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WORKING PAPER

Health Policy in Korea

Jaegoog Jo

Kwang Choi

Korea Institute for Health and Social Affairs

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I. The Korean Health Care System

1. A Short History of Korean Health Policy

Health policy and its priorities in Korea have varied since the 1950s, reflecting the rapidly changing economic and social conditions of the society. Following the creation of the Korean government in 1948, health policy focused on controlling communicable diseases, promoting primary health care services in certain undeserved areas, and family planning. Government priorities shifted to establishing secure and equitable access to a minimum set of curative services towards the end of the 1970s. The establishment of National Health Insurance (NHI) represented a landmark change in the Korean health care system and the main focus remained on demand side interventions until universal insurance coverage was completed in 1989. NHI and rapid economic growth boosted a remarkable increase in the demand for health care services, which spurred the private sector to establish new medical facilities and private medical schools to expand. Public policy towards the supply side has been inspired by a laissez faire approach. Two recent reforms in July 2000, the one integrating multiple health insurers into a single payer (Integration

Reform) and the one separating the roles of prescribing and dispensing drugs between doctors and pharmacists (Separation Reform) have brought significant changes to the system.

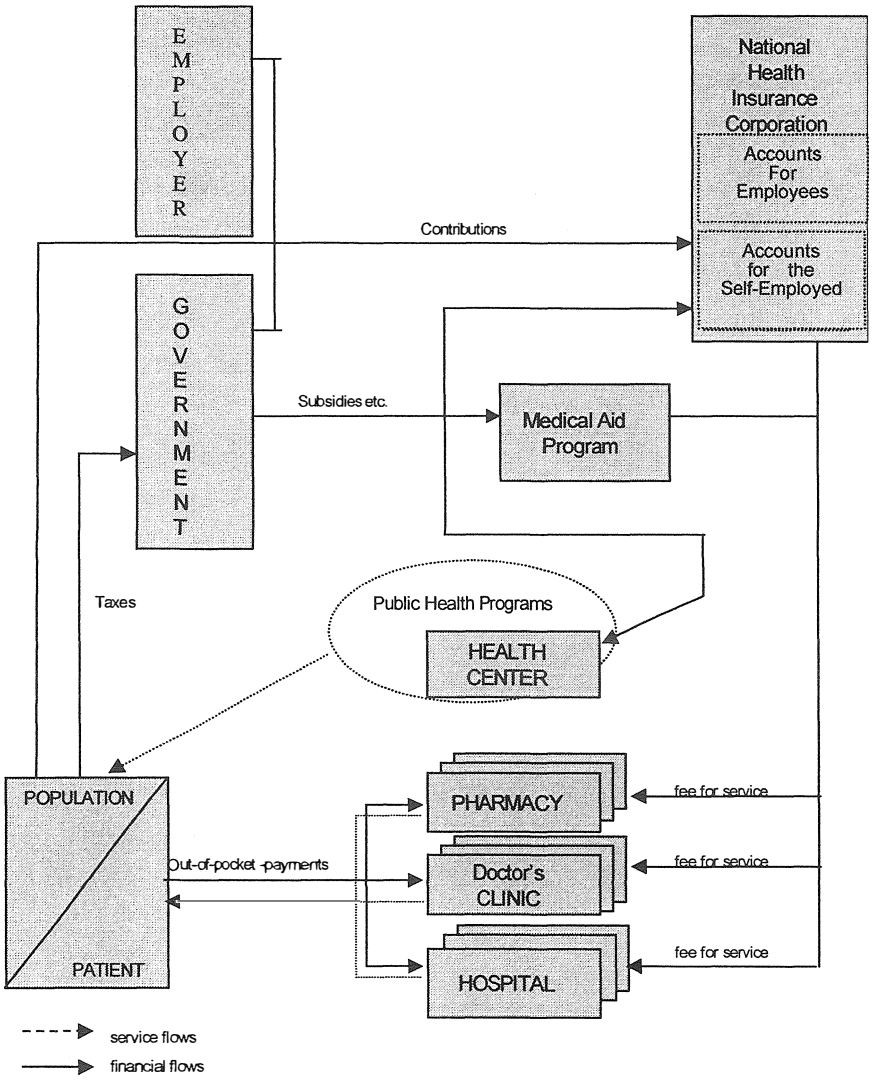
2. Players in Korean Health Policy Making

Private providers dominate the Korean health care system and supply the majority of health care services, with public providers playing a residual role. The government has a limited role as a provider of curative services and has responsibilities for public health services but still plays a modest role in disease prevention and health promotion. Basically the government has a laissez faire policy towards regulating private suppliers. NHI is financed through contributions by employers, employees, the self-employed, and government. Providers are mainly paid fee-for-service, and payments for insured services are directly settled between the insurer, the National Health Insurance Corporation (NHIC), and providers.

The NHIC purchases insured health care services for the entire population and contracts with mostly private providers for the delivery of these health care services. However, the NHIC plays a limited role as an insurer in general. The insureds are required to pay high co-payments on insured services. In addition, a fairly large private market exists for uninsured services which are supplied in a competitive setting with market-based prices. Sometimes the nongovernmental organizations (NGOs) play an important role. They have an experience of producing a compromised scheme of the separation of

prescribing and dispensing. Figure 1 illustrates the Korean health care system.

Figure 1. The Korean health care system



3. International Comparison of Korean Health Service[1]

Although life expectancy, which was 78.1 years for females and 70.6 years for males in 1997, is still among the lowest in OECD countries, it has been rapidly catching up with the OECD average because of fast economic development and rapid industrialization since the 1960s. The number of potential years of life lost (PYLL under age 70 per 100,000) is worse than OECD average for males, but much better for females. Infant mortality rates have been steadily reduced. In 1990, while infant mortality was still high by OECD standards, the gap between Korea and other Member countries had been much reduced (Table 1).

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[1] All statistics were cited from OECD(2002).

Table 1. Trends in infant mortality rate, 1960-1999

	1960	1970	1980	1990	1999
Iceland	13	13.2	7.7	5.9	2.4
Sweden	16.6	11	6.9	6	3.4
Japan	30.7	13.1	7.5	4.6	3.4
France	27.5	18.2	10	7.3	4.3
Germany	33.8	23.6	12.6	7	4.6
Canada	27.3	18.8	10.4	6.8	5.5[1)]
Australia	20.2	17.9	10.7	8.2	5.7
New Zealand	22.6	16.7	13	8.4	6.8[1)]
United States	26	20	12.6	9.2	7.3[2)]
Korea		***45***	***17***	***12***	***7.7***[3)]
Slovakia	28.6	25.7	20.9	12	8.3
Hungary	47.6	35.9	23.2	14.8	8.5
Poland	54.8	36.7	25.5	19.3	8.9
Mexico	74	68	40	24	14.5
Turkey	189.5	145	117.5	57.6	37.5
OECD Average	37.6	28.3	17.5	10.8	6.7

Note: 1) Data refer to 1997. 2) Data refer to 1998. 3) Data refer to 1996.
Sources: OECD Health Data 2001. Reprinted from OECD(2002).

