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Health-Care Reform in Korea

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HEALTH-CARE REFORM IN KOREA

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by Randall S. Jones

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ABSTRACTS/RÉSUMÉ

Health-care reform in Korea

Korea's health-care system has contributed to the marked improvement in health conditions, while limiting spending to one of the lowest levels in the OECD through high patient co-payments and limited coverage of public health insurance. However, spending is now increasing at the fastest rate in the OECD. With continued upward pressure, not least from rapid population ageing, it is essential to boost efficiency by reforming the payment system, reducing drug expenditures, shifting long-term care out of hospitals, promoting healthy ageing and introducing gatekeepers. As the heavy reliance on social insurance payments for health will be an increasing drag on employment as the population ages, it is necessary to raise the share of tax-based financing in conjunction with effective measures to keep spending in check. Measures to ensure adequate access for low-income households are a priority given the high out-of-pocket payments. Quality should be improved by enhancing transparency, promoting restructuring in the hospital sector and expanding the number of doctors.

This Working Paper relates to the 2010 *OECD Economic Survey of Korea*
(www.oecd.org/eco/surveys/korea)
JEL classification: I1
Keywords: Korean health care; National Health Insurance; private health insurance; long-term care; medical expenditures; hospitals; Diagnostic-Related Group; generic drugs; healthy ageing; financing health care; Separation Reform; Integration Reform; pharmaceutical drugs; co-payments; physicians

La réforme des soins de santé en Corée

Le système de santé coréen a contribué à la nette amélioration de l'état de santé de la population, tout en limitant les dépenses à un niveau qui compte parmi les plus faibles de la zone de l'OCDE, les deux facteurs qui ont joué à cet égard étant la forte participation financière du patient et la couverture limitée de l'assurance-maladie publique. Néanmoins, les dépenses augmentent actuellement au rythme le plus rapide de la zone de l'OCDE. La tendance à la hausse étant appelée à se poursuivre, en particulier à cause du vieillissement rapide de la population, il est indispensable d'accroître l'efficience en réformant le système de paiement, en réduisant les dépenses pharmaceutiques, en ne confiant plus aux hôpitaux les soins de longue durée, en favorisant le vieillissement en bonne santé et en mettant en place un filtrage pour l'accès aux soins. Puisque, du fait du vieillissement de la population, le poids accordé aux paiements d'assurances sociales pour le financement du système de santé constituera de plus en plus un frein pour l'emploi, il est important d'accroître la part du financement de source fiscale. Il faut prioritairement assurer un accès correct des ménages à bas revenu, étant donné le niveau élevé des versements directs. Il faudrait améliorer la qualité des soins en instaurant plus de transparence, en favorisant la restructuration du secteur hospitalier et en augmentant les effectifs de médecins.

Ce Document de travail a trait à l'*Étude économique de l'OCDE de la Corée*, 2010
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Classification JEL: I1
Mots clés: système de santé en Corée ; assurance santé nationale ; assurance maladie privée ; soins de longue durée ; dépenses médicales ; hôpitaux ; groupe homogène de malades ; médicaments génériques ; vieillissement en bonne santé ; financement des soins de santé ; réforme de séparation ; réforme d'intégration ; produits pharmaceutiques ; part des dépenses de santé à la charge des assurés ; médecins

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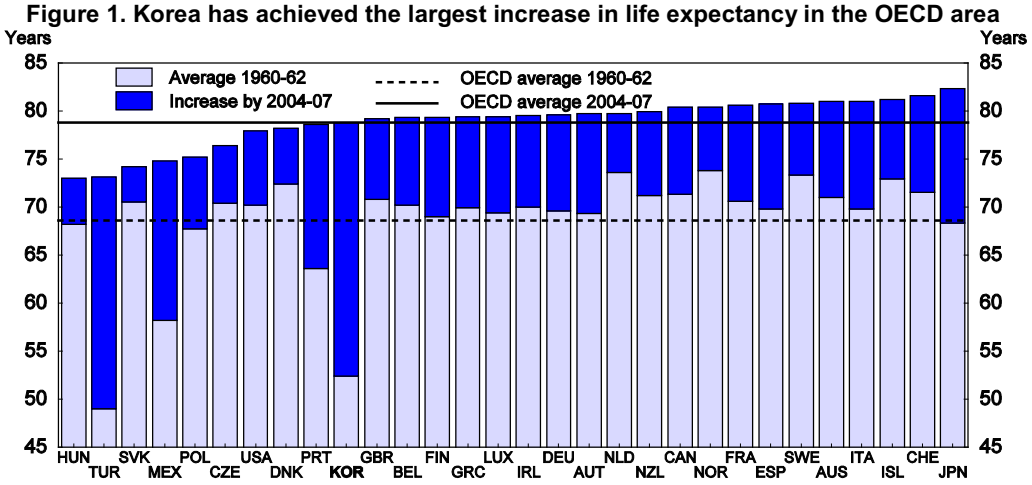
HEALTH-CARE REFORM IN KOREA

Randall S. Jones[1]

The expansion of health care in Korea mirrors its rapid economic development. In 1980, publicly-mandated health insurance, which was first introduced in 1977 for employees at large companies, accounted for 20% of total health spending, the lowest in the OECD area. By 1989, health insurance had been extended to the entire population[2] by allowing everyone to receive care at any institution at any time, albeit subject to a co-payment. Universal coverage was rapidly achieved by limiting the range of benefits covered by the National Health Insurance (NHI), although coverage has broadened over time, and by fixing medical prices at low levels.

Expanded access to health care has contributed to an improvement in health conditions and a marked increase in health spending. Indeed, life expectancy, which was the second lowest in the OECD area in 1960, has risen by 28 years to match the OECD average (Figure 1), even though Korea ranks 22nd in per capita income among OECD countries. The gain was achieved in part by reducing the infant mortality rate from 45 per 1 000 in 1970 to 4.4, below the OECD average. Meanwhile, the main causes of death shifted from communicable diseases to chronic and lifestyle-related illnesses. These major improvements were achieved while keeping health expenditures well below the OECD average (Figure 2).

Figure 1. Korea has achieved the largest increase in life expectancy in the OECD area



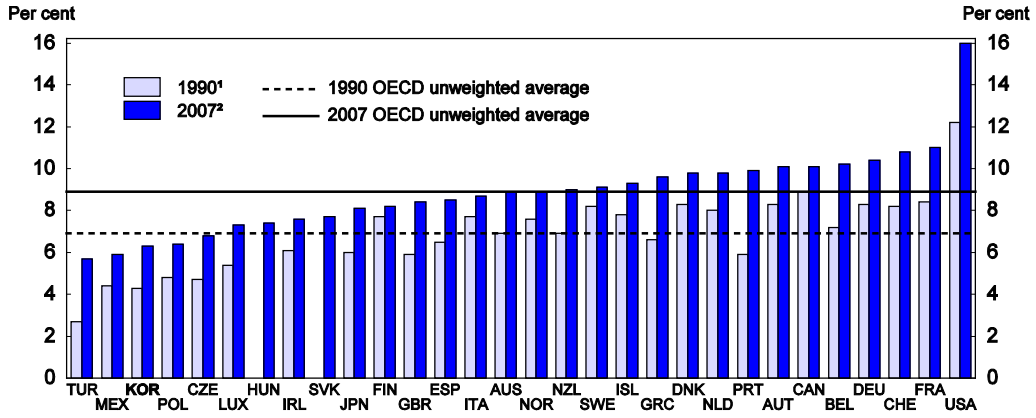
Source: OECD Health Database (2009).

1. Randall S. Jones is head of the Korea/Japan Desk in the Economics Department of the OECD. This paper initially appeared as a chapter in the *OECD Economic Survey of Korea* published in June 2010 under the responsibility of the Economic and Development Review Committee. The author would like to thank Francesca Colombo, Andrew Dean, Robert Ford, Isabelle Joumard, Vincent Koen, Valérie Paris, Masahiko Tsutsumi and Byungseo Yoo for comments on earlier drafts. Special thanks go to Lutécia Daniel for technical assistance and Nadine Dufour and Pascal Halim for editorial assistance.

2. The first compulsory public health insurance scheme covered enterprises with 500 or more employees. Coverage was progressively extended to smaller firms and finally to the self-employed in rural and urban areas (Jeong, 2005).

After an overview of the health system, this paper addresses the following key challenges: *i)* increasing efficiency to moderate the growth of health spending in Korea, which was the fastest in the OECD area over the past decade and faces continued pressure from rapid population ageing and the expanding coverage of NHI benefits; *ii)* improving the financing of health care to help ensure its sustainability; *iii)* ensuring access to health care in a system that relies heavily on out-of-pocket payments; and *iv)* upgrading the quality of health services in line with rising income levels. The paper concludes with a summary of recommendations, which are shown in Box 3.

Figure 2. Health-care spending in Korea as a share of GDP is the third lowest in the OECD area



1. Excludes the Slovak Republic and Hungary, for which data are not available.
2. Except for Turkey (2005) and Japan, Luxembourg and Portugal (2006).
Source: OECD Health Database (2009).

An overview of Korea's health-care system

A large role for private-sector financing

The NHI, a public non-profit organisation, purchases insured health services for the entire population (Figure 3). Providers are reimbursed on a fee-for-service basis according to the uniform fee schedule that applies to insured services. Health care is financed in almost equal measure by public funding, through the NHI, and private outlays:

- **Social insurance contributions to the NHI** accounted for 38.6% of total health spending in 2008 (Table 1). These include mandatory premium payments by firms, employees and the self-employed. The 5.33% rate for insured employees (62.5% of the population[3]) is split equally between employees and firms. For the insured self-employed and their dependents (34.2% of the

3. Employer-based insurance includes employees' dependents (spouse, parents, children and siblings), thus covering more than half of the population. Non-regular and part-time workers who work less than 80 hours a month and daily workers hired for less than a month are excluded from employer-based insurance.

population[4]), the premium is based on a formula that takes into account property, income, motor vehicle ownership, age and gender.[5]

- **Government sources** accounted for 16.9%. Government subsidises amount to almost one-half of the premium payments of the self-employed and fully pays those of the 3.3% of the population covered by the Medical Aid Programme for low-income households.

- **Out-of-pocket payments for non-covered services** accounted for 21.0%. Patients pay in full for some services, such as sonograms. Health-care providers have an incentive to introduce new services and high-technology care that are not covered by the NHI and thus not subject to price regulation. Such services are supplied at market-based prices in a competitive setting.

- **Co-payments on covered services** accounted for 13.7% of total outlays. The co-payment rate is set at 20% for in-patient care. Of the ten OECD countries that require co-payments for in-patient care, Korea is one of only two where it is based on a percentage of the cost rather than a fixed payment. Co-payment rates range from 30% to 60% for out-patient care,[6] the highest among the 20 OECD countries that require co-payments.

Table 1. Health-care financing in Korea

Per cent of total

	1980	1990	2000	2001	2005	2007	2008
Total public sector	20.1	36.5	44.9	51.7	52.1	54.9	55.5
Government sources	15.0	13.3	19.3	24.1	15.9	18.3	16.9
Social insurance payments[1]	5.1	23.2	25.6	27.7	36.1	36.6	38.6
Employers and employees	5.1	15.8	14.7	17.1	26.4	27.9	29.7
Self-employed and others	0.0	7.4	10.9	10.6	9.8	8.8	8.9
Total private sector	79.9	63.5	55.1	48.3	47.9	45.1	44.5
Payment by patients for non-covered services	72.1	47.8	31.4	25.4	25.1	22.0	21.0
Co-payments by patients for covered services	3.4	10.4	14.5	14.4	13.9	13.7	13.7
Private insurance	0.7	2.0	4.7	3.8	3.9	4.1	4.4
Payments by firms	3.2	2.7	4.1	4.2	4.6	4.8	4.6
Non-profit institutions serving households	0.5	0.6	0.5	0.4	0.4	0.4	0.7
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0

1. Includes only direct premium payments by employees and the self-employed in NHI. All other public funds, including the tobacco tax and "other source for social security fund", are included in "government sources".

