope these suggestions are useful to policy-makers in Korea in their efforts to build on the past successes of the Korean system.

8.2.1. Sufficient and sustainable resource mobilization for NHI

Given that Korean health care expenditure is still below expected health expenditure when compared with other OECD countries and respective GDP levels (cf. Jeong et al., 2008), there seems to be room for a controlled increase in total health expenditure if these funds are used efficiently. This section assesses the question of whether resource mobilization can be increased in line with the objectives of financial risk protection and equity.

Increasing NHI contributions

In comparison with SHI schemes in other OECD countries, contribution rates remain relatively low in Korea. While this makes them more affordable to households, it appears that there is room to increase them a little more rapidly than has happened in the past in a gradual, but steady way. Experience from other countries suggests that these increases will be more acceptable to beneficiaries if it is clear to insurees and employers why the increases will take place and what the benefits will be. At least part of the increase could be used to lower household spending on cost-sharing.

Contribution revenues can also be increased by expanding the contribution base. The contribution base could be taxable income, payroll income, gross income, net income, or income excluding or including bonuses. The same contribution rate results in different contribution amounts depending on the contribution base. Over time, there could be convergence to one contribution base for all beneficiaries.

Another measure that would contribute to increasing revenues is to reduce leakage and underreporting of income, which would probably increase the number of households, including those in high-income groups, who contribute to the NHI.

Increasing NHI financial stability through stable government subsidies

The extension of the NHI entitlement to SE workers has been contingent upon strong government commitment to providing equal access to health and protecting households against financial losses associated with health payments. Government subsidies have been playing a crucial role in maintaining universal coverage of the defined benefit package. It will be more difficult to maintain the financial sustainability of the insurance fund and to enlarge the benefit package if government subsidies do not increase at the same rate as contributions.

The scope for increasing government subsidies obviously depends on the state of the economy and the government's fiscal position, as well as government priorities. More fiscal space could be created by considering the introduction or extension of taxes and surcharges on specific products such as advertisements for pharmaceuticals, tobacco and alcohol. The former is already under discussion in Korea as one source of government revenue which could be used on health.

Recategorizing certain SE insurees as EE insurees

Part-time or temporary workers and employees or people with contracts of less than 24 months are usually considered as SE insurees. When their income from labour is assessed and weighted at 20%, their NHI contribution payment is much lower than that of workers whose income is weighted at 100%. If irregular employees as well as their employers become part of the EE insurance category, revenues for NHI would increase. One option would be to reduce the threshold below which part-time workers are considered as self-employed insurees, perhaps to 20% of regular monthly working time. Coordination and alignment with labour policies would certainly be required if this policy were implemented.

Revisiting the level of accumulated reserves

As per the NHI Act, NHI shall "accumulate as its reserve fund an amount equivalent to at least 5% of the expenses required for payment of insurance benefits for that fiscal year until the funds reach 50% of the expenses required for that fiscal year". It might be opportune to consider if the 50% level could be reduced, releasing funds for the provision of benefits. There is, unfortunately, no international norm that can be used to guide this decision.

8.2.2. Financial risk protection

Resource mobilization via prepayment is generally agreed to be the preferred option for mobilizing sufficient resources for health financing, although most countries also impose some, small level of co-payments. Few high income OECD countries have out-of-pocket payments exceeding 70% of total health expenditure, for example. It would be possible to shift part of Korea's higher out-of-pocket payments into prepayment by extending the benefit package, lowering cost-sharing ratios and increasing contribution rates as outlined in Section 7.4.1.

The ongoing work in Korea on differentiating cost-sharing ceilings for different income groups would make a valuable contribution to increased risk protection. In addition to, or as an alternative, consideration could be given to whether cost-sharing ceilings could be defined as a percentage of household income as in some other OECD countries. Another option is to include an *annual* cap of cost-sharing in addition to the current six-month ceiling. This would avoid, for example, the chronic sick incurring high cost-sharing payments while falling just below the six-month ceiling, and would thus ensure financial risk protection. Alternatively, there could be a different cost-sharing structure for the lowest income groups.

A final suggestion is that regulation of user charges for non-covered services would not only limit the increase in total health expenditures, but also add greater financial risk protection to the population.

8.2.3. Equity considerations

Harmonizing the definition of "dependent"

The dependents of EE and SE insurees are defined differently. Dependents of EE insurees are covered via the principal insured family member, whereas dependents of SE insurees without their own income and who do not live in the same household still have to pay contributions (though small ones). Harmonization of the rules to treat EE and SE dependents in the same way may well increase equity.

Detecting income of the self-employed

One of the challenges in relation to the self-employed is to define their contribution rate and to collect the contributions. The NHIC in Korea has been making great efforts to estimate the actual income of the self-employed rather than rely totally on self-reported income. Some asset indicators and non-labour income are also taken into account to determine the contribution rates for people in the SE category. This, however, makes the contribution rules for the SE insurees more complex and less easy to understand. While adjusting the contribution base of different income and asset components, a long-term strategy to improve income registration would reduce the need for complex formulae. Korea has a well developed financial system that provides a solid foundation for improving income registration.

Aligning SE and EE contribution rules

Because of the complex contribution rules for SE enrollees, we found it difficult to compare equity between the EE and SE contributions. However, we suggest that it might be valuable for Korean experts to consider if the calculation methods need to be harmonized, which may imply revising the methodology of income and property value assessments as well as the SE point value scheme for those below an annual income of ₩5,000,000. This might require discussion and consensus on whether the SE insurees should in principle pay the full contribution rate of 100% ("employee share" and "employer share") or whether they should contribute only the "employee share" (i.e. half

of the total EE contribution rate), and might imply harmonizing the contribution base and income weighting used to determine contributions across EE and SE insurees.

Contributions according to ability to pay

The number of SE households in arrears with their contributions suggests that many may well have an inability to pay. MAP already exists for low income people while some are given exemptions from paying NHI contributions. The question now is whether this needs to be strengthened in some way, which would probably require more, and perhaps targeted government subsidies.

In addition, whether MAP is eventually integrated into NHI or remains separate, it would be valuable to assess whether the level of spending per MAP beneficiary needs to be lowered (e.g., through case management, adjusted co-payment rates) to bring it within a comparable range of expenditure by EE and SE beneficiaries that have similar risk factors. Lower expenditure per MAP beneficiary would save resources which would allow additional low-income people to be enrolled in the scheme.