Mortality and morbidity patterns have changed from communicable diseases to chronic and lifestyle-related diseases. The three main causes of deaths in Korean are cardiovascular diseases, cancer, and accident and injuries (Table 2). Deaths linked to cardiovascular diseases have been decreasing over the years but still are the major cause of death. Cancer has on the contrary augmented in importance. 20% of all deaths from malignant neoplasm are from lung cancer, up from 10% in 1985. Deaths from car accidents are rather high by OECD standard. In 1997, they represented 4.4% of overall deaths, contrary to an OECD average of 1.9%. Finally, deaths linked to the digestive system, particularly diseases of the liver and cirrhosis

were in 1997 the second highest in OECD countries after Hungary.

Table 2. Leading causes of mortality in Korea, selected years

	1985	1990	1995	1997
Circulatory system	33.64	32.97	28.71	24.98
Symptoms & illdefined conditions	27.10	20.37	18.98	21.91
Malignant neoplasm	12.79	17.48	19.42	20.15
External causes, injury & accidents	6.60	9.75	9.66	9.44
Digestive system	7.57	6.77	6.43	5.63

Sources: OECD Health Data 2001. Reprinted from OECD(2002).

These data suggest that much improvement in health status could be achieved by investing in preventive interventions. Daily smokers account for about a third of the population, one of the highest proportions in OECD countries, which can in part explain the high rates of lung cancer. Alcohol consumption is below the OECD average, but about half of the male drinkers consume alcohol at a harmful level, which could explain, in part, the high level of digestive diseases by OECD standards.

4. Major Characteristics of Korean Health Care System

Korea has reached universal if partial public health insurance coverage over a very short period, and at low cost. Three factors explain the low cost of achieving universal coverage: limited benefit coverage (due to high co-payments and service exclusions), low fees

imposed on providers for insured services, and growth of fees kept within the general price increase.

Patients enjoy freedom of choice of provider within the system and also receive medical treatment without long delays. In addition, they can choose between traditional (oriental) and western medicine. Oriental medicine has long contributed to the improved health of Koreans with excellent clinical treatment effects. However, the lack of appropriate systems and organization for the development of oriental medicine in Korea has been a barrier for the standardization and modernization of oriental medicine. The Oriental Medicine Bureau was established at the Ministry of Health and Welfare (MOHW) in 1996 to fulfill the public demand for the national and international development of oriental medicine.

Limited government investment in health delivery, rather than poor quality of public sector provision, seem to account for the pervasive use of private health facilities. About 90% of physicians and hospital beds are private. Total number of licensed physicians and inpatient care beds as of 2000 are 72,500 and 287,400, respectively. Total number of hospitals including oriental and dental hospitals and clinics including dental and oriental clinics are 1,100 and 37,200, respectively.

The health care system leaves many citizens relatively unprotected in times of financial distress. Financial barriers to access become insurmountable for the people at the bottom end of the income distribution. High co-payments, high fees for uninsured services and the widespread practice of informal treatment charges

severely constrain individuals' access to care. The Medical Aid Program (MAP), which provides a safety net for the most destitute, covers only 3.5% of the population.

Fee-for service reimbursement, the lack of effective gatekeeping, and unconstrained freedom of choice of provider have significant positive effects on health expenditure per capita in ambulatory care and create incentives to overprovide. Tight regulation of medical fees within the NHI system created additional incentives for doctor to increase volumes, reduce consultation times, substitute drugs for their labour, and substitute uninsured services for insured ones. The privately dominated hospital sector has a propensity to adopt and utilize medical technology vigorously. Cost containment has relied heavily on controls of fees, leaving volume to find its own level.

Medical institutions in Korea are not clearly differentiated. Hospitals are operating extended outpatient departments and many clinics are providing inpatient treatments, particularly in surgery and obstetrics. Hospitals compete with clinics for ambulatory patients rather than coordinate with them. This might lead to a duplication of facilities and activities.

An effort to control the quality of clinical care is needed. There are no institutionalized mechanisms to stimulate the reduction of variations in medical practice, such as best practices or standards of treatments. Assessment of new medical technology is also weak. The mix of services is strongly geared towards curative services while there is very limited investment in health promotion.

The efficacy of the government approach to health policy,

traditionally laissez-faire towards the supply side and authoritarian on fee setting, has been faltering. The reactions to the July 2000 reforms were strong and unexpected. Doctors' strikes, fee rises and the subsequent financial crisis brought much adverse publicity. There are now public demands for better value for money, greater transparency, and a new accountability framework for national health insurance and medical practice.

Table 3. International Comparison of Aging Societies

	Elderly share of 7%	*Elderly share of 14%*	*Elderly share of 20%*	*Time period taken*	
				7-14%	*14%-20%*
Korea	2000	2022	2032	22	10
Japan	1970	1994	2006	24	12
France	1864	1979	2020	115	41
Germany	1932	1972	2012	40	40
UK	1929	1976	2021	47	45
Italy	1927	1988	2007	61	19
US	1942	2013	2028	71	15
Sweden	1887	1972	2012	85	40

Source: UN, *the Sex and Age distribution of World Population*, as cited in Lee, H. (2001).

While the Korean society is among the youngest within OECD member countries, its population is aging fast following drops in fertility and in mortality rates at older ages. The proportion of the population above age 65 moved from 4.3% to about 7% in 2000, and is projected to reach 14% in 2022. It will take Korea 22 years to double the 2000 share of elderly population, what took 41 years in UK and 115 years in France (Table 3).

II. National Health Insurance in Korea

1. History and Development of NHI

Until the mid-1970's, patient's medical care was his/her own responsibility, except for those insured under pilot health insurance programs and for indigents, who were cared for by the government and/or private charity hospitals. In 1976, the Korean government introduced a health insurance law to provide its citizens with compulsory medical care. There was a considerable discussion concerning who should be covered first. It was proposed that those in great need, such as poor farmers and the self-employed, be considered first. However, since it was very difficult to collect premiums, it would have been necessary to provide a large amount of government subsidy, and in addition, there was concern about lack of health resources in rural areas. As a result, the government made a decision to begin with large workplaces with 500 employees or more in July 1977. At the same time, the government-sponsored Medicaid program was introduced for those under the poverty line. Since 1977 coverage has been gradually expanded to small workplaces.

There was also a growing need to cover regional residents. After implementation of demonstration projects and considerable discussion, the government expanded coverage to rural residents in 1988 and urban residents in July 1989, where a substantial portion of total expenditures are subsidized by the government. Thus, Korea was able to achieve universal health insurance in twelve years.

Up to September 1998, NHI had been administered by 373 independent funds, of which 227 were regional funds based on the geographical area of local governments, and 145 were corporational funds. Furthermore there were two more funds. One is civil servants' fund and the other is private school teachers' fund.