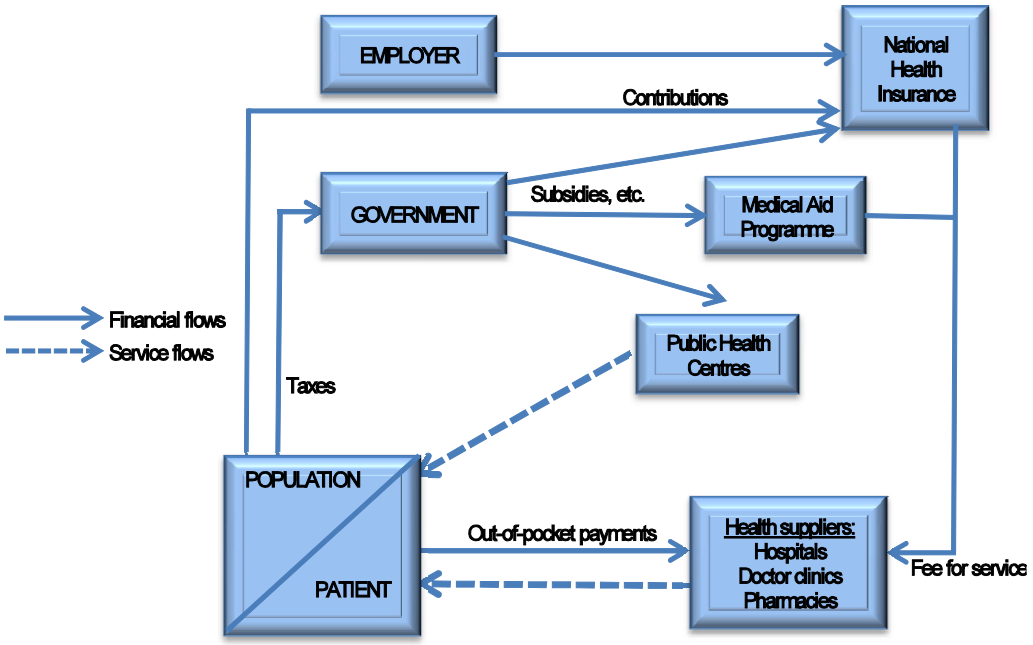
Source: OECD Health Database (2009) and Jeong (2010) for the year 2008.

4. This category covers those excluded from employer-based insurance. The remaining 3.3% of the population is covered by the Medical Aid Programme for low-income households, which is financed by the government. About one-half of the recipients are required to make co-payments.

5. The contribution amount is reduced by: *i)* 50% for those living in remote rural areas; *ii)* 22% for insured in rural areas; *iii)* 10-30% for the insured with low income; and *iv)* 30% for those who support family members aged 65 or above and the disabled.

6. The co-payment rate is 60% for high-level general hospitals, 50% for general hospitals, 40% for hospitals and 30% for clinics and public health centres. In rural areas, the rate is reduced to 45% for general hospitals and to 35% for hospitals. The higher co-payment rate for hospitals is intended to encourage patients to go to physician clinics before going hospitals.

Figure 3. The Korean health-care system



Source: Ministry of Health, Welfare and Family Affairs.

- **Private insurance** accounted for 4.4% of total outlays. Insurance for car accidents accounts for about half of this amount. In addition, private insurance can pay up to 80% to 90% of co-payments as well as uninsured services. In 2008, 76% of the population had supplemental private insurance.[7]

- **Voluntary payments by firms** accounted for 4.6% of total outlays.

Although the public-sector's share – social insurance payments and government subsidies – has risen substantially from 20% in 1980, it was still the third lowest in the OECD area at 55.5% in 2008 (Figure 4). The heavy reliance on private financing is explained by several factors. *First*, Korea achieved universal coverage only 12 years after the introduction of the NHI in 1977 by restricting the coverage of the benefit package. In 1980, payments by patients for non-covered services accounted for almost three-quarters of health spending (Table 1). The share fell to around one-half as universal coverage was achieved and then to one-quarter, as the NHI benefit package was expanded to cover more services. Nevertheless, payments for non-covered services remain large compared to other countries. *Second*, the co-payment rate is high, as noted above. These two factors, reflecting the tradition of individual responsibility and limited government involvement in social affairs, achieved the government's goal of keeping the contribution rate low to promote rapid economic growth.

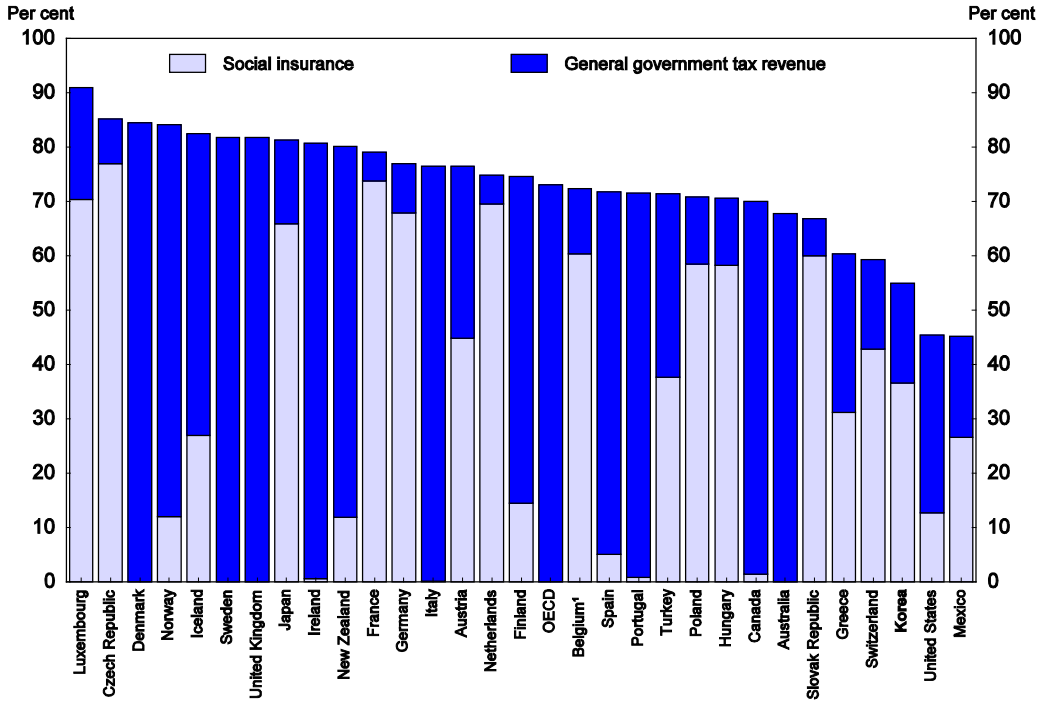
In addition, the limited increase in medical fees, which were set each year by the government under the "official notification system" introduced in 1977, restrained the need for higher contribution rates. The notification system was replaced in 2000 in the wake of the Integration Reform (Box 1) by negotiations each year between the NHI and representatives of physicians, hospitals, pharmacies and nurses. However, these groups complain that medical fees have been constrained so tightly that they can at best barely cover

7. There is a large market for disease-specific insurance policies that provide a lump-sum payment for critical illnesses, such as cancer.

the cost of providing medical care (Kwon, 2003c). Hospitals and physicians thus have an incentive to supply services that are not covered by the NHI and are therefore outside the regulated fee schedule. Moreover, they oppose expanding the coverage of the NHI, as it brings more medical treatments into the regulated price structure.

Figure 4. The public sector's share of health spending in Korea is one of the lowest in the OECD

Public-sector health-care spending as a per cent of the total in 2007 or latest year



Source: OECD Health Database (2009).

Health-care providers

The health sector has evolved based on competition among private-sector providers that maximise their profits in practice. More than 90% of physicians work in private clinics or hospitals.[8] In addition, 96% of hospitals and clinics are privately-owned and they account for 90% of beds. They provide essentially the same services as public hospitals, although they supply more uninsured services and charge higher prices for them than their public-sector counterparts. There is also intense competition between hospitals, which run large out-patient centres, and physician clinics, some of which have in-patient care.[9] The number of acute-care hospital beds relative to the population is nearly double the OECD average (Table 2). Moreover, the ratio of hospital beds to population has risen by almost 80% since 1996, while it declined in all other OECD countries, except Turkey. The establishment of private hospitals has not been

8. The hospital sector is divided between high-level general hospitals, general hospitals (more than 100 beds) and hospitals (more than 30 beds). Only high-level general hospitals require a referral.

9. According to a 2005 survey, out-of-pocket payments for non-covered in-patient services were 23% of medical costs in hospitals and 10% in physician clinics. For out-patient services, the shares were 23% and 8%, respectively.

Box 1. The Integration Reform: creating a single payer

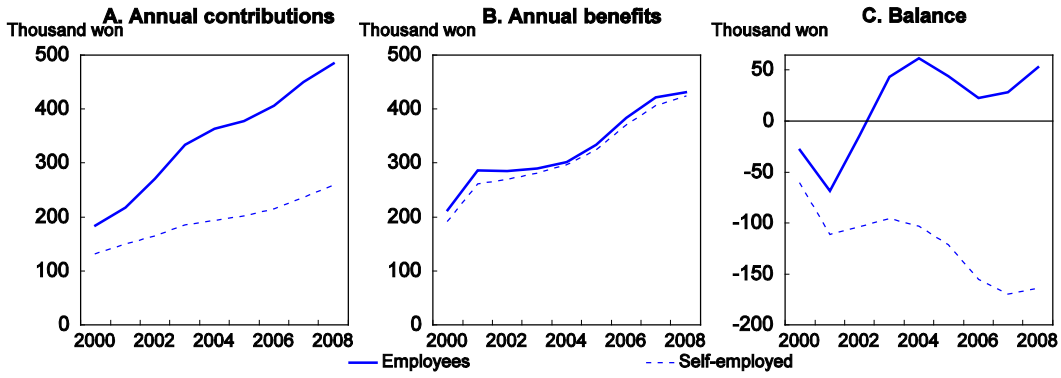
The government launched two major initiatives in 2000, the Integration Reform and the Separation Reform.[1] Until 2000, the NHI consisted of more than 350 quasi-public health insurers, based either on the workplace (for employees) or on the region (for the self-employed). Each insurer offered the identical statutory benefit package. Insured persons did not have a choice between health insurers, thus eliminating any possibility of competition. This system had a number of problems. First, the difference in insurance premiums for identical benefits created horizontal inequity. Second, the health insurance schemes for the self-employed faced chronic financial distress. Third, the small size of insurers created diseconomies of scale and high administrative costs (Shin, 2006).

In 2000, all health insurers were merged into a single payer in the NHI, thus reducing administrative costs. Before the reform, administrative costs for the health insurers ranged from 4.8% to 9.5% of total costs. By 2006, they were reduced to 4% under the unified NHI (Kwon, 2009c). In addition, a single provider is preferable in terms of the efficiency of risk-pooling. Moreover, a single-payer system provides greater bargaining power as a monopsonistic purchaser of health services. While the monopolistic behavior of a single insurer can decrease efficiency, the absence of consumer choice under the pre-2000 system means that there was no loss of competition.