8.2.4. Purchasing, provider remuneration and efficiency

Strengthening strategic purchasing

In order to optimize the provider constellation, there may be need in the future to regulate the location of providers to avoid over-concentration in urban areas. Regulation of workplace location is common in other countries such as Germany, which have found a balance between an individual provider's choice of his/her job and location of the clinic and considerations of overall health system efficiency. If needed, health care provision in rural areas could be enhanced by offering higher adjustment rates in medical fees for these areas.

Incentives to focus on general medicine could be strengthened, whereas incentives to specialize in particular fields with an over-supply of doctors could be reduced. In other words, RBRVs that apply to general practitioners could be increased while overvalued RBRVs for certain specialties would have to be addressed.

In order to strengthen compliance with the referral system, cost-sharing could be further differentiated for different levels of health providers. With lower cost-sharing rates at lower levels of care, patients choosing lower-level facilities can reduce their out-of-pocket expenditure, thus also enhancing financial risk protection. Another option may be to invite patients to choose a general practitioner who would then be responsible for monitoring and steering their primary health care needs. Patients could be given a monetary incentive, such as a cost-sharing reduction, if they would choose to do so. Such a measure would also contribute to greater rationality in health care provision and to the reduction of duplicated care.¹³

¹³ For example, Belgium has introduced a "Global Medical File" in which participating patients receive a 30% reduction on the standard co-payment for primary care (Corens, 2007).

The mandatory and collective contracting mechanism is an important and useful component of Korea's SHI system. In order to avoid the development of a two-class system of providers, it is not desirable to allow selected hospitals to opt out of this system.

Strengthening cost-containment measures

In the Korean context, given its current spending level, cost-containment at this point means above all controlling the increase in total health expenditure and improving efficiency.

Fee-for-service payments: Without a volume control or budget cap, the fee-for-service payment mechanism continues to weaken the fiscal stability of NHI. One solution is to introduce a soft budget (or soft sectoral budgets) that would be agreed between the MOH, NHIC and the medical and provider associations. A soft budget serves as an indication and target for health expenditure – this target can be differentiated for the various provider types and levels.¹⁴ If this option is chosen, it is recommended to establish budget ceilings per quarter. Once a soft budget is established and accepted, and if the fee-for-service remuneration mechanism continues to be in place, it could be translated into a hard budget after some years. This means that a volume increase above the agreed level will lead to lower fee-for-service rate. Time lags in processing claims may constitute a managerial challenge, but this can be overcome. A combined system of fee-for-service remuneration and budget ceiling shifts some part of the expenditure uncertainty from NHIC to the providers. This measure requires discussion on volume and on rational/healthy utilization rates. Likewise, peer review by medical groups or associations, self-monitoring and cooperation between providers would be needed.¹⁵

The process of determining remuneration rates could give more weight to costing study results and thus also facilitate other changes in the payment remuneration scheme. Furthermore, this process could be accompanied by more explicit and transparent discussions of the profit margins of physicians' clinics and hospitals as well as of other providers.

Diagnosis-related groups: The DRG system should become mandatory for all providers. This would avoid "adverse selection" whereby the only providers who choose to operate under DRGs are those for whom it is financially attractive. Furthermore, it is advised to expand the number of DRGs and include more diseases. In order to realize cost savings, DRG rates should in principle not be higher than those of the respective fee-for-service rates, yet some restructuring may be necessary.

Remuneration system for pharmaceuticals: As in the case of volume control for medical services by means of a total budget, total medicine expenditure control through a specific pharmaceutical budget would also be an option. A fixed budget for medicines creates the incentive for doctors to prescribe generics and low-cost medicines and to avoid extended medicine dosages. Furthermore, substitution of generics for high-cost medicines should

¹⁴ For further elaboration, see Carrin & Hanvoravongchai (2003).

¹⁵ Since 1996, Belgium has applied this mechanism with some good results but has also faced challenges (Corens, 2007). It is suggested that these experiences be reviewed to assess their appropriateness for the Korean context.

be strengthened and facilitated. A long-term strategy would be to move to substance prescribing, as practised in some other countries. Substitution of generics for brand-name medicines will be enhanced by increasing the number of substitutable medicines for which bioequivalence tests have been undertaken and for which quality is ensured. This will contribute to both patients and health workers gaining confidence. It was feared that doctors may argue that patient numbers may decrease, but there is no reason or evidence to believe this will occur.

These proposed changes would need to go hand-in-hand with education and awareness-raising for the public, as well as with specific training for doctors.

8.2.5. The depth of coverage and the benefits package

Both policy-makers and the public have expressed concern at high out-of-pocket payments. They could be reduced while at the same time increasing NHI revenues through increased contributions and/or increased government subsidies and rationalizing the current benefit package - perhaps by changing the policy to use NHI payments to cover some over-the-counter medicine. On the other hand, a wide range of inpatient services are not covered by NHI, while for those services covered the cost-sharing rate is at 20%. It might be possible to gradually reduce the number of the medicines on the reimbursement list and increase the number of inpatient services covered. This needs to be balanced against the observation that the impact of reducing coverage for medicines will have a negative impact on the lowest income quintile.

The plan of the MOH and NHIC is to increase financial risk protection – i.e. to expand benefits. In essence, this implies lowering cost-sharing rates and including more services in the NHI package, and also lowering out-of-pocket expenditure on non-covered services (through regulation of non-covered services). With increased resource mobilization for NHI, as outlined above, such an extension of the benefit package is in principle financially feasible.

Furthermore, consideration could be given to certain population groups such as the elderly and those with chronic conditions who generally need more services. With the same co-payment rates for inpatient care, they are forced to spend more of their disposable incomes on health. Various options could protect the elderly and the chronic sick from large financial losses including further reduction in cost-sharing or increasing social welfare programmes or a combination of both.

8.3. Implications for implementation

Apart from technical appropriateness and the feasibility of proposed changes in the institutional design of a health financing system, policy-makers are equally concerned with the political feasibility and the implementation challenges of reform proposals in light of possibly conflicting group interests. In most countries, provider associations form a particularly strong stakeholder group, especially when private provision is dominant. Korea is not unique in this, neither regarding the implementation challenges nor the private-sector dominance in health care provision. Other OECD countries have been and are equally undergoing critical reform processes. A (successful) reform implementation process cannot simply be replicated in another country, but there are lessons to learn from such processes and Korea might find some of these lessons informative for planning its own reform process. While there is no magic bullet for such processes and while it is not our role to enter into the political process, we offer some insights from the experience of other countries.