The new (Kim Dae Jung) government has driven to consolidate the whole administrative system to increase in equity in health financing and to improve efficiency of the NHI system since February 1998. The integration was enforced with two step strategy, and enforced with an accelerated power because the financing of regional funds, especially the rural and small cities' funds were not sustainable under the economic crisis. In the first step, 227 regional funds were integrated in October 1998. And in July 2000, the whole funds have been integrated including 145 corporational funds. But still financial integration has not been implemented. Two types of financial pools exist, that is, regional pool and worker-and-salaried workers pool. The financial consolidation, one of the hot issues, is supposed to be accomplished beginning July 2003 by the law.

Table 4. Major Development of Health Insurance in Korea

Year	Major Development	Population coverage (%)1)	per capita GNP (US$)
1977	Compulsory health insurance implemented for large workplaces with 500 employees or more Medicaid provided for low income earners under Public assistance	14.5	1,012
1979	Government employees, private school teachers and employees are compulsorily insured Expanded coverage to employees with more than 300 employees	26.9	1,644
1981	Expanded to workplaces with at least 100 employees	29.6	1,734
1983	Expanded to workplaces with 16 Employees or more	39.3	2,002
1987	Insurance coverage includes oriental medicine	-	3,110
1988	Rural residents compulsorily insured Expanded to workplaces with five employees or more	79.1	4,127
1989	Urban residents compulsorily insured Coverage includes drugs dispensed at pharmacy	99.9	4,994
1995	Extended coverage from 180 days to 210 days.	-	10,076
1996	Extended insurance from 210 to 240 days Elderly and disabled are covered without limit CTs(computerized tomographs) are covered in benefits.	-	-
1997	Extended insurance from 240 to 270 days	-	-
1998	Extended insurance from 270 to 300 days Integrate civil servants/private school teachers insurance and regional residents insurance(Oct. 1998)	-	6,823
1999	Extend insurance coverage from 270 to 330 days	-	8,581
2000	Extend insurance coverage from 270 to 365 days Integrate a whole administration (July 2000) Prescription-and-dispense system adopted (July 2000)	-	10,000p
2001	RBRVS fee schedule adopted	-	-

Note: 1) Includes population under Medicaid.

Sources: MOHW and Bank of Korea

2. Financial Aspects (Sources and Uses) of NHI

The entire Korean population is covered for the risk of medical illness, either through the NHI, a social health insurance scheme financed by mandatory contributions, or throughout the Medical Aid Program (MAP), a social assistance scheme for the very poor financed through general taxation. Benefit coverage is standardized and there are no differences in benefits between NHI and MAP patients. All patients except some MAP beneficiaries have to make substantial payments towards their treatments.

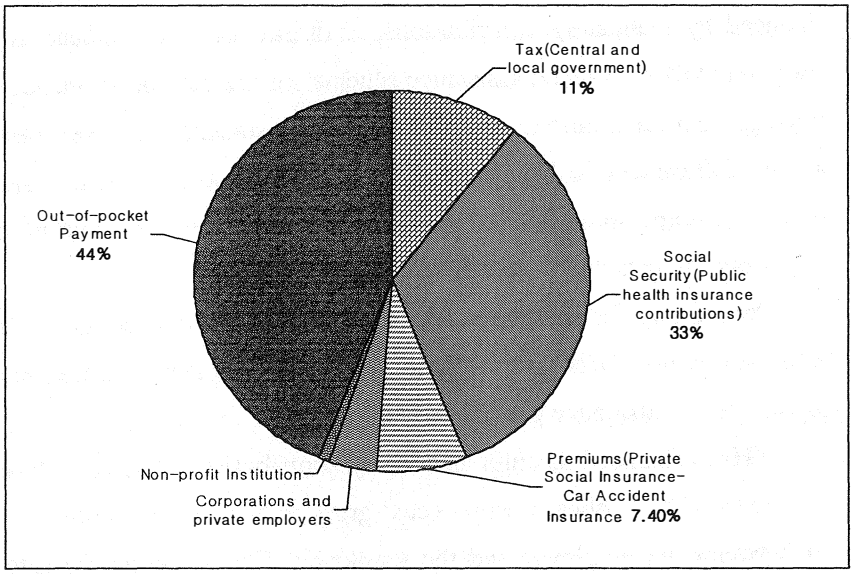
People pay for health services and health insurance coverage in four main ways - NHI contributions, out-of-pocket payments, tax, and private health insurance premiums (Figure 2).

NHI is financed through mandatory contributions. The contributi on rate (3.63%) applies to employees' gross salary and is equally shar ed between the employer and the employee. Contributions for self-employed individuals are assessed through income, assets, standard of living and rate of participation in economic activities.

While health expenditure appears below its expected level, during the period 1985-1997 Korea maintained the annual rate of growth of real per capita health expenditure above the annual rate of growth of real per capita GDP, with the exception of the first half of the 1990s. If the annual rate of growth of real per capita health expenditure is constantly above the annual rate of growth of real per capita GDP, then NHI contribution rates would need to continue to rise, other things equal, to maintain the NHI system in balance. This is

because increases in contribution rates would be needed to compensate for a lower growth in incomes compared to the growth in outlays.

Figure 2. Sources of health financing, 1999



Source: National Health Insurance Statistical Yearbook, 1999.

The financial position of the national health insurer has indeed been deteriorating over the years (

Table 5). Rapid spending growth (18% per year between 1991 and 2000) exceeded increases in revenues (13% annually). Low contribution (and their inadequate rate of growth) is a first factor explaining the deterioration in the NHI financial position. Since 1995, the average annual increase for expenditures was much higher than for contributions. While still growing, contributions per capita could not

keep the pace with rising benefits per capita, and the ratio between the two has been deteriorating over the years. There are various reasons that could explain low collection of contributions, for example, the stagnant economy during the Asian crisis, difficulties in collecting contributions and underreporting especially from the self-employed. Clearly, keeping a policy of low contribution rates in a high-benefit growth context is unsustainable in the log run.

Table 5. Financial Status of Health Insurers, 1994-1999 (billion won)

		1996	*1997*	*1998*	*1999*	*2000*	*2001* [1]
Industrial Workers	*Revenues*	2,704	2,884	3,038	3,123	3,346	5,326
	- of which contributions	2,085	2,299	2,219	2,501	2,790	5,241
	Expenditures	2,555	3,112	3,425	3,699	4,137	7,184
	- of which benefits	1,950	2,218	2,554	3,002	3,617	6,872
	Surplus	***149***	***-227***	***-387***	***-576***	***-791***	***-1,858***
Government employees and teachers	*Revenues*	944	938	905	1,217	1,274	
	- of which contributions	514	556	633	1,077	1,159	
	Expenditures	892	1,081	1,201	1,182	1,314	
	- of which benefits	652	734	927	992	1,143	
	Surplus	***52***	***- 143***	***-297***	***36***	***-40***	
Self-employed	*Revenues*	2,983	3,732	4,287	4,552	5,138	6,462
	- of which contributions	2,232	2,784	3,256	3,712	4,481	6,082
	Expenditures	3,017	3,602	4,161	4,729	5,222	6,923
	- of which benefits	2,545	2,936	3,401	3,954	4,526	6,284
	Surplus	***-34***	***129***	***126***	***-177***	***-85***	***-461***

Note: 1) The figures for 'Industrial workers' from the year 2001 include those for 'Government employees and teachers'

Source: National Health Insurance Statistical Yearbook, 1999.