The Integration Reform promoted equity among employees but not between employees and the self-employed (Kwon and Reich, 2005). Indeed, contributions of employees have increased much faster than those of the self-employed since 2000. By 2008, they were 87% higher than the self-employed compared to 40% in 2000 (Figure 5). Meanwhile, benefits for the self-employed (Panel B) rose slightly faster (at a 10% real annual rate) than for employees (9%). As a result, employee contributions substantially exceed the benefits they receive, while for the self-employed, contributions covered only 61% (Panel C), with the difference covered by government subsidies. Although one of the government's objectives in the Reform was to reduce its subsidies, they have doubled in real terms since 2000.

Figure 5. Comparison of the employed and self-employed in the NHI

In thousand won per person (including dependents) in 2000 prices



Source: National Health Insurance Corporation (2009a).

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1. *Korea's big-bang approach to health-care reform was made possible by the pro-reform climate in the wake of the 1997 crisis, the leadership of President Kim Dae Jung and the strong support of NGOs. However, a third major reform, the introduction of a Diagnostic-Related Group payment system, was rejected.*

subject to strict control.[10] Another striking feature of Korean health care is the long average length of stay –10.6 days compared to the OECD average of 6.6 – reflecting the incentives inherent in the fee-for-service payment system.

10. The large number of hospital beds is due in part to the ambition of physicians to develop business opportunities. Physicians want to own their own clinic and then often add in-patient care.

Table 2. International comparison of health-care services in 2007[1]

	Number of hospital beds[2]	*Average hospital stay (in days)*	*Number of physicians[2]*	*Number of medical graduates[3]*	*Number of nursing personnel[2]*	*Number of nursing graduates[3]*
Korea	**7.1**	**10.6**	**1.7**	**9.0**	**4.2**	**30.1**
OECD average	*3.9*	*6.6*	*3.1*	*9.9*	*9.6*	*35.5*
Highest country	*8.2*	*19.0*	*5.4*	*21.7*	*31.9*	*85.6*
Lowest country	*1.0*	*3.5*	*1.5*	*5.5*	*2.0*	*8.6*

1. Or latest year available.
2. Per 1 000 population.
3. Per 100 000 population.
Source: OECD Health Database (2009).

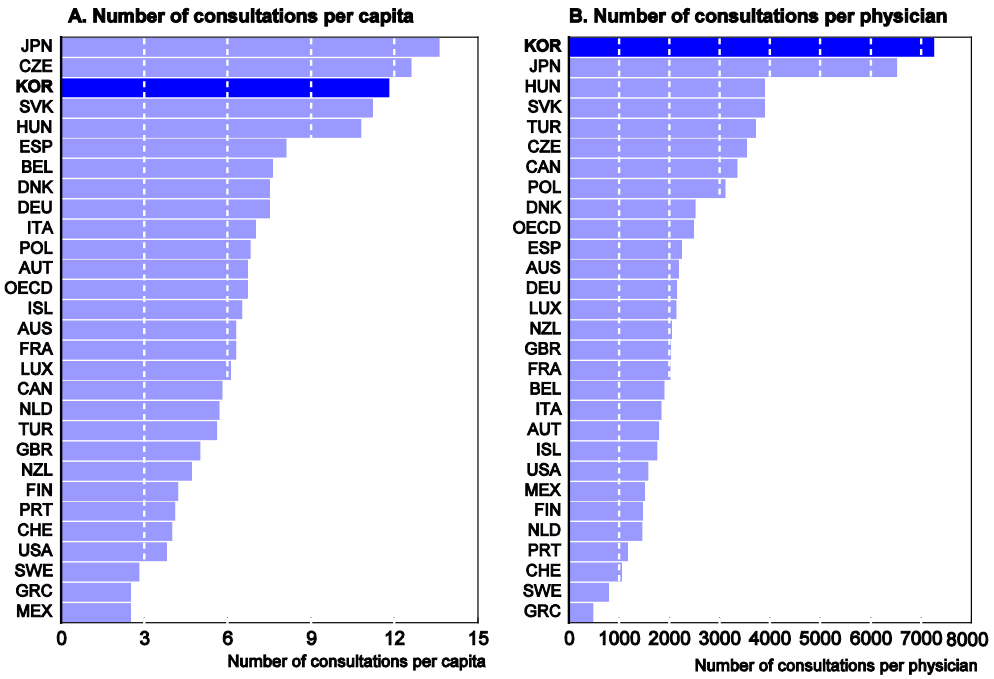
In contrast to the abundant supply of hospital beds, the number of medical personnel is exceptionally low in Korea. Indeed, the number of nurses relative the population is less than one-half the OECD average (Table 2). As for physicians, there are only 1.7 per 1 000 population, one of the lowest in the OECD area. Moreover, the number of medical graduates, which is decided by the government, is below the OECD average (relative to population), indicating that the ratio of physicians to Korea's population will remain low for a considerable time to come, particularly outside the capital region, and not least in rural areas. The lack of physicians is aggravated by the high number of consultations: the average number of visits to a physician per person has risen from 3.7 per year in 1978 to almost 12, nearly double the OECD average (Figure 6).[11] Consequently, the number of consultations per physician in 2007 exceeded 7 000, more than triple the OECD average, resulting in stress and overwork for physicians.

Pharmaceutical drugs

Expenditures on drugs rose at a 10% annual rate between 2001 and 2006, despite the Separation Reform's objective of reducing drug outlays (Box 2). The government introduced the "Drug Expenditure Rationalisation Plan" in 2006 to slow the growth of spending on drugs. *First*, the addition of new drugs eligible for reimbursement under the NHI was changed from a negative list to a positive list and the criteria for adding drugs were tightened by strengthening the economic evaluation. *Second*, the Health Insurance Review Agency (HIRA) plans to test the cost-effectiveness of all existing drugs over five years, a very ambitious initiative. While the number of reimbursable drugs has fallen from 23 thousand to 15 thousand, the HIRA is behind schedule due to a lack of capacity. *Third*, the pricing of new drugs was shifted from an external reference – the price in major countries – to negotiations between the NHI and pharmaceutical companies. *Fourth*, rules regarding generics were adjusted. When the first generic is listed, the price of the originator drug is reduced by 20% and the price of the generic is set at 68% of the originator drug. The government does not provide any incentives to encourage the use of generics. Substituting a generic for a branded drug requires the consent of the patient and advance approval by the physician. In 2008, the price of generics was 72% of the originals on average, which is high by international standards, and they accounted for 38% of total drug reimbursements, implying that they held about half of the market in terms of volume.

11. This also reflects physicians' efforts to increase their revenues under the fee-for-service payment system.

Figure 6. The number of consultations with physicians in Korea is exceptionally high



Source: OECD Health Database (2009).

Long-term care for the elderly

Public expenditure on long-term care amounted to only 0.2% of GDP in 2007, well below the average of 1.5% in the nine European countries for which data are available. The low level of spending in Korea reflects its relatively young population and the reliance on informal family care. However, the availability of family-based care has fallen as the share of the elderly living with their children declined from more than 80% in 1981 to 29% by 2008 and the female labour force participation rate continues to rise. Given the tradition of family-based care, the availability of formal care is limited. Consequently, the growing need for formal care has been met in part by acute-care hospitals, thus helping explain the relatively long hospital stays in Korea (Table 2). Indeed, the elderly, 10.6% of the population in 2009, accounted for 40% of the cost of in-patient care.

Box 2. The Separation Reform: changing the system of pharmaceutical drugs

Prior to 2000, physicians received a significant share of their income from selling drugs directly to patients.[1] Indeed, drugs accounted for more than 40% of physicians' income in some specialties, such as family medicine, internal medicine and dermatology (Jeong, 2005), as well as more than 40% of the revenue of hospitals. In principle, the maximum margin between the NHI's reimbursement price and the price that physicians purchased drugs from pharmaceutical manufacturers and wholesalers was 24%, but this was never actively enforced (Kwon, 2003a). Physicians had a financial incentive to sell drugs with the widest margins – those that pharmaceutical companies offered with the largest discounts below the NHI reimbursement price – rather than the most effective and high-quality drugs. Unfair and illegal marketing by pharmaceutical manufacturers and wholesalers, such as price collusion and rebates, was rampant. The 450 domestic pharmaceutical firms, of which two-thirds had less than 100 employees, survived by producing copy drugs and selling them at a discount to physicians (Kwon and Reich, 2005).

However, the financial interest of physicians was not necessarily in the best interest of patients, as it encouraged the misuse and overuse of drugs. Spending on drugs, including prescription and over-the-counter medicines, accounted for 24% of health spending in Korea in 2000, well above the OECD average of 17%. In addition to the wasteful expenditure, the over-use of antibiotics made them less effective in fighting disease. Moreover, the system of combined prescribing and dispensing limited patients' access to information about the medications that they received.

The Separation Reform in 2000 promoted specialisation in health care by limiting the prescribing of drugs to physicians and the dispensing of drugs to pharmacies. Drugs were divided into "professional drugs", which required a physician's prescription to be purchased at pharmacies and "general drugs", which could continue to be sold directly by pharmacies. The objective of the reform was to reduce the over-use of drugs, improve the quality of care, expand patients' rights to information and raise the efficiency of the pharmaceutical industry. Pharmacists favoured the reform as the introduction of the NHI and rising income levels had increasingly led patients to physician clinics and hospitals, rather than relying on drugs sold by pharmacies. Not surprisingly, physicians opposed the reform, staging a series of nation-wide strikes that paralysed the medical system.[2] To reimburse the physicians for their income loss, medical fees were raised by 49% during the 15 months between November 1999 and January 2001, pushing the NHI into financial crisis in 2001-02.[3] In addition, the strikes forced the government to modify the planned reform in favour of physicians by; i) increasing the share of prescription drugs relative to nonprescription ones in the NHI; ii) protecting physicians' right to prescribe brand-name drugs; iii) reversing the plan to include injection drugs in the reform;[4] and iv) controlling the pricing of generic drugs. These changes reduced the benefit from the reform.

The Separation Reform did help curb the volume of drug consumption as expected. The percentage of claims from physician clinics containing an antibiotic prescription fell from 56% in 2000 to 30% in 2007, resulting in a 30% decrease in the overall use of antibiotics. Moreover, the total number of drug items per prescription claim dropped from 5.9 in 2000 to 4.1 by 2005 and has remained at that level (Jeong, 2009). Nevertheless, the number of drug items per prescription is much higher than in many other OECD countries, where it is often as low as two (Table 3). One reason is the exceptionally high number of drugs prescribed for acute upper respiratory infection in Korea. Moreover, in Korea, the number of drug prescriptions for children is higher than for adults, while the reverse is true in other OECD countries. The number of prescriptions is higher at clinics than at high-level general hospitals, suggesting that a significant share of prescriptions are linked to minor health problems that are typically treated at clinics.

Nevertheless, drug expenditures have continued to increase at a double-digit rate since 2001, keeping them at close to a quarter of total health spending, well above the OECD average of 14.5%. Rising drug outlays can be attributed to a number of factors, according to a 2007 government study, that more than offset the decline in the number of drugs prescribed per visit : i) 55% was a result of an increase in the number of days per prescription; ii) 20% was due to an increase in drug spending per prescription day, i.e. a shift to higher-priced drugs,; iii) 18% resulted from an increased number of physician visits; and iv) 7% was due to a rise in the number of patients. The shift to higher-priced drugs indicates that physicians are prescribing more expensive branded drugs rather than focusing on those with higher margins as they did when they were allowed to sell drugs. Indeed, the share of high-priced drugs rose from 36% in 2000 to 54% in 2005 (Kim and Ruger, 2008). While there is no direct income gain to physicians from the sale of drugs, the shift to higher-priced drugs may reflect higher illegal rebates from the makers of high-priced drugs.