Communication, public awareness-raising, and information campaigns have often proven to be important means to help the public understand and to convince them of the need for reforms. The same applies to wide stakeholder discussions with the various interest groups. In such a discussion process, governments in other settings have sought to encourage the interest groups to consider balanced viewpoints between public and private interests. The aim is to invest in and find a social consensus and to strengthen mutual trust and understanding. Public opinion polls can also be useful in informing policy development. As proposed by the Shin & Lee (2006), the press can also have an important role to play by fairly reporting and assessing the debate. The input of patient and consumer groups has often been critical and Korea could well consider whether their representation in the various governance bodies on SHI could be enhanced.

Different policies may also be combined into one reform package. For example, increased contribution rates to enlarge the benefit package could go hand-in-hand with provider payment reform. In this regard, a long-term master plan for extending the benefit package is useful.

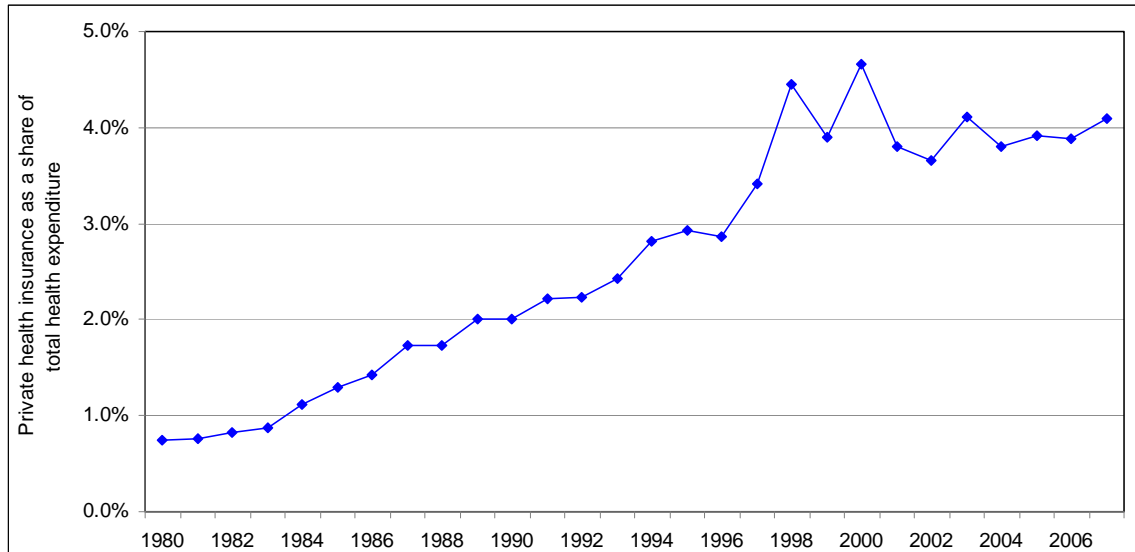
8.4. Future issues and challenges

8.4.1. Private health insurance

The development of private health insurance

Private health insurance or PHI for in-kind benefits has until now had a marginal role in Korea's health financing system, yet the trend has been increasing in recent years (see Fig. 8.1), with 4.1% (₩2532 billion) being spent on PHI in 2007 (Jeong, 2009a). The data do not incorporate expenditure on life insurance products, which provide (disease -specific) lump-sum cash payments.

Fig. 8.1. Trends in private health insurance as a share of total health expenditure



Source: based on data from Jeong (2009a)

While the share of PHI expenditure is minor, various studies have estimated the PHI market size. In 2001, 53% of Koreans were enrolled in PHI (KLI, 2001, in Kwon et al., forthcoming). In fact, the lump sum insurance is very popular, and a study among cancer patients revealed that 44% of them had purchased one or more PHI plans related to cancer, with an average monthly premium of ₩65,311 and an average benefit amount of ₩19 million in 2005 (Lim et al., 2007). Another survey found that 53% of the population is enrolled in PHI (Lee et al., 2006).

Given the high degree of out-of-pocket expenditure, the relatively limited development of PHI may be explained by the fact that Korea has no tradition of PHI and people had made out-of-pocket payments prior to the introduction of public health insurance. Other explanations lie in cultural preferences and government policies. In general, insurance does not have much of a tradition in Asian culture (cf. Colombo & Tapay, 2004).

Before 2004, PHI in Korea was mainly offered in the form of lump-sum payment plans for various critical illnesses (e.g. cancer, heart attack, stroke) – i.e. providing the insuree with cash benefits, but unrelated to the actual costs incurred (cf. *ibid.*). In practice, this implied some form of duplicative insurance.

Property insurance companies – about 20 enterprises – are already allowed to sell a separate package of insurance on non-insured health services (supplementary insurance) and cost-sharing policies (complementary insurance), but their market has remained small. Plans have varied considerably – some plans are more conditional, others less so, but a trend to more conditional plans is noticed. Some plans reimburse hospital costs on a day-by-day basis while others reimburse specific services.

Since August 2005, the government has allowed life insurance companies (a total of 22 companies as of the time of writing) to also offer PHI plans that cover non-insured health

care and parts of NHIC cost-sharing. Thus, except substitutive PHI, both duplicative, supplementary and complementary PHI can be offered in Korea. Income security insurance is also allowed and provides a fixed monthly amount when the breadwinner is unable to work for health reasons, according to the Insurance Business Act, Art. 2 (MOGL 2008a).

The debate about private health insurance (cf. OECD, 2003) gained new impetus with the arrival of the new, market-oriented government in February 2008. Under the overall economic policy of promoting the private sector, PHI is supported by the new government. In mid-2008, new PHI regulatory provisions were introduced, prohibiting duplicative PHI. Furthermore, substitutive PHI is objected to, as is the possibility of receiving benefits from both NHI and PHI.

NHIC is concerned that the liberalization of supplementary and complementary PHI could result in a much bigger market for PHI – particularly supplementary insurance – thus increasing NHI expenditure overall. With reduced or eliminated cost-sharing for NHI insured services, moral hazard may come into being again. For these reasons, the MOH has stated that it does not wish to enlarge the role of PHI.

While it has been legally possible over the past few years to offer both supplementary and complementary PHI, it has not been well developed and marketed. One reason for this is the PHI companies' lack of data and information for developing their insurance products. Furthermore, as the NHI benefit package is continuously being expanded, a plan for a supplementary insurance would need to be adjusted on a yearly basis. This would make marketing difficult, unless the premium is maintained - even though from actuarial point of view, the price for the shrinking PHI benefit package should reduce over the years for a specific age group.