A second factor, which explains low revenues growth, is the *decline in government subsidies* to the self-insured pool. When self-employed people were included in the NHI system, the subsidy was meant to be 50% of the medical benefits of this category, but the ratio decreased over the years to about 25% in 1999. Overall government subsidies to the NHI accounted for 13% of total revenues in 1999.

Thirdly, and possibly more important, the NHI expenditure skyrocketed, showing a ten-fold increase in real terms over the period 1982-1999. This was due in large part to volume increases. Claims for medical benefits have grown more rapidly than population covered by the NHI scheme in the last decade. Over the period 1992-1999, the average covered population increased at an annual 1.1% while claims per capita increased at an annual 9.1%. In addition, the unit cost of a medical claim had an annual average growth of 7.4%, which can be seen as the result of increases in relative medical fees after 1995 and of more intensive care.

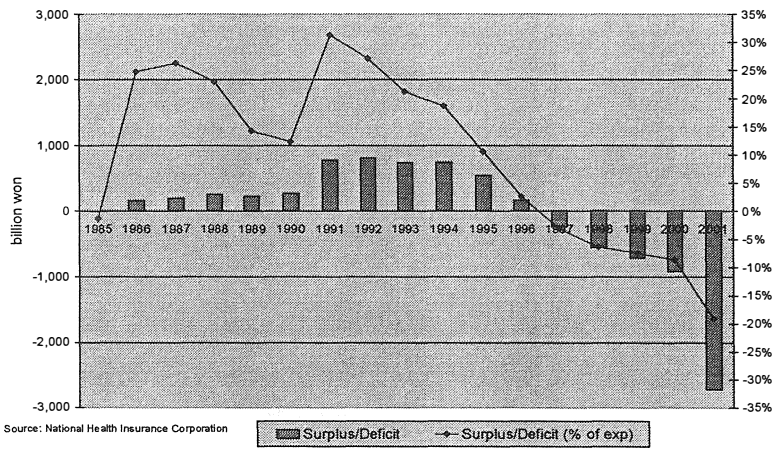
3. Issues in Korean NHI

A financial crisis exploded in the NHI system since the end of 2000 as shown in Figure 3. The crisis has become the most urgent health issue on the national agenda for the Korean health care system. Deficits in health insurance skyrocketed in 2001, although they had appeared since the mid-1990s. At the end of 2001, the financial deficit had reached 2.7trillion won, or about a fifth of total NHI expenditures for the year. The government announced in May 2001 a

comprehensive set of measures to improve the financial soundness of the NHI system, although loss of public confidence and the crisis-management situation seems to make it difficult to implement all of them.

Mass media and the NGOs have been heavily criticizing the government for the financial crisis, linking it to the July 2000 reform. The separation of doctors' and pharmacists' roles certainly accelerated the crisis, but other underlying pressures on fiscal stability pre-existed the July 2000 reforms.

Figure 3. The Evolution of Surpluses/Deficits within the NHI, 1985-2001



Source: MOHW, NHIC, 2002.

As discussed before, the financial position of the national health

insurer had been deteriorating before the July 2000 reform because of very rapid spending growth and inadequate increase in revenues. The NHI system would have continued to develop losses even if the reforms had never been implemented because of structural determinants of fiscal unbalances that arise, in part, from certain features of the health care system. The crisis exacerbated the need to address some among these features, for example low contributions and inflationary incentives underpinning the payment system.

It is nonetheless true that the separation reform contributed to the overall deficit, albeit it is difficult to estimate accurately the extent. Assuming NHI revenues had also grown in 2000 and 2001 along the same trend as during the 1990s, the fiscal deficit of the NHI might have been a third of the 2001 level.

As to the integration reform, the overall impact on the level of surplus/deficit of the NHI system is not clear so far. However, OECD's assessment of the integration reform was neutral. Integration smoothed the variability in fiscal status that existed across insurance societies differing for risk structure and contributory capacity. However, contrary to concerns emerged prior to the integration, it had no pejorative effect on the NHIC ability to collect revenues. In addition, it did not add to expenditures. On the contrary, early evidence suggests a decrease in administrative costs, and it also created a potential for more prudent purchasing of health services.

There is a certain government responsibility for the pace at which the fiscal status of the NHI worsened after, in particular, the separation reform. First, a couple of raising fees might have

overcompensated doctors for the loss of margin from the sale of drugs covered by the NHI. Second, the extent of the expenditure increase was perhaps underestimated so that no measure was taken in advance to control its impact. This exacerbated the already unstable fiscal position of the NHI system. The decision to increase the contribution rates, a necessary measure to improve the fiscal status of the NHI but clearly an unpopular one, was delayed to the moment when the financial crisis erupted in 2001. In April 2002 the contribution rate was increased by 6.7% and medical fee was decreased by 2.9% in March 2002.

The Korean society is looking forward to develop complementary financing schemes, such as Medical Savings Account (MSA), private insurance programs, global budgeting system and so on. The financial consolidation of the NHI has been discussed. Currently presidential candidates have their own opinions of these issues. We will see that Korean voter's preferences among the issues in the near future.

III. Projection of National Health Expenditures in Korea

1. National Health Expenditures in Korea

Korea has a relatively low, but rapidly growing, level of health expenditure compared to other OECD countries. Public sources of health expenditure account for less than half of total funding while private funding is almost entirely represented by out-of-pocket payments. Drugs expenditures are high but the way expenditures were reported until July 2000 did not enable accurate monitoring of their share of expenditure. The share of expenditure represented by in-patient care is relatively low by OECD standards but is growing.