Table 3. Pharmaceutical drug use in major countries
Average number of drug items per prescription in 2005 in major countries

	Total average	*Acute upper respiratory infection*	*Number of drug items prescribed to patients under age 18*
Australia	*2.16*	*1.33*	*1.31*
France	*4.02*	*3.44*	*3.08*
Germany	*1.98*	*1.71*	*1.85*
Italy	*1.98*	*1.61*	*1.64*
Japan	*3.00*	*2.20*	*2.02*
Spain	*2.20*	*1.78*	*1.61*
Switzerland	*2.25*	*2.08*	*1.77*
United Kingdom	*3.83*	*2.58*	*1.90*
United States	*1.97*	*1.61*	*1.64*
Korea	**4.16**	**4.73**	**4.56**

Source: International Marketing Service.

Given the higher medical fees to compensate physicians for the Separation Reform, total health spending rose from 4.7% of GDP in 2000 to 5.2% in 2001, while boosting the public share of health spending from 44.9% to 51.7% (Table 1), as previously uncovered drugs were included in the NHI. Indeed, the public share of drug expenditure jumped from 34% in 1999 to 55% in 2001 (Jeong, 2005). The larger share of drugs covered by the NHI also meant that patients had to go to a physician for a prescription, thereby raising the number of consultations per capita from 8.8 in 1999 before the Separation Reform to 12 in 2007.[5] In short, there was a shift from self-medication using drugs from pharmacies to prescription drugs under the auspices of the NHI. In sum, Korea's experience with the Separation Reform demonstrates that health-care reform can have unexpected consequences.

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1. *The practice of leaving the physicians' office with the drugs dispensed by the physician is found in other Asian countries, including Japan, reflecting the influence of traditional Asian medicine.*
2. *The "Doctors' Rights Safeguarding Militant Committee" organised three strikes in 2000. In addition, after the Separation Reform was legally implemented, physicians staged more strikes in 2001.*
3. *Consultation fees with physicians were raised 12.8% in November 1999, 6.0% in April 2000, 9.2% in July 2000, 6.5% in September 2000 and 7.1% in January 2001. However, physicians' income from higher fees was more transparent and thus more fully subject to income taxes than the income from selling discounted drugs.*
4. *Drug injections are common in Korea. In 2000, 60% of out-patients in physician clinics were given shots (Jeong, 2009).*
5. *Hospitals, which play a large role in out-patient care, faced a significant loss as they were no longer allowed to have pharmacies.*

In July 2008, Korea became the fifth OECD country to introduce a long-term care insurance (LTCI) system. Elderly persons applying for long-term care are visited by NHI staff, who assess their ability to perform 52 activities of daily living. The appropriate level of care is then determined by the NHI, taking into account the opinion of physicians.[12] With the increasing awareness of the LTCI, the share of the elderly who have applied for benefits reached 12.3% in April 2010, with 45.9% judged to be eligible (Table 4). Benefits are provided as services, rather than cash, except where long-term care facilities are unavailable (Kwon, 2009a). The proportion of elderly receiving benefits increased from 1.4% when the LTCI was introduced to 4.4% in April 2010. Of this total, about a third are in institutional care, subject to a 20% co-payment, while the remainder receive home-based services, with a co-payment of 15%.[13] In addition to co-payments, the LTCI is financed by central and local governments (30%) and premium

12. Elderly in categories 1 to 3 – which are characterised by a lack of mobility – are eligible for the LTCI.

13. The co-payment is reduced by one-half for those with an income below 130% of the poverty line and is exempted for those receiving benefits under the National Livelihood Protection Act.

payments (55%). To maintain the stability of the LTCI in the face of the rising number of eligible elderly, the premium was increased by more than half to 0.35% of income in 2010.[14]

Table 4. The expansion of long-term care insurance

	July 2008	*December 2008*	*December 2009*	*April 2010*
Number of elderly who applied for LTCI benefits	*271 298*	*376 032*	*596 235*	*663 741*
Per cent of total elderly	*5.4*	*7.5*	*11.3*	*12.3*
Number of elderly found eligible for LTCI benefits	*146 643*	*214 480*	*286 907*	*304 826*
Per cent of applicants	*54.1*	*57.0*	*48.1*	*45.9*
Per cent of total elderly	*2.9*	*4.3*	*5.4*	*5.6*
Number of elderly receiving benefits from LTCI	*70 542*	*147 801*	*228 980*	*236 004*
Per cent of eligible	*48.1*	*68.9*	*79.8*	*77.4*
Per cent of total elderly	*1.4*	*3.0*	*4.3*	*4.4*

Source: National Health Insurance Policy Research Institute.

The introduction of the LTCI has spurred a substantial expansion in the supply of long-term care for the elderly, particularly by the private sector (Kwon, 2009a). The number of long-term care facilities jumped from 534 at the end of 2005 to 2 455 by the end of 2009, boosting capacity to almost 85 thousand persons. In addition, the number of providers of home-based care has increased substantially.

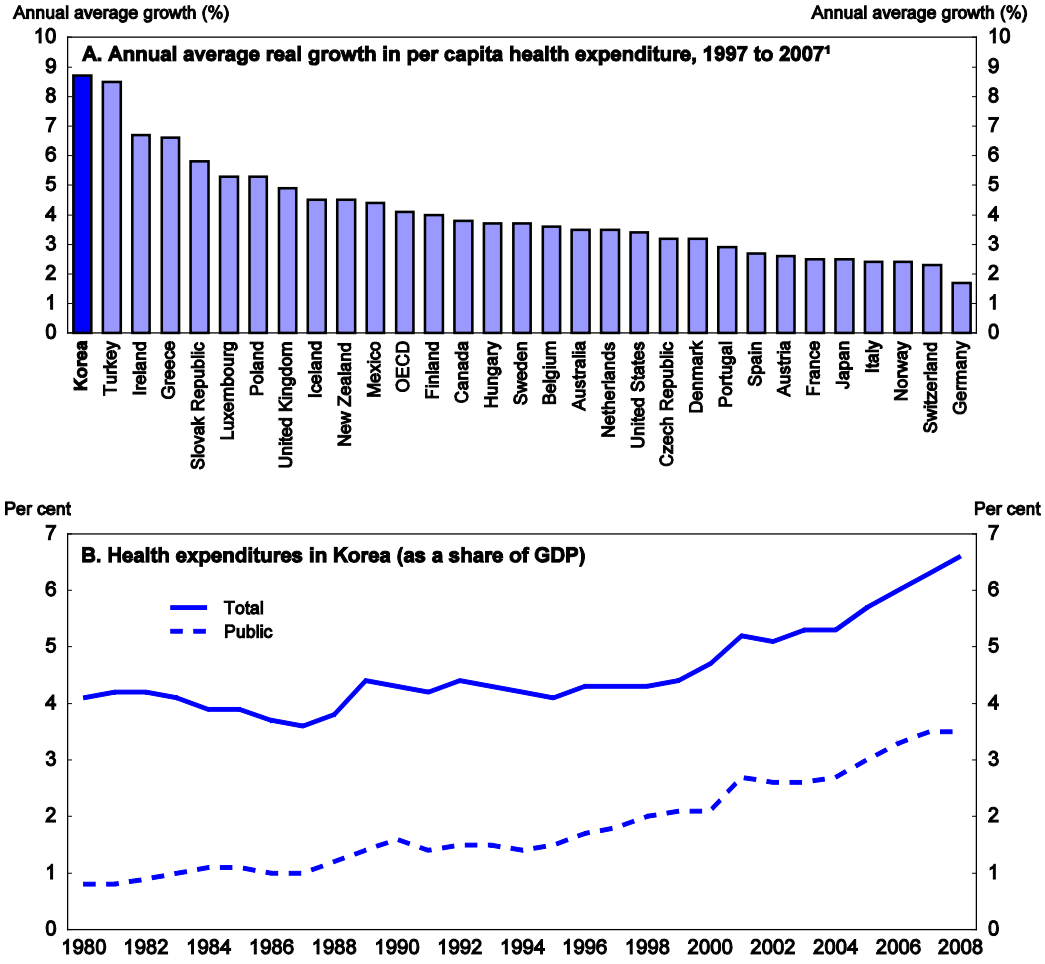
Improving efficiency to contain the growth of health spending

Perhaps the biggest challenge facing Korea's health-care system is the rapid increase in spending. During the decade to 2007, per capita health expenditures rose at an 8.7% annual average rate in real terms, the fastest in the OECD area (Figure 7). This reflects both buoyant economic growth and the relatively low initial level of health spending. Consequently, total health spending, which had remained below 4½ per cent of GDP between 1980 and 1997, jumped to 6.3% by 2007, and to 6.6% in 2008 (Panel B). Public health spending increased at an even faster rate, doubling its share of GDP to 3.5%. This was due, in part, to the hike in medical fees in the wake of the 2000 Separation Reform, while drug expenditures did not fall as intended (Box 2). Population ageing is another factor for two reasons. *First*, the share of elderly in the population rose from 6.4% in 1997 to 9.9% in 2007. *Second*, spending per elderly has increased from less than three times the spending for those under 65 to 3.6 in 2007.

Population ageing will continue to put upward pressure on health spending. Korea has gone from having one of the highest fertility rates in the OECD area in the 1960s to the lowest by 2005, while the increase in life expectancy was the longest (Figure 1). Consequently, the rise in the elderly dependency ratio by 2050 is projected to be the greatest in the OECD area (Figure 8). An OECD study projects that public health spending in Korea may rise by 3 to 5 percentage points of GDP by 2050, the largest increase in the OECD area (Oliveira Martins and de la Maisonneuve, 2006). As in all countries, technological change will boost health spending. In Korea, this pressure will be magnified by the plan to expand the relatively limited coverage of the NHI.

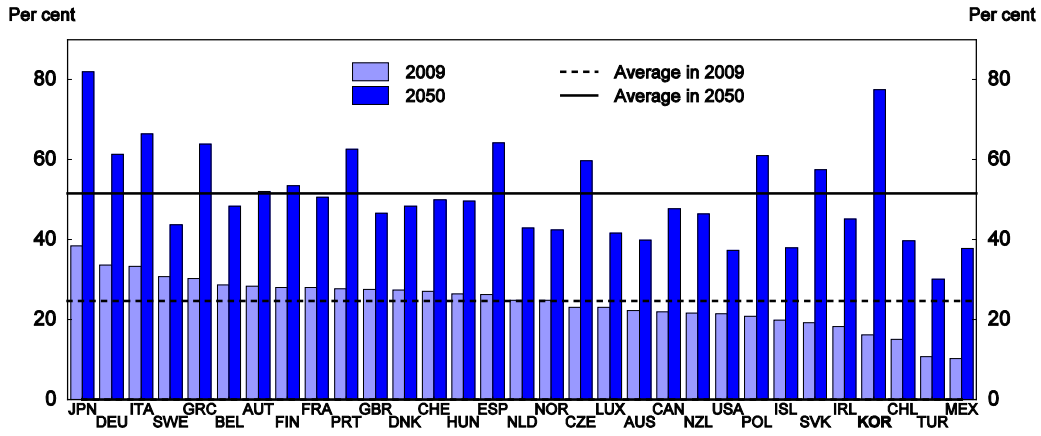
14. The 2010 rate is set at 6.55% of the NHI premium, which is 5.33% of income.