There has been limited regulation of PHI products over the years, since the lump-sum type insurance products were not considered by the Ministry of Strategy and Finance as health insurance products. In addition, the Korean Insurance Research Centre considers that the lack of clarity in regulation and standardization has impeded the further development of insurance plans. However, in other settings a lack of regulation would normally facilitate this type of development.

Anticipated impacts of an enlarged role of PHI

Given the high outpatient utilization rates (see Chapter 2), the question is whether the purchase of a PHI plan would result in further utilization that is not apparently necessary (moral hazard). Some initial studies are available to show the effect of PHI. Both Jung et al. (2006) and Kang et al. (2005) find that people with PHI have higher outpatient utilization rates but no increased inpatient utilization rates. This confirms the fact that over use and moral hazard is of less concern in inpatient care. One may thus conclude that supplementary PHI for inpatient care only may not have an upward effect on NHIC expenditure. On the other hand, sensitivity analysis by Huh & Lee (2007) projects additional NHIC spending of ₩298-1,192 billion, assuming utilization increases (with

price elasticity from -0.2 to -0.5 and expected 50-80% coverage rates of complementary PHI).

The studies also show that it is particularly the better-off, those with higher education and better health status, the younger and urban population, as well as females who are more likely to have PHI (Lim et al., 2007; Yoon et al., 2005, in Kwon et al., forthcoming; cf. Yoon, 2008). Their main reasons for purchasing PHI plans were experience of having to pay for disease treatment and persuasion by PHI companies (Park, 2006). In line with Kwon et al. (forthcoming), it can be concluded that the degree of adverse selection appears overall to be low. Risk aversion, affordability of PHI, but also lack of information about what the NHI package covers and the PHI companies' marketing strategies may explain this.

On the other hand, these results reveal that PHI has increased inequity in financial risk protection, since better-off people are more likely to have additional PHI coverage and to be protected against the financial risk of high out-of-pocket expenditure. It is needless to say that PHI performs poorly in terms of both risk solidarity and income solidarity. This is because coverage is voluntary and not based on ability to pay. Poorer people are less likely to buy PHI, yet they are most in need of additional financial risk protection and usually have higher health risks. The role of PHI in financial risk protection would thus be limited to higher-income groups.

It is often argued that PHI brings additional funding into the health sector. As Kwon et al. (forthcoming) write, "the Ministry of Finance supports the idea of PHI also because it can help ease the financial burden associated with SHI, for which the [Ministry of Finance] subsidizes contributions". However, it is not clear how this "burden" – in form of the current level of subsidies – could be reduced by PHI, unless the NHI benefit package is reduced. If this were so, the range of non-covered services would increase, resulting in higher out-of-pocket expenditure for those not covered by PHI. Again, only the better-off would be able to buy PHI, exposing the weaker income groups to greater financial risk. In other words, favouring PHI by reducing government subsidies for NHI is likely to reduce financial risk protection of the lower-income groups.

Key suggestions

PHI companies offering supplementary insurance are unlikely to have any interest in an expanded NHI benefit package, as this would reduce their market and require them to adjust their packages on a regular basis. Furthermore, as soon as supplementary and complementary PHI insurance is more strongly marketed, a higher degree of adverse selection can be expected as those anticipating higher health care expenditure may want to sign up. On the other hand, there is serious risk of cream skimming, as PHI may want to block potential high cost clients. Such behavior strengthens the plea for SHI where serious risks can be pooled. Another open question is whether NHI patients with a PHI plan would benefit from the NHIC cost-sharing ceiling mechanism.

Should PHI be considered as one future element of health financing and financial risk protection in the light of NHI's limits on coverage, a number of measures could be

undertaken to overcome some of the above problems. Understanding and knowledge of the functioning of PHI could be promoted, particularly among population groups with lower education levels. Lump-sum payment insurance could be translated into complementary insurance schemes to align PHI benefits with the actual costs incurred. Finally, standardization and regulation could be strengthened in order to enhance consumer protection, consumer information, and competition among the insurance companies. There might be benefit to be gained from transforming long-term PHI contract periods between the PHI company and consumers (some over several decades) into contracts of shorter duration.

There is an important caveat however. Indeed, following from Section 8.2 on improving equity in health financing, there are reasons to maintain and increase the existing level of income solidarity and health financing equity. This might be difficult to achieve simply by expanding PHI which is essentially voluntary in nature, and entails the risk that certain population groups would not be willing or not be able to buy a private health insurance policy.

8.4.2. Long-term care insurance

The most important features of long-term care insurance as well as related future issues and concerns are outlined below.

Key features of Korea's long-term care insurance²

The German long-term care insurance served as an example for designing the long-term care insurance (LTCI) of Korea. The contribution rate is a percentage of the NHI contribution rate, currently at 4.78% of NHI's rate of 5.08% in 2008. As the NHI contribution rate increases year by year, the long-term care insurance contribution rate rises equally. Government subsidies provide 20% of expected contributions within the budget range. Co-payments are also an important source of financing (see further below). Even though the LTCI fund is separate from the NHI fund, it is closely linked to the latter, since NHIC is the administrator and thus LTCI benefits in terms of managerial experience and administrative savings.

Long-term care service benefits include in-home services, services in long-term care facilities (mainly nursing homes), and special cash benefits. Co-payments for in-home and institutional services are 15% and 20% of long-term care service expenses respectively. Meals and "above standard/special" rooms are not covered. MAP beneficiaries are fully exempted from co-payments whereas persons who receive an old-age allowance or those whose income is below 130% of the minimum cost of living pay half the normal co-payment (MOH & NHIC, 2008).

People above 65 years of age with a need for long-term care or those with geriatric diseases who are below 65 years have to submit an application. Following a home visit to assess the physical and care needs of the applicant – based on the categories of

"Independence in basic activities of daily living (ADL)" and "Instrumental activities of daily living (IADL)" – a Certification Committee takes a decision on the beneficiary's needs. There are three categories of beneficiaries depending on the intensity of the long-term care needs (ibid.).