Table 6. Health Expenditures as a Percent of GDP, 1970-1998

Year[1)]	1970	1980	1990	1998
Australia	5.7	7	7.9	8.6
Austria	5.3	7.6	7.1	8
Belgium	4	6.4	7.4	8.6
Canda	7	7.1	9	9.3
Czech Republic		3.8	5	7.1
Denmark	8	9.1	8.5	8.3
Finland	5.6	6.4	7.9	6.9
France	5.7	7.4	8.6	9.4
Germany	6.3	8.8	8.7	10.3
Greece	5.6	6.5	7.5	8.4
Hungary				6.8
Iceland	4.9	6.1	7.9	8.4
Ireland	5.1	8.4	6.7	6.8
Italy	5.1	7	8.1	8.2
Japan	4.6	6.5	6.1	7.4
Korea			**4.8**	**5.1**
Luxembourg	3.5	5.9	6.1	6
Mexico			4.4	5.3
Netherlands	7.2	8	8.5	8.7
New zealand	5.2	6	7	8.1
Norway	4.4	7	7.8	
Poland			5.3	6.4
Portugal	2.7	5.6	6.2	7.7
Slovakia				
Spain	3.6	5.4	6.6	7
Sweden	6.9	9.1	8.5	7.9
Switzerland	5.4	7.3	8.3	10.4
Turkey	2.4	3.3	3.6	4.8
United kingdom	4.5	5.6	6	6.8
United states	6.9	8.7	11.9	12.9
G-7 average	5.7	7.3	8.3	9.2
20 country average[2)]	5.3	6.9	7.6	8.2
27-country average[3)]			7.2	7.9

1) Note that 1970 data for Australia and Denmark refer to 1971, and 1970 data the Netherlands refers to 1972

2) 20-country average includes only those 20 countries with a relatively complete set of data for the years 1970-1998 and have not reported any major breaks in their series. There are suggestions of breaks in the expenditure series for Belgium, and Portugal

3) All member countries except Hungary, Norway and Slovakia.

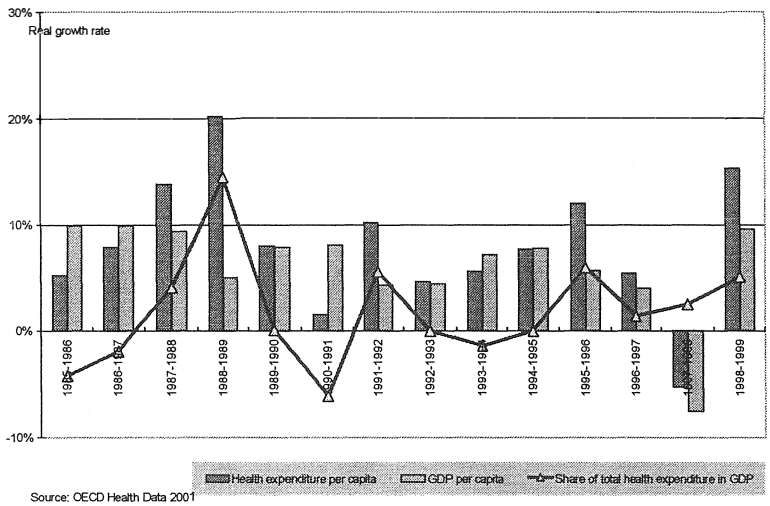
Source: OECD, Health Data, 2001.

Korea spends 5.1% of its GDP on health care, the third lowest share among OECD countries after Turkey and Mexico and well below the unweighted OECD average of 7.9%, as shown in Table 6. Per capita health expenditure (US$ 868 PPPs in 1999) was about half the OECD average of US$ 1,774 PPPs.

Figure 4 shows that for almost the entire period 1987-1999, the increase in real per capita health expenditure has been rapid and higher than increases in real GDP per capita. This represents a considerable health expenditure increase considering that Korea featured the highest average annual growth rate of real GDP per capita in OECD countries in the period 1970-1999. The pace of health expenditure growth has however varied over the years. A rapid rise in per capita health expenditure in the second half of the 1980s resulted from the progressive establishment of national health insurance and explains the increase in the share in this period. Upon attainment of universal coverage and the introduction of measures to stabilize expenditure growth, such as per-visit co-payments and the strict regulation of providers' reimbursement fees, health expenditure growth slowed down. This brought about a decrease in the GDP share of total health expenditure in GDP between 1989 and 1991, followed by relative stability between 1992 and 1995. During the second half of the 1990s, signs of economic slowdown were observed in the Korean system, while health expenditure rose as a result of the widening of NHI benefits, growing population expectations, and the lack of effective cost control mechanisms. The increase in the GDP share in this period is an effect of these combined phenomena. Overall, while it

was a slowdown in health expenditure growth that brought about the decrease of the GDP share in the first half of 1990s, it was largely a fall in the GDP growth which brought about the increase in the GDP share in the second half of the 1990s.

Figure 4. Rate of Change of Total Health Expenditure and GDP per capita, 1985-1999



Source: OECD, *Health Data*, 2001. Reprinted from OECD (2002)

The Korean public share of health care funding is low by the standards of other OECD countries. Although it rose from 36.6% in 1990 to 46.2% in 1998, it remains the second lowest share after the USA, and well below the OECD average of 75.2% (Table 7). The high private financing share is linked to substantial out-of-pocket payments,

contrary to the US case where private financing derives from widespread private health insurance arrangements. Patients have to pay high co-payments towards their treatment charges, moreover they pay the full cost of services not included in the National Health Insurance benefit range.

Korea belongs to the group of OECD countries with a low public expenditure share that is moving towards a higher share. The public funding share has been increasing since 1985 because public expenditure on health has generally increased faster than private expenditure. In particular, the increase has been brought about by the expansion of social health insurance. Public health expenditure expanded rapidly with widening population coverage during the 1980s, particularly between 1987 and 1989. Between 1990 and 1997, the increase in the public funding share reflects the progressive extension of social health insurance benefits and the increase in the government subsidy to the health insurance scheme for the self-employed. During the 1997-1998 financial crisis, the public share increased as the result of a higher utilization of insured services and reduced investment by private medical institutions.