Figure 7. Health spending in Korea has increased sharply in recent years



1. Or latest year.
Source: OECD Health Database (2009).

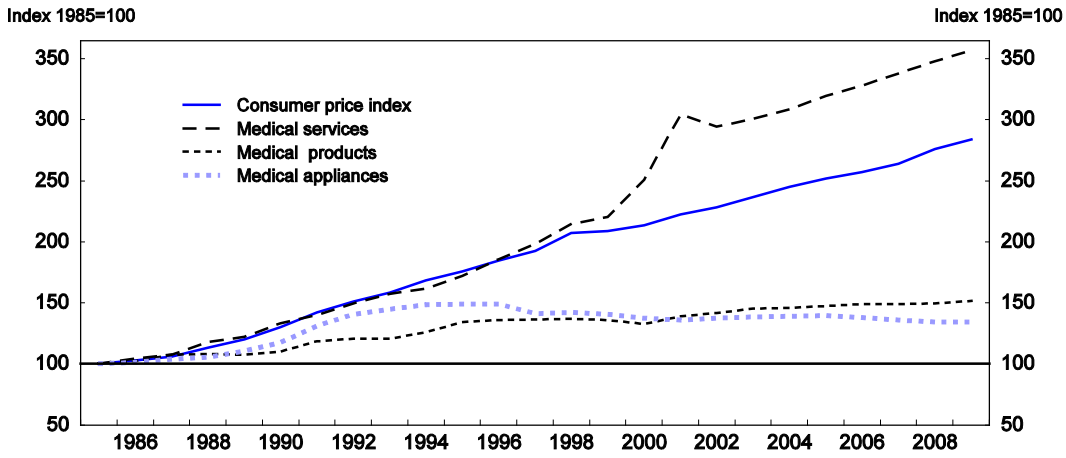
Figure 8. Population ageing in Korea is projected to be the fastest in the OECD area
Population aged 65 and over as a share of the population aged 20 to 64



Source: OECD Society at a Glance Database.

To control health spending, the authorities kept the rise in medical fees in line with consumer price index (CPI) inflation between 1985 and 1997 (Figure 9). After the sharp hikes in the wake of the 2000 Separation Reform, medical fees increased by a cumulative 18% between 2002 and 2008, less than the 21% rise in the CPI. Nevertheless, health spending rose from 5.1% of GDP to 6.6% over that period, as the volume of care expanded rapidly. Looking ahead, it will be difficult to keep the pace of medical fee increases below the inflation rate, given considerable pressure from the medical profession. Although the cumulative rise in medical fees since 1985 far outstrips the CPI, health-care providers insist that they are underpaid, arguing that medical fees were initially set too low when the NHI was introduced in 1977. However, the fact that gaining admittance to medical school has become increasingly difficult in recent years does not suggest that physicians are underpaid.

Figure 9. Increase in medical costs relative to the consumer price index



Source: Korea National Statistical Office.

In sum, continued growth in health spending at a double-digit pace in an economy with a potential growth rate of 4-5% is not sustainable in the long run. It is essential to contain spending on health to avoid crowding out other spending and to limit the burden of taxes and social charges. As long as the system remains based on a fee-for-service payment to private profit-seeking suppliers, Korea remains particularly vulnerable to sharp increases in health spending (Yang *et al.*, 2008). Therefore, a number of structural reforms – changing the payment system, reducing the overuse of drugs, shifting long-term care out of hospitals, promoting healthy ageing and introducing gatekeepers – are urgently needed to increase the efficiency of the health-care system, thereby containing the rise in spending.

Reforming the payment system away from fee-for-service

The payment system for health-care providers has an important impact on their medical decision-making and the efficiency of the health-care system. The fee-for-service payment system in Korea has a number of drawbacks. *First*, it encourages providers to increase the volume of services by inducing unnecessary health-care treatments for profit reasons. For example, physicians in Korea usually ask that patients with minor illnesses visit their office every three days for consultations that last only two or three minutes, helping to explain why the number of consultations in Korea is one of the highest in the OECD (Figure 6). *Second*, providers have an incentive to raise the intensity of their services. This is illustrated by the rise in the rate of caesarean deliveries – for which the price in NHI is set 1.5 times higher than for a normal delivery – from 6% in 1985 to 36% by 2008 in Korea, one of the highest in the world and well above the 10% level recommended by the World Health Organisation. *Third*, it encourages physicians to

substitute uninsured medical services – for which fees are not regulated – for insured ones. For example, the fact that CT scans were not covered by the NHI encouraged the purchase of CT scanners. In 2008, Korean medical institutions had more than twice as many CT scanners, relative to population, than the OECD median (OECD, 2009b). With the inclusion of CT scanners in the NHI, physicians moved on to MRIs, and they now have more than twice as many MRIs, relative to population, than the OECD median.[15] The incentive for physicians to supply non-covered services helps to explain why out-of-pocket payment for services not covered by the NHI still accounts for almost a quarter of health spending in Korea (Table 1), despite the expansion of the NHI.

Changing the economic incentives for providers by reforming the payment system is a priority to reduce the number of supplier-induced consultations. Korea started a Diagnostic-Related Group (DRG) payment pilot programme for five illnesses in 1997. In 2002, Korea introduced a DRG payment system on a voluntary basis for eight illnesses, which were chosen because of their high level of standardisation in treatment and low variation in costs. Together, they accounted for about a quarter of in-patient cases. While most of the reimbursement amount is fixed in advance, it can be adjusted in unusually complicated cases to compensate hospitals for legitimate cost differences due to variations in case-mix.

A government study found that the DRG was successful in reducing medical costs by 14% and the length of hospital stay by 6%. The cost savings were achieved in part by cutting the number of tests, from 5.1 to 3.8 per patient, and the use of antibiotics by 30%. The DRG also lowered the administrative cost of filing and processing claims for individual treatments. However, these savings were partially offset by increases in pre-admission care and the number of out-patient visits and use of antibiotics after discharge, as hospitals boosted their revenue through fee-for-service treatments (Kwon, 2003c). Nevertheless, the DRG reduced overall medical costs. In addition, the DRG includes treatments not covered by the NHI, thereby easing the financial burden of out-of-pocket payments by patients. Moreover, the DRG is helping to promote the standardisation of clinical practices that are most effective. One concern is that the DRG might lower the quality of health care, given that physicians are employed by hospitals, which have an incentive to limit the cost of treatment. However, there was little negative effect on quality, as measured by the number of complications and repeat operations (Kwon and Reich, 2005).

Despite the favourable outcome of the pilot project, the plan to extend the DRG system and make it mandatory was prevented by physicians (Box 2), who strongly oppose moving away from the fee-for-service system. In part, they fear that the relatively generous initial DRG reimbursement levels would be cut if the new system were mandatory. The DRG continues on a voluntary basis for seven disease groups, with almost 67% of institutions participating in 2009. Reimbursement under the DRG system is based on the average fee-for-service reimbursement for each of the disease groups. However, the current voluntary approach to the DRG is raising health-care costs; hospitals with a relatively low cost structure generally choose to participate in the DRG system, thus increasing their revenues and profits, while hospitals with high cost structures prefer to stay with the fee-for-service approach. Given the effectiveness of the DRG system in reducing the length of hospitals stays, its use should be expanded and extended to other disease groups.[16] In addition, the reimbursement rate under the DRG should be gradually reduced to the level in the lower-cost hospitals in order to boost efficiency. The DRG should be accompanied by measures to ensure the quality of health care and to prevent hospitals from "gaming the system" by shifting treatment to before admission and after discharge.

15. The use of MRIs in a limited number of cases for cancer and cerebrovascular diseases was included in the NHI in 2005, when the number of MRIs in Korea was already 24% above the OECD average. The rapid introduction of new devices also reflects the emphasis on high technology in Korea.

16. Some have proposed introducing a Diagnosis Procedure Combination (DPC) similar to Japan, which combines a DRG approach with a per diem basis (2009 *OECD Economic Survey of Japan*). However, the per diem component makes this approach less effective in reducing the length of hospital stays.

Reform of the payment system for out-patient care is also needed to reduce the exceptionally high number of consultations and lengthen their short duration, which is a major complaint of patients. One solution would be a capitation system, which reimburses physicians on the basis of the number of patients during a year rather than the number of visits. Moreover, such a system gives physicians strong incentives to focus on prevention and health promotion for their patients (Kwon, 2003a). A mixed system combining capitation and fee-for-service may be the best option. Another option would be to modify the reimbursement rate in some cases, such as a second visit for a cold or another minor ailment. Any such reforms should be accompanied by stepped-up efforts to weed out abuse from insurance claims by not reimbursing visits judged to be unnecessary.[17] Reform of the payment system should also advance in line with an expansion of the NHI. Otherwise, more aggressive, cost-saving payment systems will prompt physicians to increase the provision of services not covered by the NHI. The end result would be higher health spending, a larger burden on patients and increased inequality in the access to health care.

Reducing outlays on pharmaceuticals drugs

As noted above, drug expenditures continue to account for almost a quarter of health spending despite the 2000 Separation Reform. Although physicians no longer sell drugs, they still benefit from illegal rebates from pharmaceutical companies. Rebates are essentially bribes – price discounts on the drugs or benefits in kind, such as expensive meals and travel – provided by pharmaceutical companies to physicians and hospitals that prescribe and purchase their drugs. The Korea Health Industry Development Institute reported that some companies spend up to half of their yearly revenues on rebates alone (KHIDI, 2008). Rebates are considered to be a major cause of unnecessary and ineffective prescriptions, high drug prices and a lack of competitiveness in Korea's pharmaceutical industry. Nevertheless, they remain prevalent due to vague definitions and poor enforcement. The Ministry of Health, Welfare and Family Affairs launched a crackdown on rebates in 2009, prohibiting any financial incentives to promote drug supply deals and limiting benefits from pharmaceutical companies to health providers to 0.5 million won (approximately $440) per year. Violators face a reduction of up to 20% in the official price for their drug in the NHI. In addition, the Korea Fair Trade Commission launched investigations into the rebate practices of the pharmaceutical industry, as they undermine market competition and consumer welfare.

In February 2010, the government announced a more severe plan: physicians and pharmacists who receive rebates from drug makers in return for prescribing or recommending their products are subject to up to two years in jail or having their license suspended for up to a year. This was accompanied by more serious penalties for pharmaceutical companies under this plan, which is to go into effect in October 2010. If they are found to have provided rebates for a drug on two occasions, that drug would be dropped from NHI coverage, thus sharply curtailing its use. In addition, consideration is being given to rewarding persons who report rebates to the authorities. In addition, the government will introduce a scheme to make it less costly for health personnel to give up rebates. If they report the potential rebate – the gap between the market price and the official price from the NHI – they will receive 70% of that amount from the authorities.[18] The government expects these measures to reduce drug prices by 3% to 5% a year, saving patients up to 154 billion won annually.

The new measures on rebates should be vigorously implemented, while reforming the system of setting drug prices to more closely reflect market prices. Permitting health providers to claim 70% of the difference between the market price and the official price will increase transparency about market prices, allowing the official price to be brought closer to the market price in the annual revision of medical fees in

17. One study found that the deterrent effect of government investigations of health claims for fraud and abuse significantly lowered the level of claims (Kang *et al.*, 2010).

18. For example, if the official price is 100 won and the health personnel are offered a discounted price of 80 won, they can receive 14 won (70% of the 20 won price gap) from the government.

the NHI. Such a pricing system is being used successfully in Japan. In revising the fee schedule, prices are set 2% above the market price.[19] In 2008, the prices of 88.7% of the 12 740 listed drugs were decreased, 10.7% were left unchanged and only 0.5% increased, resulting in a 5.2% overall decline in drug prices. In addition, it is important to reduce the number of drugs per prescription from its current average of more than four (Table 3), in part by reducing the reimbursement rate for prescriptions with too many drugs. Finally, the expansion of the DRG would reduce the financial incentives for overuse of drugs in hospitals.