In 2008, a total of 1271 institutional facilities were recognized as providing long-term care (Jang, 2008). In order to be able to meet increased demand, this number may have to rise. The total number of Korean beneficiaries amounted to 254,000 in 2008 (ibid.), which is 0.52% of the total population and about a fourth of the number estimated to be in need. Thus, there have been calls to increase the number of beneficiaries. Early long-term planning and projections will be needed in order to ensure and maintain financial sustainability of the LTCI fund.

Key suggestions

As much as the introduction of LTCI has been an important and appreciated step, as various surveys show (NHIC, 2008b) there remain a number of challenges.

There is an apparent shortage of long-term care facilities and trained staff, certainly in terms of the projected increase in need. Private-sector provision is likely to have to play an important role. Likewise, various scholars have argued that the range of benefits provided is quite narrow (cf. Song, 2008). An option is to promote (informal) privately provided care, via family members for example, rather than cash benefits being granted exceptionally in specific circumstances. An issue for consideration is that people in need of long-term care due to disability but below 65 years of age are not covered. For financial as well as solidarity reasons, it could be considered whether these should be taken care of through the LTCI (cf. Kwon & Park, 2006).

The separation of long-term care and health care in NHI is not in itself worse than an integrated system, and above all, it contributes to de-medicalizing long-term care (cf. Kwon, 2008). Nevertheless, it requires specific attention to coordinating and ensuring continuous care, i.e. medical and LTC care need to go hand-in-hand. Shifting of patients from the NHI to the LTCI or vice-versa to save costs is a danger, and even though NHIC is in charge of administering both the NHI and the LTCI, this shifting may yet take place according to financial needs and rationales. As a complementary measure, it would help to ensure there is clarity to the beneficiaries about how long-term care is coupled with other social services. A final consideration is the appropriate role of long-term care hospitals (Park & Kim, 2008).

While the co-payment rates are clear for the LTCI, it is not yet clear if there is the same high level of utilization as found in the NHI system, thereby increasing the total payments by households and by the LTCI. Moreover, households will incur additional costs for non-covered services with unregulated user charges. There is also no ceiling on co-payments for long-term care, and we suggest that the impact of the scheme on financial risk protection is something that should be monitored and evaluated over time.

Moreover, there is also benefit to monitoring service quality and strengthening the accreditation system. Finally, the role of expanding prevention and promotion as part of NHI in terms of increasing the financial sustainability of the NHI and the LTCI is worthy of study.

References

- Bae EY (2007). Study on the medicine expenditure trend in Korea. *Korean Journal of Health Economics and Policy*, Vol. 13(2): 39-54 (in Korean).
- Brittain JA (1972). *The payroll tax for social security*. Washington, DC, The Brookings Institution.
- Busse R (2008). The health system in Germany. *Eurohealth*, 14(1):5-6.
- Carrin G, Hanvoravongchai P (2003). Provider payments and patient charges as policy tools for cost-containment: how successful are they in high-income countries? *Human Resources for Health*, 1(6).
- Carrin G, James C (2005). Key performance indicators for the implementation of social health insurance. *Applied Health Economics and Health Policy*, 4(1):15-22.
- Carrin G, Mathauer I, Xu K, Evans DB (2008). Universal coverage of health services: tailoring its implementation. *Bulletin of the World Health Organization*, 86:857-863.
- Cho WS (2001). A study on the medication in an early implementation period of the separation system of pharmacies and clinics in Seoul. *Journal of Korea Community Health Nursing Academic Society*, 15(2):398-411 (in Korean).
- Cho KH (2005). The long-term care management of the elderly in Korea. *Journal of the Korean Medical Association*, 48(1):39-47 (in Korean).
- Cho JH (2008). A study on long-term care insurance. *Korean Journal of Business Administration and Law*, 18(4):293-325 (in Korean).
- Cho WS, Rho YK (2003). Primary care physicians shortages: a Korean example. *Public Health Reviews*, 31(2):133-148.
- Cho KH, Chung YH, Roh YK et al. (2004). Health care for older persons: a country profile-Korea. *Journal of the American Geriatrics Society*, 52(7):1199-1204.
- Choi BH (2008). Evaluation of DRG-based payment system and its future direction, *Health Welfare Policy Forum*, 142:67-83 (in Korean).
- Chun SC (2002). *Economic development, and tax policy and tax system in Korea*. Seoul, Korea Institute of Public Finance (in Korean).
- Colombo F, Tapay N (2004). *Private health insurance in OECD countries. The benefits and costs for individuals and health systems*. (OECD Health Working Paper No. 15). Paris, Organization for Economic Co-operation and Development.
- Corens D (2007). *Belgium: health system review*. (Health Systems in Transition, Vol. 9, No. 2). Copenhagen, World Health Organization Regional Office for Europe.
- Folland S, Goodman AC, Stano M (2004). *The economics of health and health care*. (Chapter 22). New Jersey, Pearson Education International.

- Ha BM, Kang GW, Park HK, Kim CY, Kim YI (2000). Impacts of DRG payment system on behaviour of medical insurance claimants. *Korean Journal of Preventive Medicine*, 33(4):393-401 (in Korean).
- HIRA (2008a). Health Insurance Review and Assessment Service. Seoul, Health Insurance Review Agency.
- HIRA (2008b). *Introduction to the Korean health insurance payment system*. (Presentation provided by the Health Insurance Review Agency).
- HIRA (2008c). *Revised resource-based relative values for services, medical items and pharmaceuticals*. Seoul, Health Insurance Review Agency (in Korean).
- HIRA (2008d). *Summary of activities and functions of HIRA*. Seoul, Health Insurance Review Agency.
- Huh SI, Kim CY, Choi SJ (2007). Income elasticity of household expenditures and differences by income level. *Korean Journal of Health Policy and Administration*, 17(3):50-67 (in Korean).
- Huh SI, Lee SY (2007). The impact of complementary private health insurance on public spending in Korea. *Korean Journal of Health Policy and Administration*, 17(2):1-17 (in Korean).
- Jang JH (2008). Long-term care insurance: current status and prospects. *Health and Welfare Policy Forum*, 142:5-17 (in Korean).
- Jang S (2007). *The unification of social insurance contribution collection system in Korea*. (OECD Social Employment and Migration Working Paper No. 55), Paris, Organization for Economic Co-operation and Development.
- Jeong HS (2004). Impact of Korea's reform for separation between prescribing and dispensing of medicines on profits of doctors' clinics and pharmacies. *Korean Journal of Health Policy and Administration*, 14(1):44-64.
- Jeong HS (2006). Impact of the reform of separation between prescribing and dispensing of medicines upon the financial situation of the National Health Insurance. *Korean Journal of Health Policy and Administration*, 16(2):117-134 (in Korean).
- Jeong HS (2008a). *Construction of Korean National Health Accounts for the year 2006*. Seoul, Ministry of Health, Welfare and Family Affairs.
- Jeong HS (2008b). Scale and composition of long-term care expenditure in Korea according to OECD's System of Health Accounts (SHA). *Korean Social Security Studies*, 24(3):145-169 (in Korean).
- Jeong HS (2009a). *Construction of Korean National Health Accounts for the year 2007*. Seoul, Ministry of Health, Welfare and Family Affairs.
- Jeong HS (2009b). Pharmaceutical reforms. Implications through comparison of Korea and Japan. *Health Policy*, forthcoming.
- Jeong HS, Lee JH (2008). Scale and structure of pharmaceutical expenditure of the year 2006 in Korea. *Korean Journal of Health Policy and Administration*, 18(3): 110-127 (in Korean).