Table 7. Public Funding in Total Health Expenditures, 1970-1998

	Public share in health expenditure (%)				Average annual growth rate			
	1970*	1980	1990	1998	1970-1980	1980-1990	1990-1998	1970-1998
Australia	62.8	62.8	67.4	70.0	0.0%	0.7%	0.5%	0.4%
Austria	63.0	68.8	73.5	71.8	0.9%	0.7%	-0.3%	0.5%
Belgium				71.2				
Canada	69.9	75.6	74.6	70.1	0.8%	-0.1%	-0.8%	0.0%
Czech Republic	96.6	96.8	96.2	91.9	0.0%	-0.1%	-0.6%	-0.2%
Denmark	83.7	87.8	82.7	81.9	0.5%	-0.6%	-0.1%	-0.1%
Finland	73.8	79.0	80.9	76.3	0.7%	0.2%	-0.7%	0.1%
France	74.7	78.8	78.2	77.7	0.5%	-0.1%	-0.1%	0.1%
Germany	72.8	78.7	76.2	75.8	0.8%	-0.3%	-0.1%	0.1%
Greece	42.6	55.6	62.7	56.3	2.7%	1.2%	-1.3%	1.0%
Hungary				76.5				
Iceland	81.7	88.2	86.6	83.9	0.8%	-0.2%	-0.4%	0.1%
Ireland	81.7	81.6	71.7	76.8	0.0%	-1.3%	0.9%	-0.2%
Italy	86.9	80.5	78.1	67.3	-0.8%	-0.3%	-1.8%	-0.9%
Japan	69.8	71.3	77.6	78.5	0.2%	0.9%	0.1%	0.4%
Korea			***36.6***	***46.2***			***3.0%***	
Luxembourg	88.9	92.8	93.1	92.4	0.4%	0.0%	-0.1%	0.1%
Mexico			40.8	48.0			2.1%	
Netherlands	61.0	69.2	67.7	68.6	1.6%	-0.2%	0.2%	0.4%
New Zealand	80.3	88.0	82.4	77.0	0.9%	-0.7%	-0.8%	-0.1%
Norway**	91.6	85.1	82.8		-0.7%	-0.3%		-0.4%
Poland			91.7	65.4			-4.1%	
Portugal	59.0	64.3	65.5	66.9	0.9%	0.2%	0.3%	0.4%
Slovakia								
Spain	65.4	79.9	78.7	76.4	2.0%	-0.2%	-0.4%	0.6%
Sweden	86.0	92.5	89.9	83.8	0.7%	-0.3%	-0.9%	-0.1%
Turkey	37.3	27.3	61.0	71.9	-3.1%	8.4%	2.1%	2.4%
United Kingdom	87.0	89.4	84.3	83.3	0.3%	-0.6%	-0.1%	-0.2%
United States	36.3	41.5	39.6	44.8	1.3%	-0.5%	1.6%	0.8%
21-country average*	***71.8***	***75.4***	***75.8***	***75.2***	***0.5%***	***0.1%***	***-0.1%***	***0.2%***

Note: 1) OECD average is for those 21 countries that have a relatively complete data set.
Source: OECD, *Health Data*, 2001

Korea has the second lowest inpatient share of total health expenditure and the highest drug share (almost double the OECD average) among OECD countries for which data are available (Table 8). The inpatient share has been gradually increasing over the last decades. In part this could be explained by a rapid rise in hospital beds and the average length of stay. The high drug share can be seen, in part, as the result of two factors. First, Koreans seem to have a strong propensity to consume pharmaceuticals. Second, doctors shifted the

mix of treatment inputs from their own services towards drugs to compensate for limited consultation time (due to a low doctor to population ratio) and low NHI fees.

Table 8. Health Expenditure by Type of Health Service(% of the, late 1990s)

	Inpatient	*Outpatient plus drugs*		
		Outpatient	*Drugs*	*Sub-total*
Greece	24.8	n.a.	14.7	n.a.
Korea1)	28.9	28.0	30.0	58.0
Turkey	29.3	64.1	n.a.	n.a.
Luxembourg	29.8	49.9	11.7	61.6
Germany	34.0	28.9	12.7	41.6
Belgium	34.6	34.0	16.1	50.1
Czech Republic	35.1	27.4	27.0	54.4
Norway	36.1	20.9	9.1	30.0
Portugal	36.2	n.a.	25.8	n.a.
Japan	37.6	32.8	16.8	49.6
United States	40.5	32.7	11.0	43.7
Finland	40.7	30.6	15.1	45.7
Canada	42.3	26.1	15.4	41.5
Australia	43.3	22.0	11.4	33.4
France	43.8	22.8	22.8	45.6
Italy	44.5	27.7	17.5	45.2
Spain	44.8	n.a.	20.7	n.a.
Switzerland	50.3	40.1	7.6	47.7
Netherlands	52.7	20.4	11.0	31.4
Hungary	53.1	n.a.	26.5	n.a.
Denmark	53.9	25.0	9.0	34.0
Iceland	55.7	22.3	15.4	37.7
New Zealand	59.1	n.a.	14.4	n.a.
23-country average2)	41.4	30.9	16.4	47.5

Notes: 1) For Korea, data are estimates from: Commission on Health Care Reform(1998), *Health Care Reform* (in Korean). In OECD Health Data, Korean figures do not enable to appreciate the relative share of outpatient and drug expenditure, because drugs dispensed by doctors were classified under the outpatient share until the July 2000 Separation Reform.
2) All 23 countries in the table.

Source: OECD, *Health Data*, 2001.

2. Projection of Health Expenditures

It is difficult to identify the 'right' level of expenditure on health compared with expenditure on other goods and services. There are nonetheless three sets of considerations that can inform judgements about macroeconomic efficiency. First, how health expenditure compares with the level for a country at the same stage of economic development. Second, whether health expenditure growth, particularly public expenditure, is maintained along a fiscally sustainable rate. Third, how well the health system seems to respond to societal preferences for the allocation of resources between health and non-health goods and services, considering both the level and trend of health expenditures.

Per capita health expenditure in Korea is below the level expected for a country with her level of income, as shown in Figure 5. The expected level is calculated along a regression line fitted to observations of per capita health expenditure and per capita income for OECD countries.[2] Figure 5 shows the distance existing between per capita health expenditure (868 US$ PPPs) and expected per capita health expenditure (1,249 US$ PPPs).

There are various explanations for why actual the level of health expenditures in Korea appears below the expected level.

First, historically the government set low priority to health over

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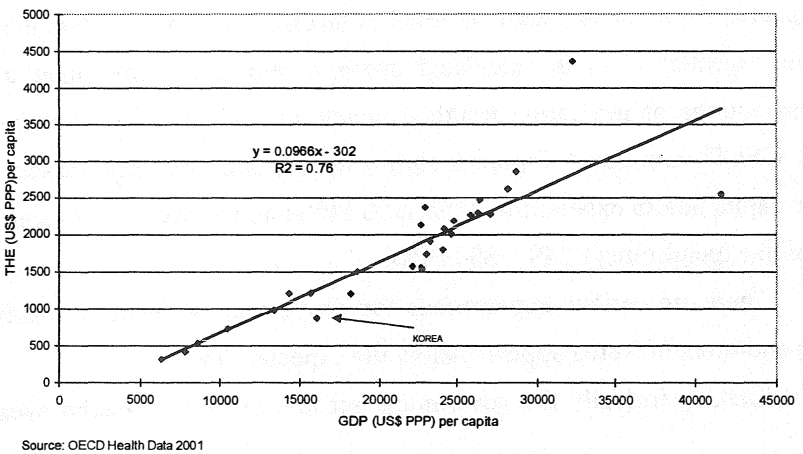
2. OECD(2002)

other sectors of the economy and invested little in medical facilities and services. The establishment of universal social health insurance, which led to a drastic increase in health expenditure, is a relatively recent achievement. Meanwhile, some high cost, high-technology services, whose diffusion and utilisation are linked to government propensity to include them in the social insurance benefit package, are predominantly uninsured. This might have deterred consumers from purchasing health care, particularly costly services. It might also have initially slowed down investment in private western medicine facilities, although only for a limited period of time as Korean hospitals have a relatively high (and unconstrained) propensity to diffuse new medical technology.