More effective use of generics is also key to reduce drug costs. As noted above, the price of generics is set at 68% of that of branded drugs in an effort to support the domestic pharmaceutical industry, which is concentrated in generics. However, policies to promote this industry have been ineffective. In particular, there has been little R&D investment. Allowing the price of generics to fall would sharply reduce drug prices. For example, generics cost only 20-30% of the price of branded drugs in the United States. Moreover, making generics the standard for reimbursement by the NHI would reduce drug costs.

Finally, it is important to reduce the price of non-prescription drugs by relaxing the regulations that limit their sale to pharmacies. Indeed, even relatively simple drugs, such as aspirin, must be sold by pharmacists. Gradually allowing them to be sold in other retail outlets would be beneficial and reduce their price.

Shifting long-term care from hospitals

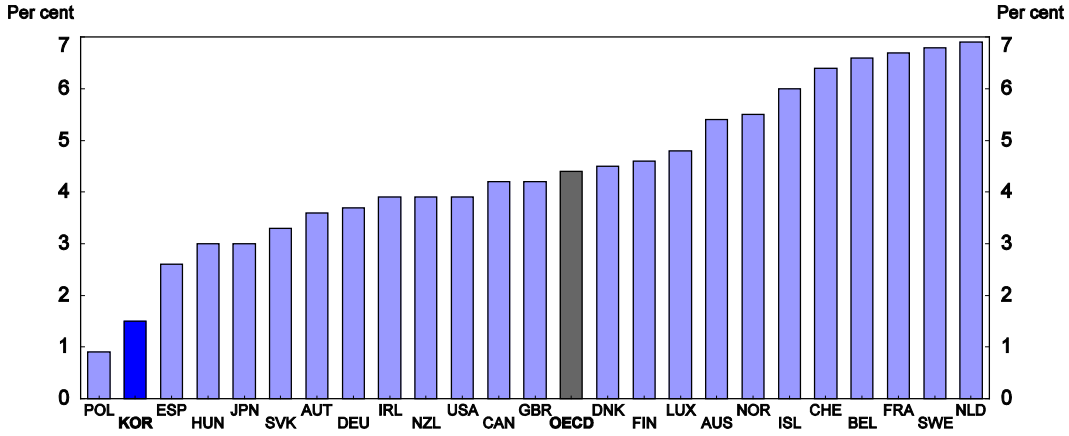
The large number of hospitals beds and the long average stay (Table 2) are partly a result of hospitals' role in providing long-term care to the elderly. *First*, there has been a shortage of formal long-term care, both institutional and home-based. In 2006, only 0.3% of the elderly were in institutional care. *Second*, given that patients tend to prefer large medical facilities, small hospitals have trouble filling their beds, thus giving them an incentive to provide long-term care. This is facilitated by the lack of a clear separation between chronic-care and acute-care beds in hospitals (NHIC, 2009b). The reliance on hospitals to provide long-term care – so-called "social hospitalisation" – is inefficient, as it creates a mismatch between the needs of the elderly and the medical services provided. The inappropriate hospitalisation of elderly needing long-term care thus raises the length and cost of their care, placing a strain on the NHI.

The introduction of the LTCI provides an opportunity to "de-medicalise" long-term care. The number of elderly receiving long-term care in Korea has risen sharply from 1.4% in 2008 to 4.4% in 2010 with the introduction of LTCI and the release of pent-up demand (Table 4). Nevertheless, the proportion in institutional care in 2009 was only 1.5%, compared to the 2007 OECD average of 4.4% (Figure 10). The proportion receiving home-based care (2.9%) was also far below the OECD average (8.6%). The capacity for long-term care appears inadequate at present. By 2010, Korea had 800 thousand elderly suffering from Alzheimer's disease, considerably above the 236 thousand receiving assistance under the LTCI (Table 4). Indeed, as of the end of 2009, there was only one place in institutional care for every 62 elderly persons. In addition to the lack of long-term care facilities, there is a shortage of qualified care workers.

Demographic trends will further increase the need for long-term care, which grows exponentially with age, with the bulk concentrated on persons over the age of 80. In Korea, the number of persons above that age is projected to rise from 2% of the population at present to 14% by 2050. In addition, growing female labour force participation and the falling share of the elderly living with their family will further narrow the scope for family-based care, creating the need for a better developed infrastructure for care. An OECD study estimated that public spending on long-term care in Korea may rise to between 3% and 4% of GDP by 2050, above the OECD average of 2.4% to 3.3% (Oliveira Martins and de la Maisonneuve, 2006).

19. For example, if the price of a drug set at 110 yen is available at 100 yen in the market, its price in Japan's fee schedule would be cut to 102 yen.

Figure 10. International comparison of institution-based long-term care
Number of recipients as a share of the elderly in 2007 or latest year (2009 in Korea)



Source: OECD DELSA Database.

The government plans to gradually expand the coverage of LTCI, taking into account the insured's ability to pay and the capacity of long-term care facilities (NHIC, 2009b). Achieving the necessary expansion should rely primarily on the private sector. Moving away from the current reliance on the government to provide most long-term care facilities would foster competition among providers and more choice for families, while limiting the cost of public investment in infrastructure (OECD, 2007a). Greater choice would increase the satisfaction of older persons and their independence. It is thus essential to eliminate any regulations that may discourage the entry of new firms. Providing cash benefits would promote competition between formal and informal care and promote the expansion of private facilities. Concerns about quality can be met by requiring that LTCI be used only in long-term care by licensed providers. Moreover, the government should widely disseminate quality information to spur competition.

In this context, it is important to learn from the experiences of other countries that have introduced LTCI. *First*, reducing the role of hospitals in long-term care requires effective co-ordination between the NHI and the LTCI. Hospitals may try to game the system by upgrading the care level of patients, thereby preventing them from moving to long-term care facilities.[20] Avoiding such outcomes requires monitoring hospitals' evaluation of patients. *Second*, measures are needed to avoid a supply-driven increase in the number of elderly receiving low levels of care. The sharp increase in Japan reflects in part the tendency to err on the side of generosity in approving care (Imai and Oxley, 2008). *Third*, the LTCI should focus on lower-cost home-based professional care rather than institution-based care.

Promoting healthy ageing

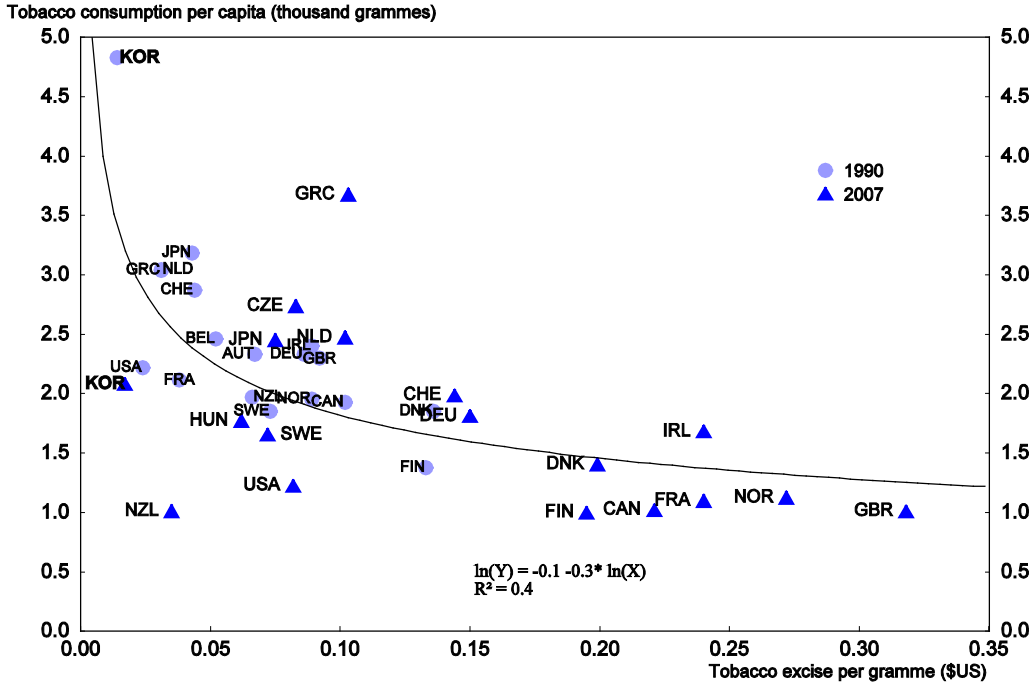
With the number of persons over age 65 rising rapidly, reducing the relatively high expenditures on health care for the elderly is essential to restrain total health spending. As noted above, health spending per elderly person is almost four times higher than for the non-elderly. It is important to promote healthy ageing – reducing the number of years of disability – to limit the impact of demographic change on health spending. Indeed, prevention and health promotion are more cost-effective than medical treatment (Kwon, 2003a). However, a recent OECD analysis suggests that policy makers should not count on reductions in

20. In Japan, the introduction of LTCI in 2000 was expected to shift long-term care from hospitals to long-term care facilities. However, the number of long-term care beds in hospitals increased by nearly 50% by 2007. Rather than discharge patients with chronic problems to long-term care facilities, hospitals upgraded them to higher medical care categories in order to continue being reimbursed by public health insurance (2009 *OECD Economic Survey of Japan*).

severe disability among the elderly to moderate future demand for health care.[21] At the same time, there is evidence that certain public health interventions, including the promotion of healthy lifestyles, can have a significant impact (Colombo and Hurst, 2008).

Korea's traditional diet, which is low in calories and high in fruit and vegetables, is one of the healthiest in the world and has limited the incidence of obesity to the lowest in the OECD. Nevertheless, the rate has risen during the past ten years, reflecting changing diets, thus damaging the outlook for healthy ageing. The major preventable health problem is tobacco: while the smoking rate for women was the lowest in the OECD area in 2007 at 5%, the rate for men was the third highest at 47%. The prevalence of smoking is associated with high rates of lung and stomach cancer, imposing a significant cost for Korea (Lee *et al*., 2007). Although the tax on tobacco is twice as high as in 1990, it is still the lowest among the OECD countries for which data are available (Figure 11). Evidence from OECD countries indicates that the rate of smoking is sensitive to tax rates, suggesting the need for higher tobacco taxes in Korea. Another concern is alcohol consumption; Korea has the sixth-highest rate of death from liver cirrhosis in the OECD area (OECD, 2009b).

Figure 11. Tobacco tax and consumption[1]



1. Converted into US dollars using purchasing power exchange rates for 1990 and 2007.
Source: OECD Health Database (2009).

Introducing gatekeepers

In many countries, patients must see a general practitioner (GP), who provides primary care, in order to obtain a referral to see a specialist. According to empirical studies (Gerdtham and Jönsson, 2000), countries with GP gatekeepers have lower per capita health spending. Such an approach also appears to lead to better health outcomes through improved preventive care, allowing for early detection and treatment of illness, and better management of chronic problems, thereby reducing the number of out-

21. A study of OECD countries showed clear evidence of a reduction in disability among the elderly in only five countries, while three reported an increase (Lafortune *et al*., 2007).

patient visits in the long term. In addition, it offers a more co-ordinated approach across providers, helping to limit the number of unnecessary medical appointments (Wagstaff, 2009a). However, Korea does not have gatekeepers, leaving patients free to consult any provider – primary care or specialist, except those in high-level general hospitals – at any time without proof of medical necessity and with reimbursement by the NHI (Song, 2009). The introduction of a gatekeeper system is opposed by large hospitals, which attract many first-time patients to their out-patient departments, which are more highly trusted than clinics.