- Jeong HS, Shin PK (2006). Time-series change in benefit coverage of Korean health insurance and cross-country variation in public financing share of personal health care expenditure. *Korean Social Security Studies*, 22(4):27-48 (in Korean).
- Jeong HS, Lee EK, Kim EJ, Ruy GC, Song YM (2005a). Health care reform and change in public-private mix of financing: a Korean case. *Health Policy*, 74:133-145.
- Jeong HS, Lee EK, Kim EJ et al. (2005b). Impact of the purchasing price reimbursement system for insurance medicines upon the health insurer's financial situation. *Korean Journal of Health Policy and Administration*, 15(3):40-59 (in Korean).
- Jeong HS, Lee JH, Song YM, Shin JW (2008). Scale and structure of 2006 total health expenditure in Korea constructed according to OECD/WHO/Eurostat's SHA. *Korean Journal of Health Economics and Policy*, 14(1):110-127 (in Korean).
- Jun Y, Kwon YH, Kim CY et al. (2001). Changes in quality of care for caesarean section after implementation of diagnosis-related groups/prospective payment system. *Korean Journal of Preventive Medicine*, 34(4):347-353 (in Korean).
- Jung KT, Shin EK, Kwak CH (2006). *An empirical study on the relationship between private health insurance and moral hazard*. No. 75: 1-25, Seoul, Korean Insurance Academic Society (in Korean).
- Kang, SW, Kwon YD, You CH (2005). Effects of supplemental insurance on health care utilization and expenditures among cancer patients in Korea. *Korean Journal of Health Policy and Administration*, 15(4):65-80 (in Korean).
- Kim JM (2002a). *An analysis of the latent burden imposed on long-run government finances by the National Health Insurance*. Seoul, Korea Institute of Public Finance (in Korean).
- Kim JY (2002b). *The impact of the separation of prescription and dispensing on medical service utilization*. Seoul, Korea Institute for Health and Social Affairs.
- Kim HC, Hong NR, Yeon BK et al. (2005). The demand, its determinants and the willingness to pay of the long-term care service. *Korean Journal of Health Policy and Administration*, 15(4):136-160 (in Korean).
- Kim HJ, Ruger J (2008). Pharmaceutical reform in South Korea and the lessons it provides. *Health Affairs*, Web exclusive No. 28, May 2008:w260-w269.
- Kim HJ, Chung WJ, Lee SG (2004). Lessons from Korea's pharmaceutical policy reform: the separation of medical institutions and pharmacies for outpatient care. *Health Policy*, 68:267-275.
- Kim JS, Noh SY, Lee DH, Choi ID (2007). *Financial prospects and policy instruments for National Health Insurance 2008-2030*. Seoul, National Health Insurance Corporation (in Korean).
- KMA (2006). *Annual Report Membership Statistics*. Seoul, Korea Medical Association Research Institute for Healthcare Policy.
- KOSIS (2007). *Korean statistical information*. Seoul, Korean Statistical Information Services (<http://www.kosis.kr>)

- Kwon SM (2003a). Healthcare financing reform and the new single payer system in the Republic of Korea: social solidarity or efficiency? *International Social Security Review*, 56(1):75-94.
- Kwon SM (2003b). Payment system reform for health care providers in Korea. *Health Policy and Planning*, 18(1):84-92.
- Kwon SM (2003c). Pharmaceutical reform and physician strikes in Korea: separation of medicine prescribing and dispensing. *Social Science and Medicine*, 57:529-538.
- Kwon SM (2007). The fiscal crisis of national health insurance in the Republic of Korea: in search of a new paradigm. *Social Policy and Administration*, 41(2),162-178.
- Kwon SM (2008). Future of long-term care financing for the elderly in Korea. *Journal of Aging and Social Policy*, 20(1):119-136.
- Kwon SM, Park KH (2006). Long-term care financing for elderly: policy options and challenges. *Korean Journal of Research in Gerontology*, 15:9-36 (in Korean).
- Kwon SM, Reich MR (2005). The changing process and politics of health policy in Korea. *Journal of Health Politics, Policy and Law*, 30(6):1003-1025.
- Kwon SM, Ikegami N, Lee YC (forthcoming). Private health insurance in Japan, Korea and Taiwan. In: Thomson S, Mossialos E, Evans R, eds. *Private health insurance and medical savings accounts: lessons from international experience*. Cambridge, Cambridge University Press.
- Lee EK (undated). *Separation reform 2000 in Korea and rational medicine use*. Seoul, Korea Institute for Health and Social Affairs.
- Lee YS (2008). A study on the main contents and the point at issue of the law of long-term care insurance for senior citizens. *Journal of Korean Insurance*, 79(4):163-193 (in Korean).
- Lee AK, Jeong HF (2004). Distribution changes in physicians' medical care expenses from the national health insurance and its determinants after the separation of prescription and dispensing. *Korean Journal of Health Policy and Administration*, 14:20-44 (in Korean).
- Lee CH, Kim WJ (2007). A study on the attitudes of some medical consumers to private health insurance and policy implications. *Journal of Inje University*, 22(1):297-310 (in Korean).
- Lee JS, Lee SY, Jeong BK et al. (2006). *Sharing of roles between Social Health Insurance and Private Health Insurance*. Seoul, National Health Insurance Corporation (in Korean).
- Lee KS, Lee SI (2007). Effects of the DRG-based prospective payment system operated by the voluntarily participating providers on the cesarean section rates in Korea. *Health Policy*, 81:300-308.
- Lee KS, Kang HC, Nam CM, Cho WH, Kang HY (2006). Variations in hospital length of stay for diagnosis-related groups among health care institutions. *Korean Journal of Health Policy and Administration*, 16(2):77-95 (in Korean).