Figure 5. Per capita Health Expenditure and per capita Income, 1999



Source: OECD, *Health Data*, 2001. Reprinted from OECD(2002)

Secondly, contrary to the other OECD countries, Korea has a high level of private out-of-pocket payments. When other OECD countries had the same per capita level of GDP as Korea today they spent relatively more on health but they also had a significantly lower share of out-of-pocket expenditure and more comprehensives public systems. Although this does not imply per se the existence of an inverse relationship between health expenditure per capita and the proportion of out-of-pocket (OOP) payments in total health financing, it might be in line with evidence that more generous insurance leads to more consumption. It might be probable that the poor benefit coverage and high co-payments of the Korean NHI are dampening demand for unnecessary, and possibly also necessary, health care services.

Table 9. Per capita Health Expenditure and OOP Share, various OECD countries

	GDP per capita (US PPPs)	*THE per capita (US PPPs)*	*Share of out-of-pocket Expenditure in THE*
Korea (1999)	16,059	868	43.8
US (1984)	16,523	1,617	22.7
France (1989)	16,611	1,420	11.7
Germany (1988)	15,865	1,487	11.1
Japan (1989)	16,294	1,012	23.4
UK (1990)	16,105	968	10.6
Canada (1987)	15,869	1,338	14.7

Source: OECD, *Health data*, 2001.

Thirdly, the Korean government used fee control as a tool to contain expenditure growth within the NHI. This policy has been rather successful on a couple of aspects. All medical providers are under compulsory contract with the NHI system and the government

fee schedule applies to all of them. The MOHW also managed to enforce a fee schedule below market prices when the NHI was first established.

In conclusion, it is unlikely to increase in health expenditures in the near future in Koea.

3. Intergenerational Burden of Health Expenditures

The health expenditures for the elderly in NHI (HEEN) have been increased dramatically. The share of the HEEN in the total health expenditures (THE) increased from 4.7% in 1985 to 15.4% in 1998. The growth rates of the THE and HEEN are almost 17 and 54, respectively, during the same period (Table 10).

The growth rate of the HEEN to the THE, comparing with the growth rate of the elderly share, increased by 2 times during the same period. Since this phenomenon seems to be continued, the burden of younger generation will be heavy.

Table 10. The Health Expenditures for the Elderly in NHI (million won)

Year	Health expenditures (A)	Health expenditures for the elderly (B)	B/A (%)
1985	583,278	27,515	4.7
1990	2,219,773	239,173	8.2
1995	5,977,453	728,137	12.2
1998	9,703,911	1,491,281	15.4

Source: MOHW, 2000.

IV. Regulations in the Korean Health Market

1. Demand Regulations

As we discussed before, patients enjoy freedom of choice of provider within the system., and also receive medical treatment without long delays even though all medical services are not allowed to be covered by the NHI. Relatively they have less regulation on utilizing medical services. However, review system towards utilization of medical services is tightening and patients' burden of financing in NHI seems to increase as financial imbalance is bigger.

As to insured drugs, Korea relies on demand side cost control measures, such as co-payments and listing of drugs eligible for public reimbursement, to limit patients' consumption of drugs. The choice of the co-payment level and the generosity of the list have an impact on overall drug expenditures. Reference pricing has been proposed as a part of the government measures to stabilize NHI finances. With reference pricing, public reimbursement is set at the level of an alternative lower-priced drug, making patients liable to pay the difference between the reference price and the higher costs of other drugs. However, reference pricing is unlikely to be implemented because of strong resistance from pharmaceutical manufacturers,

providers and consumers.

2. Supply Regulations

All medical facilities in Korea are automatically eligible and obliged to provide medical services under the NHI scheme. Since 1979, the National Federation of Medical Insurers (the equivalent of the current NHIC) has been empowered to designate medical institutions participating in the social health insurance system. All providers are part of the scheme and cannot refuse such designation.

Apart from health centres, there is no plan for the geographical distribution of medical facilities, which are therefore left to private initiative. The only requirement governing the opening of hospitals is that they should have minimal number of beds and departments. Above such minimal requirements, the number of hospital beds is entirely decided by the medical institutions themselves. The purchasing and diffusion of medical technology is also unplanned. Planning of human resources is indirect. The MOHW consults with the Ministry of Education and Human Resource Development over the number of students entering medical schools. However, control over numbers is not firm because medical schools are private. The number of medical schools more than doubled from 19 in 1980 to 41 in 2000.

3. Price and Quality Regulations

Regulation of NHI focuses especially on the medical fee schedule. While fees for the next year are now supposed to be negotiated between providers and the NHIC until November 15 each year, the government had maintained unilateral control over setting and revising fees until recently. If negotiation fails, the Health Insurance Policy Deliberation Committee (HIPDC) decides medical fees. This committee was established in 2002 and presides over decisions on changes in benefit coverage, contribution rates, drug prices and medical fees. The members of HIPDC are the government officials, the medical profession, scholars, the NGOs, and labour union.

Recently control over insured drug prices is tightening. For example, price of all insured drugs should be revised after registration for three years.

There has been a limited effort at controlling the quality of clinical care. All medical facilities that registered or reported their establishment according to the Medical Service Act or the Pharmaceutical Affairs Act do not need to meet any specific quality standard. Hospitals need to receive 'accreditation' before commencing to practice. However, 'accreditation' only regulates minimum staffing and speciality requirement. The MOHW has attempted to launch a nation-wide Hospital Service Eval

uation Program but this is not fully established yet. The hospital standardization review, which is run by the Korean Hospital

Association, is only meant to guide the allocation of resident doctors into hospitals, and does not entail disciplinary procedures or peer review to enhance quality of medical care.

V. Towards the Reforms in Health Policy

1. Deregulations in Health Market

The sale of the over the-counter (OTC) drugs should be expanded in the near future. It is difficult for the consumers to purchase OTC drugs during the night time and on weekends.

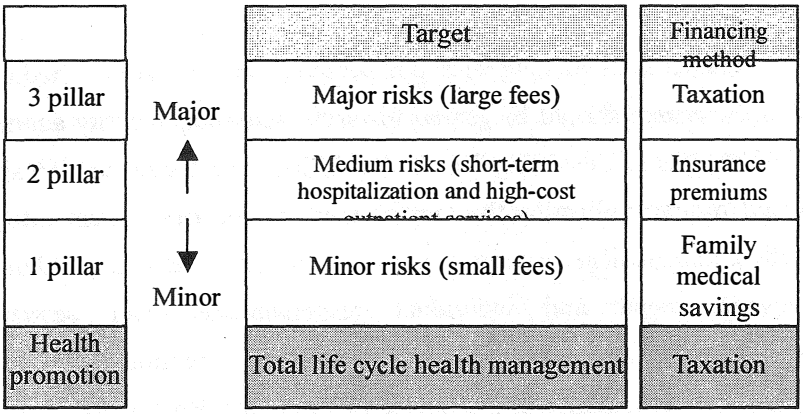
Pharmacists are able to promote the consumption of cheaper, but equally effective, drugs for branded one. The substitution right should be expanded for counterbalance to doctor's tendency to prescribe branded products more intensively.