The benefits of a gatekeeper system are partly due to its emphasis on primary care. Although primary health care is cost-effective in improving the health status of Koreans (Kwon, 2003a) and leads to a more equitable distribution of health care throughout the population, only 7.9% of all clinic-based practitioners were family physicians in 2006 (Lee *et al*., 2009). In the short run, a gatekeeper system could be introduced by requiring those who go to any hospital without a referral to pay a fee. In the longer run, it would require increasing the number of GPs, in addition to changing the fee system and medical education.

How to finance health care

As discussed above, health spending is projected to increase rapidly in the years to come, making it essential to efficiently finance the higher outlays. Funding for rising health spending will have to come from some combination of higher social insurance payments, tax revenue, out-of-pocket-payments by patients and private health insurance. Expanding out-of-pocket payments, by raising already high co-payment rates and/or reducing the already low coverage of the NHI, would not be desirable as it would reduce access to health care.[22] As for private insurance, the government "will stimulate the private insurance market so that it can share the burden of soaring costs induced by new technologies". It implemented a number of measures in June 2009 to improve private insurance.[23] While private insurance can provide additional resources, relying mainly on private insurance to finance the increase in health spending would not be appropriate, given the already high level of private spending. In addition, an OECD study found some weaknesses of private insurance (OECD, 2004). *First*, in some countries, it tends to be inequitable, as it is typically purchased by high-income groups. *Second*, allowing private insurance to provide complementary coverage for services covered by the NHI could lead to sharp increases in demand, with negative financial consequences for the NHI.

Increased health spending is likely to be financed primarily by social insurance payments and taxes. At present, Korea relies mainly on social insurance payments, which finance 70% of public health spending (Table 1). However, continuing to rely primarily on social insurance payments for health spending would tend to hold back employment and growth. A pro-growth approach would be to rely more on broad-based taxes that spread the burden more evenly across the population and across different income sources. At present, Korea's social insurance payments are limited to labour income, which accounts for less than two-thirds of national income, putting the burden on the labour force (one-half of the population). As the population ages and health spending matches and possibly surpasses the OECD average, the burden on workers will rise significantly. In 2009, there were more than six persons in the 20-to-64-age group for each elderly person (Figure 8). That figure is projected to fall to 1.3 by 2050, boosting the burden of social insurance payments and discouraging employment. A study of OECD countries estimates that relying on

22. The government is considering an increase in the level of co-payments for out-patient care.

23. The reforms are designed to enhance consumer understanding of insurance products and to standardise them. In addition, it is mandatory for private insurance companies to check whether an applicant already has duplicate insurance. The NHI will share statistical information with private insurers to upgrade the quality of their products. The government is considering whether to allow private insurers to directly pay health-care providers (a third-party payment system).

social insurance payments reduces formal employment by 8-10% and total employment by 5% to 6% (Wagstaff, 2009a).[24] Shifting to tax financing may thus accelerate the shift to formal employment.[25]

The composition of taxes is also important for growth. There is empirical evidence that indirect taxes[26] have a less negative impact on labour than direct taxes, notably income tax and social insurance payments (OECD, 2008).[27] The burden on labour can be measured by the "tax wedge", defined as the difference between labour costs and the take-home pay of workers as a share of labour costs. The tax wedge in Korea is currently one of the lowest in the OECD area, reflecting the early stage of development of its safety net (Figure 12) and the importance attached to limiting the burden of taxes and social charges in order to promote economic growth. The low tax wedge is thus a factor encouraging labour input in Korea, which is the highest in the OECD area relative to the population (2010 *OECD Economic Survey of Korea*).

While the tax wedge is relatively low in Korea, it rose significantly between 2000 and 2008, while the OECD average fell slightly (Figure 13). Relying more on indirect taxation would slow the upward trend. For example, reducing the health premium by 5 percentage points in Korea could be offset by raising the VAT rate, currently set at 10%, by 3.5 percentage points (OECD, 2007b). The regressive impact of increased consumption taxes could be countered through targeted measures, such as the Earned Income Tax Credit that was introduced in Korea in 2008. The expiration of the law on financing health care in 2011 could provide an opportunity to begin rebalancing the financing of health care toward tax revenue.

Shifting towards tax-based financing of health care offers other advantages. *First*, it reduces the administrative costs of collecting social insurance payments separately. *Second*, it would help ease the equity problem stemming from the self-employed sector, which accounts for one-third of Korea's labour force. Indeed, for the self-employed, the contribution per person has fallen from 72% of that for employees in 2000 to only 54% in 2008 (Figure 5). One reason for the gap is a lack of transparency about the income of the self-employed, as in many countries, which affects both the tax system and social contributions in Korea. While the share of self-employed income subject to tax has been rising, a considerable amount remains hidden. Comparing national income statistics with data from the National Tax Service indicates that only about half of self-employed income is reported, compared to more than 80% of wage income (2008 *OECD Economic Survey of Korea*).[28] Given the sense of unfairness, increases in the insurance premium face opposition from employees reluctant to shoulder an even larger share of the burden of the

24. This may help explain why ten OECD countries shifted from social insurance payments to tax-based financing between 1967 and 1986.

25. Currently, moving to formal employment means being fully drawn into the tax and social insurance systems. If health were financed by taxes, the disincentive of formal employment would be reduced.

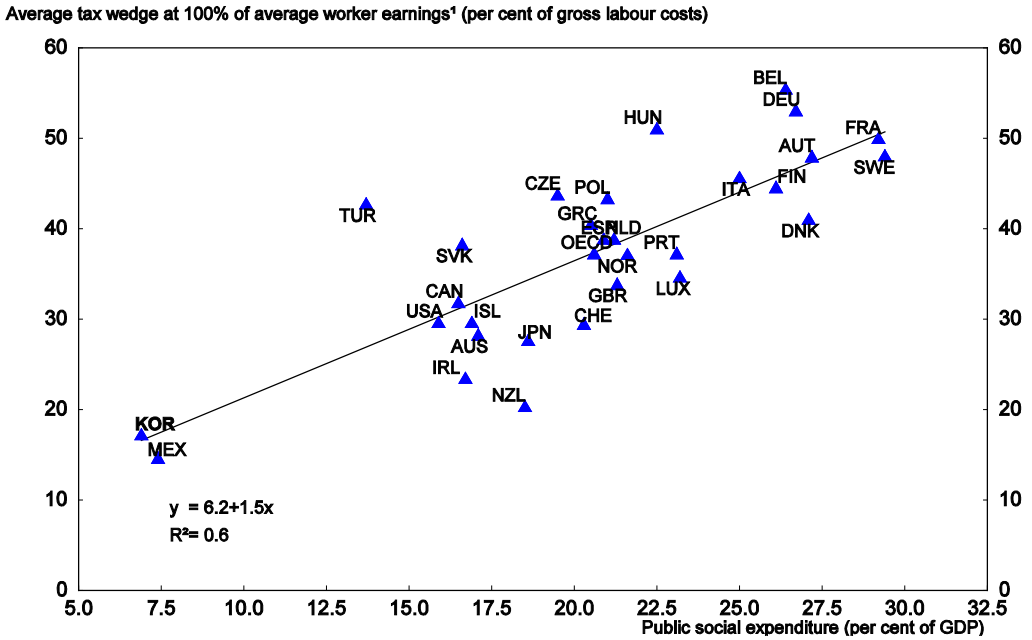
26. There are three major types of indirect taxes in Korea: *i)* the value-added tax (16.8% of total tax revenue in 2006 compared to an OECD average of 19.3%); *ii)*, taxes on specific goods and services (12.7% compared to an OECD average of 11.6%); *iii)* and import duties (3.1% compared to an OECD average of 0.6%). Korea's system of specific taxes on 20 goods and services distorts consumption decisions and is an inefficient way to address equity concerns. Such taxes should thus be focused on externalities rather than raising revenue (2008 *OECD Economic Survey of Korea*). Korea's revenue from the value-added tax was 4.5% of GDP in 2006, well below the OECD average of 6.8%, reflecting the fact that the 10% value-added tax rate in Korea is well below the OECD average of 18%.

27. One of the main messages of the OECD's Job Strategy was to reduce payroll taxes. Some countries, notably Germany, have lowered social insurance contribution rates, while increasing their VAT rate.

28. Even with a shift to tax-financing of health care, measures to improve the tax compliance of the self-employed are important and should be continued in order to broaden the personal income tax base.

self-employed (Kwon, 2007).[29] This could frustrate the government's plans to expand the coverage of the NHI and to secure the necessary revenue to cope with population ageing.

Figure 12. International comparison of public social expenditure and the tax wedge in 2005



1. The tax wedge is the sum of personal income tax, employee and employer social insurance payments and payroll taxes, less cash benefits, as a proportion of labour costs, defined as the wage plus employer social security payments and payroll taxes.
Source: OECD Taxing Wages Database.

It is also argued that financing health spending through social insurance payments helps to contain its growth in Korea. Since 2000, the major financing and spending decisions are made in negotiations between NHI and health providers. In practice, though, the negotiations have not resulted in agreements in most years, shifting decisions to the Health Insurance Policy Review Committee, which includes the government and representatives of the NHI, health providers and insurance subscribers. In any case, Korea has tightly limited tax-financed social spending. Excluding the social insurance programmes (for health, employment and pensions), spending for family benefits, active labour market policies, housing and other social programmes were only 1½ per cent of GDP in 2007. Moreover, Korea has controlled tax-financed spending on education, making it the sixth lowest as a share of GDP in the OECD area. Finally, there is little evidence that relying on social insurance payments reduces health spending.[30]

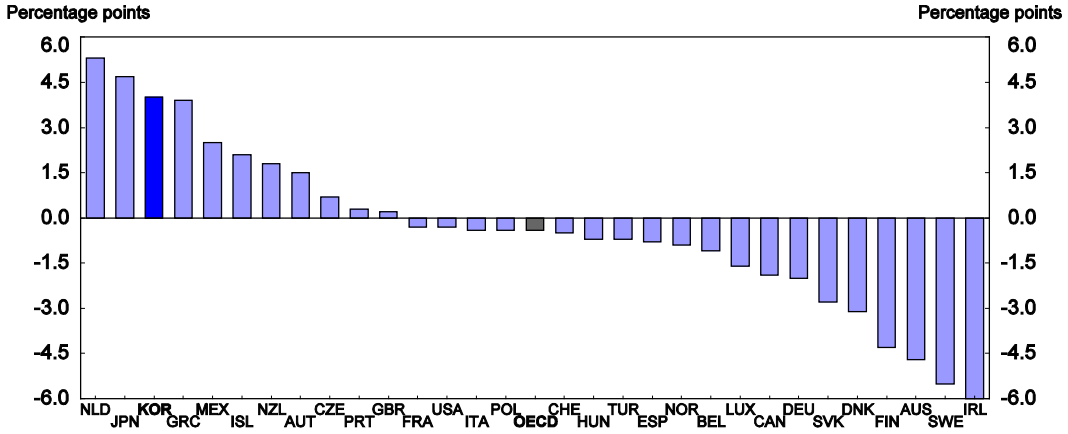
Ensuring adequate access to health care

Out-of-pocket payments – co-payments and the cost of non-covered services – by patients amounted to 4.6% of household final consumption in 2007, the third highest in the OECD area (Figure 14). The level of medical fees is the major reason for dissatisfaction with health care in Korea (Table 5).

29. In addition, there is concern that increased premiums will be used to boost physicians' income rather than to enhance the quality of health care.

30. Indeed, according to one study, reliance on social insurance boosted per capita health spending by 3.5% in OECD countries, without improving health outcomes (Wagstaff, 2009a).