- Lee MR, Lee YH, Koh KW (2005). The change of medical care pattern and cost of cataract surgery by the DRG payment system in a general hospital. *Korean Journal of Hospital Management*, 10(1):48-70 (in Korean).
- Lim JH, Choi KS, Kim SG, Park EC, Park JH (2007). Effects of private health insurance on health care utilization and expenditures in Korean cancer patients: focused on 5 major cancers in one cancer centre. *Journal of Preventive Medicine and Public Health*, 40(4):329-335 (in Korean).
- Mathauer I, Carrin G (2009). *Improving health financing performance and achieving universal coverage: The role of institutional design and organizational practice*. HFP, WHO: Geneva (forthcoming).
- MOGL (2008a). *Insurance Business Act*. Seoul, Ministry of Government Legislation (in Korean).
- MOGL (2008b). *Medical Act*. Seoul, Ministry of Government Legislation. (in Korean).
- MOGL (2008c). *NHIC enforcement regulations regarding special treatment charges*. Seoul, Ministry of Government Legislation (in Korean).
- MOH (2006). *Annual Report 2006. Health and Welfare Services*. Seoul, Ministry of Health, Welfare and Family Affairs.
- MOH (2008). *The MOH budget*. Seoul, Ministry of Health, Welfare and Family Affairs (in Korean).
- MOH (annual). *Medical Aid Program statistics*. Seoul, Ministry of Health, Welfare and Family Affairs.
- MOH, NHIC (2008). *Introduction of long-term care insurance in Korea*. Seoul, Ministry of Health, Welfare and Family Affairs and National Health Insurance Corporation.
- MOSF (2008). *Budget of Korea 2008*. Seoul, Ministry of Strategy and Finance.
- NHIC (2007). *National Health Insurance Program of Korea*. Seoul, National Health Insurance Corporation.
- NHIC (2008a). *Review of SE income groups*. Seoul, National Health Insurance Corporation (unpublished).
- NHIC (2008b). *Survey on the long-term care insurance satisfaction*. (Publicity material, 29 January 2009). Seoul, National Health Insurance Corporation (in Korean).
- NHIC (1990-2008). *The major indicators of health insurance* Seoul, National Health Insurance Corporation.
- NHIC, HIRA (2007a). *2006 NHI Statistical Yearbook*. Seoul, National Health Insurance Corporation and Health Insurance Review Agency.
- NHIC, HIRA (2007b). *30-year history of the Korean National Health Insurance*. (Statistical booklet).Seoul, National Health Insurance Corporation and Health Insurance Review Agency.
- NHIC, HIRA (2008). *2007 NHI Statistical Yearbook statistics*. Seoul, National Health Insurance Corporation and Health Insurance Review Agency.

- Normand C, Busse R (2002). Social health insurance financing. In: Mossialos E et al., eds. *Funding health care: options for Europe*. Buckingham, Open University Press.
- OECD (2003). *OECD reviews of health care systems: Korea*. Paris, Organization for Economic Co-operation and Development.
- OECD (2007). *OECD health data*. OECD health data online, accessed 20 August 2008.
- OECD (2008). *OECD health data*. OECD health data online, accessed 2 May 2009
http://www.sourceoecd.org/rpsv/statistic/s37_about.htm?jnlissn=99991012
- Park MO (2007). Study of the public policy making of aged persons long-term care insurance service in Korea. *Korean Journal of Policy Analysis and Evaluation*, 17(4):177-214 (in Korean).
- Park YH (2006). A study on the determinants of private health insurance purchasing decisions and consumer satisfaction in Busan. *Korean Public Health Research*, 32(2):120-129 (in Korean).
- Park IS, Kim SK (2008). Korean elderly long-term care insurance system and long-term care hospitals. *Korean Journal of Research in Gerontology*, 12(2):68-73 (in Korean).
- Park SH, Lee SM (2008). Evidence-based decision-making and health technology assessment in South Korea. *Value in Health*, 11(1):163-164.
- Park S, Souneragi SB, Adams AS et al. et al. (2005). Antibiotic use following a Korean national policy to prohibit medication dispensing by physicians. *Health Policy and Planning*, 20(5):302-309.
- Ruger JP, Kim HJ (2007). Out-of-pocket health care spending by the poor and chronically ill in the Republic of Korea. *American Journal of Public Health*, 97(5):804-811.
- Shin YG, Lee JY (2006). Actors and strategies in the national medical policy making process in Korea: The case of the separation of prescribing and dispensing policy. *The Journal of the Korean Association for Governance*, 13(2): 103-127 (in Korean).
- Song SS (2008). A study on the development plan of long-term care insurance system for the elderly in Korea. *Journal of Far Eastern Social Welfare*, 4:85-104 (in Korean).
- Stiglitz JE (1986). *Economics of the public sector*. New York, NY, WW Norton Company.
- Tansdareonsathien V et al. (2008). The role of taxation in financing public health initiatives. In: Heggenhougen K, Quah S, eds. *International Encyclopaedia of Public Health*. New York, Elsevier.
- Van de Ven WP, Beck K, Buchner F et al. (2003). Risk adjustment and risk selection on the sickness fund insurance market in five European countries. *Health Policy*, 65:75-98.
- WHO (2005). *Report by the Secretariat to the WHA 2005 on sustainable health financing, universal coverage and social health insurance*. Geneva, WHO.