The Korean Medical Association (KMA) had sued the NHIC (or government) for the empowerment of designation of providers to participate in the NHI system, as discussed before. Currently the Constitutional Court of Korea decided to confirm the empowerment of designation, so that this dispute is unlikely to be happened again.

2. Reform in the National Health Insurance

From a mid- to long-term perspective, the structure of medical security system should be geared towards increasing security against medical risks and ensuring financial stability. To achieve such an aim would require reforming the current medical security system into a multi-pillar medical security system with which to ensure a balance between social and individual responsibilities and between competition and control mechanisms (Figure 6). The model shown in Figure 6 was suggested by Korea Institute for Health and Social Affairs.

Figure 6. Basic Structure of Medical Security System



Note: 1) aims at curbing national medical expenditures by providing guidelines and management programs regarding vaccination, nutrition, exercise, sexual life, stress, smoking, drinking, drug, environmental hormone, blood sugar, and cholesterol.

1st pillar: secures payments of small fees though family medical savings accounts.

2nd pillar: secures payments of fees for short-term hospitalization and high-cost outpatient services through social insurance premiums.

3rd pillar: secures the financial means for major risk insurance, which requires high payments, through taxation.

The public insurance should adjust its benefit system with a view to covering major risks while at the same time guaranteeing disease prevention benefits. As to minor risks, there must be competition between the public insurance and private insurance as complementary insurance in attracting patients while maintaining their complementary relationship. Consumers should be given an option of choosing between public and private health insurance plans. A public insurance enrollee will be required to pay, in addition to the basic premium contribution, an extra premium contribution to have a wide benefit package that covers major risks.

Policy Options		Aims
- Extension of coverage -> insurance against high-cost medical services - Preventive healthcare and health promotion services -> prevention of diseases		Enhancement the security against medical risks
- Introduction of medical savings account -> reduction of moral hazard associated with healthcare service utilization (reduction of costs) - Introduction of total expenditure target system -> decisions regarding total reimbursement, insurance benefits, premium contributions, and government support should be made withing the scope of total expenditure target - Institutionalization of health promotion and disease prevention systems → effective in long-term reduction of national medical expenditures		Enhancement of the efficiency of medical resource utilization (Financial stabilization)
- Insurance against high cost medical services -> protection from family bankruptcy - Family medical savings -> linkage of benefits to individual burden		Balance between medical accessibility and individual burden

Providers' incentives for making efficient use of resources, which are embedded in payment mechanisms, should be strengthened. Fee-for-service reimbursement of providers, as in the case of Korea, rewards provision of unnecessary treatments and higher use of more expensive specialist care to treat simple cases. It also provides no compensation for efforts to reduce unjustified variations in treatment

across providers. The Korea government has made certain steps towards the introduction of mixed payment mechanisms. The Resource-Based Relative Value Scale (RBRVS) and Diagnostic Related Groups (DRGs) were already introduced. The volume-related providers' reimbursement is working by progressively reducing the unit fee at which incremental treatments are reimbursed so that the providers have less incentives to increase volumes. The results of these changes should be evaluated attentively, and the mechanisms strengthened accordingly. Other payment systems can also be considered.

Financing equity in the National Health Insurance system can also be improved by setting annual income-related caps on individuals' co-payments. This alternative would have a higher cost and greater administrative complexity, but is preferable when one considers the current financial barriers to access to health care.

The government should adopt an explicit policy to increase public health expenditures, setting implicit or explicit aggregate spending targets for the next 2 to 3 years. Expenditure plans should be linked to forecasts of revenues, based on estimates of an acceptable contributory burden for the taxpayer and on other revenues such as government subsidies. Mechanisms will then be needed to maintain expenditure within the plan.

Expenditure planning and spending targets have been adopted by various OECD countries. Their experiences suggest that such budgets have had success in controlling health expenditures, for example containing hospital expenditures in France and helping to slow down

expenditure growth in Germany.

Better clinical regulation is needed. There is scope for supporting self-regulation. There is also for turning the Hospital Service Evaluation Program run by the MOHW into an effective mechanism for monitoring hospital services and assessing technology. Having modernized its information systems, the NHIC could systematically collect and analyze performance measures of medical institutions. The results of such an evaluation program could help to create an evidence base for setting performance targets and could be opened to public scrutiny. Protocols of clinical practice and quality assurance programmes would also need to be developed. This requires reinforced collaboration among the NHIC, medical professions, and the MOHW.

Improvements in quality of care could be stimulated by effective self-regulation. Incentives are needed to encourage the development and adoption of evidence-based best practices by the medical profession. Recent OECD work highlights indeed how self-regulation can benefit from financial support[3]. Clinical guidelines are needed to help to smooth variations in treatments across providers and improve quality of care. They could also pave the way to the use of performance targets.

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3. Or. Z. (2002).

3. Efficient Use of Information Technology

Currently information technology of Korea has been developed rapidly. The diffusion of information technologies will be helpful for both patients and providers in terms of cost containment and quality of care. For example, the NHIC could systematically collect and analyze performance measures of medical institutions. The government and the NHIC are giving incentives to providers, especially to the hospitals, to increase in the volume of insurance claims with EDI process. It is expected that review process of claims will be shortened and production of new statistics for the evidence-based policy making will be easier. A system of electronic patient cards is unlikely to be introduced in the near future.

4. Restructuring the Elderly Health Care System

As the demand for long-term care (LTC) for the elderly is likely to increase sharply with the rapid process of aging, public LTC insurance could help to finance elderly nursing services. The insurance mechanism would go well with the catastrophic nature of this type of risk. LTC insurance would relieve the NHI finances of the cost of social hospitalisation. It would also improve elderly access to home care, special hospitals and nursing homes, particularly if informal family ties break down further. However, LTC insurance would have a cost, as premiums need to be paid in addition to NHI

contributions. Also, effort should be made to establish Elderly LTC Insurance by expanding the target population and the benefit level/package over time. The fund necessary for the protection of severely ill elderly patients may be financed from the general tax revenue.

Also the number of long-term care facilities for the elderly should be increased. Projections suggested by Korea Institute for health and Social Affairs indicate that the number of elderly receiving long-term care will increase by 73% between 2000 and 2010[4]. As the informal family network, which used to provide strong social and health care support to the elderly, is weakening, there might be a growing need for public forms of care. Although there are plans to expand the availability of long term care services, there is a risk that the elderly in need of nursery care might be hospitalised. Currently, no distinction exists between chronic beds and acute care beds in hospitals. Social hospitalisation should be avoided. It would create an undue burden on the already strained NHI system in terms of longer stays and higher cost of treatment in hospitals, compared to nursing care in specialised institutions such as residential homes or at home. But to avoid it, adequate and affordable care services need to be available, irrespective of how the cost of long-term care will be financed.

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