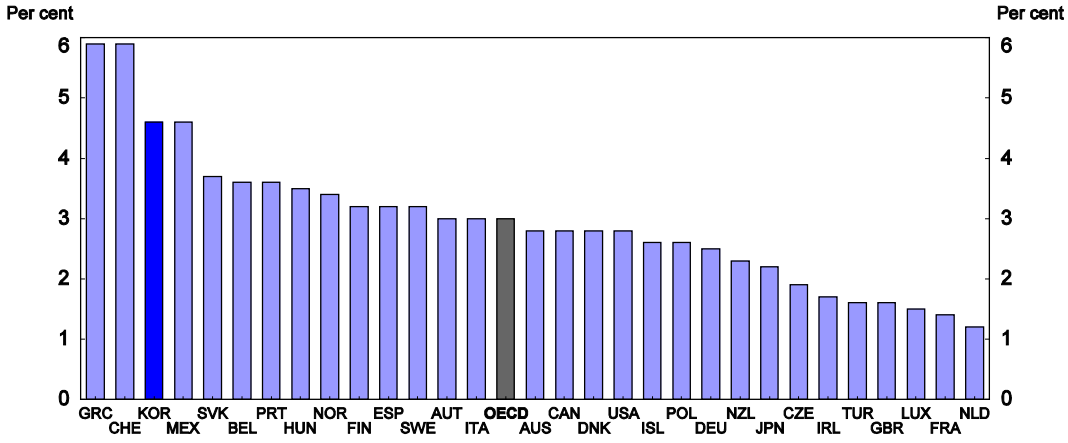
Figure 13. Change in the tax wedge on labour income
Percentage-point change between 2000 and 2008



Source: OECD (2009d), Taxing Wages, OECD, Paris.

Moreover, high out-of-pocket payments are inequitable and regressive because they do not depend on the income of patients, resulting in inequality in the economic burden of illness. According to 1998 data, out-of-pocket payments as a share of household income for the lowest income quintile were almost four times higher than for the middle quintile.[31] High out-of-pocket spending also increases poverty. The proportion of households below the national poverty line, defined as the minimum living expense, rises from 10.8% to 12.5% if health spending is included (Kwon, 2009c). Out-of-pocket payments thus reduce both necessary and unnecessary health care (Kwon, 2003b). In addition to penalising low-income households, out-of-pocket payments create a substantial burden on those with chronic health problems.

Figure 14. Out-of-pocket expenditures on health care
As a per cent of final household consumption in 2007 or latest year



Source: OECD Health Database (2009).

Ceilings on co-payments were introduced in 2004, limiting them to 3 million won (around $2 700) every six months. Consequently, a patient might pay up to 6 million won per year, or 51% of average per capita household disposable income. In 2008, 2.5% of the population benefited from this system, with co-

31. While out-of-pocket payments amounted to 3.3% of household income for the middle-income quintile in 1998, it was 12.5% for the lowest quintile (Ruger and Kim, 2007).

payments exempted by the ceiling amounting to 0.6% of total contributions received by the NHI that year. The ceiling system was revised in 2009 to take account of the insured's ability to pay, as measured by the amount of social insurance payments. However, such payments may not be the best measure of ability to pay, given the underpayment by the self-employed. For the lower half of households, co-payments are limited to 2 million won each year, 3 million won for the next 30% and 4 million won for the top 20%. However, for a person earning half of the average disposable income per capita, co-payments could still be as high as one-third of their income. In sum, the NHI states that "the current level of protection still falls short of being adequate in terms of risk protection" (NHIC, 2009b).

Table 5. Reasons for dissatisfaction with health-care services in Korea
Percentages in 2008

	Whole country	*Urban areas*	*Rural areas*
High medical fees	*32.0*	*32.8*	*27.9*
Unsatisfactory treatment	*20.0*	*19.9*	*20.3*
Waiting time for treatment and hospitalisation	*16.3*	*16.4*	*15.7*
Unkindness	*12.0*	*11.7*	*13.4*
Inappropriate treatment	*9.4*	*9.4*	*9.0*
Over-treatment	*5.4*	*5.6*	*4.1*
Poor equipment	*2.6*	*2.0*	*5.9*
Other	*2.3*	*2.2*	*3.7*
Total	*100.0*	*100.0*	*100.0*

Source: Korea National Statistical Office.

Equity also involves the quality of health care. The use of better-quality out-patient care, notably at high-level general hospitals where co-payment rates are higher, is greater among high-income households (Lu *et al*., 2007). Out-patient care for lower-income households is disproportionately centred on government-run health centres. In addition, after adjusting for income-related differences in need, low-income households use more in-patient care, where the co-payment rate is a relatively low 20%.

Large regional variations in the supply of medical facilities also create questions about access. Despite the large overall number of hospital beds, some regions face shortages. However, the problem of regional imbalances has been eased by the development of transport, notably high-speed trains.[32] Perhaps a greater concern in terms of ensuring access to health care is the regional variation in the number of physicians. Rural areas have 19% of the population but just 10% of the physicians, indicating that the physician-to-population ratio is about two times higher in urban areas. Given the preference in Korea for frequent consultations with physicians, relying on trips to the capital region is not an attractive alternative, particularly for low-income households. Ensuring an adequate number of physicians in remote regions, in part through public health-care clinics, should be a priority. Special programmes to that effect deserve consideration.

Another problem is the lack of specialists in certain medical fields. Some specialities, whose services are paid relatively generously – such as ophthalmology, dermatology and psychiatry – attract a greater number of medical school graduates. On the other hand, the fields of thoracic surgery and pathology are unpopular (Kwon, 2003c). Although the government provides financial incentives to encourage more medical students to choose specialities where there are shortages, the government is considering legislation to address the problem. However, the fundamental issue is setting medical fees so as to equilibrate supply

32. Indeed, the increasing reliance on medical facilities in Seoul and other major towns has become a major complaint of hospitals and physicians in provincial areas, and may be another obstacle in Korea's effort to promote balanced regional development.

and demand. The government introduced a Resource-Based Relative Value Scale (RBRVS) system in 2001 to correct distortions in the relative prices of medical services. The RBRVS determines fees of physicians on the basis of resource costs required to produce services. In principle, the RBRVS should be used to change the relative prices of medical services and redistribute income among physicians. However, under pressure from physicians, the RBRVS has resulted in uniform fee increases, thus failing to correct distortions (Kwon, 2003c). The council that sets medical fees should be required to provide information on the rationale for its fee decisions and an analysis of their expected impact.

Improving the quality of health care

The survey on patients' views on health care identified on quality as the most serious problem after cost (Table 5). Indeed, 20% of patients cited unsatisfactory treatment, while 9.4% cited inappropriate treatment. It is important to develop protocols of clinical practice and implement effective quality-monitoring mechanisms (OECD, 2003). In addition, the adoption of evidence-based best practices should be encouraged, although it is complicated by the idiosyncratic nature of medical education in Korea. One way to stimulate quality improvements would be to pay providers based on their performance. As the single public health insurer, the NHI could use its purchasing power to link financial incentives to clinical performance and good practices. The government is considering linking 10% of insurance payments to the results of hospital evaluations. Between 2007 and 2010, 43 specialised general hospitals are being assessed on their care of acute myocardial infarction and caesarean deliveries, areas where it is relatively easy to assess the quality of care. However, judging the quality of care is challenging as technical difficulties can jeopardise accurate measurement. As the choice of indicators influences decisions over the quantity and mix of care provided, it is essential to choose the correct indicators (Colombo and Hurst, 2008).

In addition, it is important to provide more information to consumers to enhance competition and to improve the behaviour of suppliers. Data on patient outcomes, adjusted for the severity of illness, need to be disclosed to the public to encourage informed choices, thereby facilitating quality competition among providers. The authorities made a step in this direction in 2005 when they announced the list of hospitals and physician clinics that are in the lower 25 percentile in their use of injectable drugs, antibiotics and caesarean sections, areas where overuse is most serious (Kwon, 2005). However, as in other countries, opposition from health providers hinders the introduction of transparency and public accountability.

Many complaints centre on the quality of hospitals, making an upgrading of this sector a priority to enhance the quality of health care. Only physicians and non-profit corporations are allowed to establish clinics and hospitals in Korea. While the former can keep profits, the latter must re-invest any profits and are not allowed to distribute them in the form of dividends. Nevertheless, hospitals act as for-profit institutions in practice (Kwon, 2009b). The current regulations make hospitals dependent on bank lending, thus restricting their funding and limiting the development of a modern hospital sector. The government has decided to allow investor-owned hospitals in certain areas, such as Jeju Island. Physicians' monopoly on the ownership of investor-owned hospitals is not justified. Allowing investor-owned hospitals throughout Korea would stimulate new entry and improve quality for patients, provided any possible negative side effects are addressed.[33] In addition, M&As between hospitals are prohibited, even though this could help restructure the hospital sector.

One way to improve the quality of care would be to reduce the number of consultations per physician, which is very high (Figure 6). This could be achieved, in part, by increasing the number of physicians. The number of students entering the 41 medical schools, which are predominately private, is set by the Ministry of Health, Welfare and Family Affairs. In addition, changing the payment system away from fee-for-

33. The government has proposed a compromise measure that would allow non-profit hospitals to issue bonds.

service would reduce the incentive for unnecessary treatment, thus reducing the number of appointments and waiting time.

Conclusion

Korea's health-care system has made major progress, notably achieving universal coverage and containing spending at a relatively low level. However, rapid population ageing and the demand for broader coverage of the NHI are creating important challenges that need to be addressed. The severe conflict between the key actors in the health sector since the difficult implementation of the Separation Reform complicates the prospects for creating a consensus for reform. Nevertheless, it is important to advance with wide-ranging reforms, along the lines spelled out in Box 3.

Box 3. Summary of recommendations to reform the health-care system

Containing the growth of health spending by increasing efficiency

- *Expand the use of the DRG system in hospitals and regularly adjust the reimbursement rate to the level in more efficient hospitals, while ensuring adequate quality.*
- *Reform fee-for-service billing in out-patient care by introducing some form of capitation to reduce the number of physician consultations.*
- *Cut outlays on drugs by reducing the use of rebates by pharmaceutical companies, basing reimbursement on market prices, cutting the price of generics and expanding their use and gradually removing regulations on the sale of non-prescription drugs.*
- *Shift long-term care from acute-care hospitals to home-based care and long-term care facilities to reduce costs and emphasise home-based care in long-term care insurance.*
- *Ensure adequate capacity for long-term care, emphasising the role of the private sector.*
- *Encourage healthy ageing, in part by lifting tobacco taxes from their low levels to reduce the smoking rate.*
- *Introduce gatekeepers to avoid unnecessary consultations with specialists and promote primary medicine.*

Financing health spending efficiently

- *Consider shifting toward tax-financing, particularly via indirect taxes, in conjunction with effective measures to keep spending in check, in order to limit the upward trend in the tax burden on workers, thereby encouraging employment.*
- *Attempt to boost the compliance of the self-employed with insurance payments to improve horizontal equity.*

Ensure adequate access to health care

- *Continue the upward trend in the public sector's share of health spending, thereby reducing the burden of out-of-pocket payments.*
- *Ensure that the ceilings on patient co-payments are low enough to provide adequate access for low-income households and those with chronic health problems.*
- *Promote the availability of health care in rural areas, using public health-care centres if necessary.*
- *Improve the system of setting medical fees to reduce shortages in certain medical specialties.*

Improve the quality of health care

- *Link insurance reimbursements by the NHI to the quality of health care based on carefully chosen*

performance indicators.

- *Increase the availability of information on the performance of health providers to consumers to promote competition and improve the behaviour of health providers.*
- *Upgrade the hospital sector by allowing investor-owned hospitals and mergers and acquisitions, while addressing any possible side effects.*
- *Consider increasing the number of physicians from its current low level.*

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