- WHO (2008). *NHA estimates for the Republic of Korea*. Geneva, World Health Organization (accessed on 20 August 2008, www.who.int/nha/country/kor/en/).
- WHO, UNICEF, UNFPA (1997). *Guidelines for monitoring the availability and use of obstetric services*. New York, NY, United Nations Children's Fund.
- Yang BM (2001). *Health insurance and the growth of the private health sector in the Republic of Korea*. Washington, DC, World Bank Institute.
- Yang BM, Bae EY, Kim JH (2008). Economic evaluation and pharmaceutical reimbursement reform in South Korea's National Health Insurance. *Health Affairs*, 27(19):179-187.
- Yim J, Kwon YH, Honh DH et al. (2001): Changes in quality of care for Cesarean section after implementation of diagnosis-related groups /prospective payment system. *Korean Journal of Preventive Medicine*, Vol. 34 (4): 347-353 (in Korean).
- Yoon SJ, Kim SJ, Yu SH, Oh JO (2008). The influence of perception and attitudes of inpatients towards the activation of private health insurance. *Korean Journal of Hospital Management*, 13(1):24-41 (in Korean).
- Yoon TH, Hwang IK, Sohn HS et al. (2005). The determinants of private health insurance purchasing decisions under the national health insurance system in Korea. The expansion of the private health insurance market, for better or worse. *Korean Journal of Health Policy and Administration*, 15(4):161-175 (in Korean).
- Xu K, Aguilar A, Carrin G, Evans DB (2005). *Distribution of health payments and catastrophic expenditures: methodology*. (WHO Health Financing Policy discussion paper). Geneva, World Health Organization.
- Xu K, Evans DB, Kawabata K et al. (2003). Household catastrophic health expenditure: a multicountry analysis. *Lancet*, 362(9378):111-117.
- Xu K, Evans D.B, Carrin G et al. (2007). Protecting households from catastrophic health spending. *Health Affairs*, 26(4):972-983.

Annex

Table A1. Cost-sharing schedule for MAP

	Previous system (until July 2007)	New system (since February 2008)
Outpatient care		
Clinic level:		
MAP1	No co-payment	₩1000 per visit; ₩1500 with prescription of medicines; CT, MRI, PET: 5% of costs Exemption for specified groups (see below)
MAP2	₩1000 per visit; ₩1500 with prescription of medicines Same co-payment rates as NHIC insurees for specific treatments as specified by MOH (e.g. CT).	₩1000 per visit; ₩1500 with prescription of medicines; CT, MRI, PET: 15% of costs
Hospital level:		
MAP1	No co-payment	₩1500 per visit; ₩2000 with prescription of medicines; CT, MRI, PET: 5% of costs Exemption for specified groups
MAP2	Same co-payment schedule as NHIC insurees; Patients with cancer: 10% of treatment costs (since 1 September 2005) ₩1000 per visit (₩1500 with medicines) for patients with chronic disease, as specified by MOH ordinance	15% of treatment costs 10% of costs for patients with serious illness, e.g. cancer (as specified by MOH ordinance) Patient with a chronic disease (specified by MOH ordinance): ₩1000 per visit ₩1500 with prescription CT, MRI, PET: 15% of costs
Tertiary hospital:		
MAP1	No co-payment	₩2000 per visit; ₩2500 with a prescription CT, MRI, PET: 5% of treatment costs Exemption for specified groups
MAP2	Same co-payment schedule as NHIC 10% of treatment costs for patients with cancer (since 1 September 2005)	15% of treatment costs 10% of costs for patients with serious illnesses, e.g. cancer (as specified by MOH ordinance)
Inpatient care		
MAP1	No co-payment; ₩680 per meal for food charges No charges on food for patients in a DRG category, with a mental illness or suffering from a road accident	No co-payment: 20% of food charges; 10% of food charges in case of serious disease (as specified by MOH); No co-payments for children less than 6 years of age; no co-payments for vaginal deliveries
MAP2	15% of costs ₩680 per meal for food charge; No charges on food for patients in a DRG category, with a mental illness or suffering from a road accident 10% of costs for patients with cancer (since 1 September 2005)	15% of costs 10% of costs for patients with chronic diseases, as specified by MOH ordinance; No co-payment for children less than 6 years of age; no co-payments for vaginal deliveries
Pharmacy		
MAP1	No co-payment	₩500 per prescription ₩900 for a medicine without prescription

		No co-payment for prescription from a public health care centre Exemption for specified groups
MAP2	₩500 per prescription	₩500 per prescription ₩900 for a medicine without prescription No co-payment for prescription from a public health care centre
Other		
MAP1	No co-payment	CT, MRI, PET: 5% of costs
MAP2	No co-payment in health centres	No co-payment in health centres

Source: MOH, 2008a; Jeong et al. (2006)

Table A2. NHI outpatient care co-payment schedule

Type of Medical Institution	Location of Medical Institutions	Co-payment
Specialized General Hospital	All Areas	Total Amount of Consultation Fee + 50% of Total Health Care Costs
General Hospital	Urban Areas	50% of Total Health Care Costs
	Rural Areas	Exceeding 15,000 won: 50% of Total Health Care Costs Not Exceeding 15,000 won: 4,600 Won
Hospital Dental Hospital Oriental Hospital	Urban Areas	40% of Total Health Care Costs
	Rural Areas	Exceeding 15,000 won: 35% of Total Health Care Costs Not Exceeding 15,000 won: 4,100 Won
Clinic Oriental Clinic Public Health Center	All Areas	Exceeding 15,000 won: 30% of Total Health Care Costs Not Exceeding 15,000 won: ▷ 3,000 won(aged less 65 years) ▷ 1,500 won(aged 65 years and over)
		Exceeding 15,000 won: 30% of Total Health Care Costs Not Exceeding 15,000 won: ▷ 3,000 won(aged less 65 years) ▷ 1,500 won(aged 65 years and over)
Dental Clinic Public Health Center (Dental)	All Areas	Exceeding 10,000 Won: 30% of Total Health Care Costs Not Exceeding 10,000 won: ▷ 3,000 won(aged less 65 years) ▷ 1,500 won(aged 65 years and over)
		Exceeding 4,000 won: 40% of Total Health Care Costs Not Exceeding 4,000 won: ▷ 1,400 won(Medicine for 1 Day) ▷ 1,600 won(Medicine for 2 Days) ▷ 2,000 won(Medicine more than 3 Days)
Pharmacy	With Prescription	Exceeding 10,000 Won: 30% of Total Health Care Costs Not Exceeding 10,000 won: ▷ 3,000 won(aged less 65 years) ▷ 1,500 won(aged 65 years and over)
	Without Prescription	Exceeding 4,000 won: 40% of Total Health Care Costs Not Exceeding 4,000 won: ▷ 1,400 won(Medicine for 1 Day) ▷ 1,600 won(Medicine for 2 Days) ▷ 2,000 won(Medicine more than 3 Days)

Source: copy from NHIC (2007a)

Table A3. NHI co-payment schedule for health prevention interventions

Type of health activity	Location	Co-payment
Health screening	not differentiated	0% of treatment costs
Cancer screening (4 specified types)	ibid	20% of treatment costs
Cervix cancer screening	ibid	0% of treatment costs

Source: NHIC (2007a)