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Author(s)	Colombo, Francesca; Hurst, Jeremy
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# Revisiting the OECD Review of the Korean Health System\*

Francesca Colombo<sup>†</sup> and Jeremy Hurst<sup>†</sup>

## Abstract

This paper follows up to the recommendations put forward by the OECD in 2003 in a review of the Korean health system, and analyses recent policy developments as well as areas for performance improvement. The Korean health system is characterised by a large role of the private sector in both the delivery and the financing of health services, and by predominant fee-for-service payments of health care providers. Despite significant achievements since the 1970s, such as the establishment of universal coverage in 1989, a relatively low share of GDP devoted to health spending, and unconstrained users' freedom of provider choice, the Korean health system has faced significant policy challenges since 2000. At the start of the new millennium, difficulties in implementing two ambitious and controversial reforms—the merge of autonomous insurance societies into a single public payer and the separation of the functions of prescribing and dispensing of pharmaceuticals between doctors and pharmacists—were exacerbated by a financial crisis in the National Health Insurance system. More recently, Korea is addressing questions such as, among others: how should the health system respond to a rapidly ageing society; how could prevention be encouraged; how could access to care be preserved given significant out-of-pocket payments by households; what should be the role of private health insurance; what incentives and monitoring mechanisms for quality of care should be adopted; how could financial sustainability be maintained. Although the Korean health system is unique, the problems with which Korean health policy makers are wrestling will be familiar to other OECD countries.

*JEL Classification:* I1, I11, I12, I18

*Key words:* Korea, health, health system, review, performance

## I. Introduction

The OECD assessed the performance of the Korean health system in 2003 (OECD, 2003). The report *OECD Reviews of Health Systems—Korea* analysed the performance of the Korean health system against key policy objectives of providing access to high-quality care, improving efficiency of care provision and the long-term financial sustainability of the system. After briefly reviewing the recommendations put forward by OECD in 2003 (Section II), this paper analyses recent policy

\* The views expressed in this paper are those of the authors and do not necessarily reflect the position of the OECD. This paper has been written in the memory of our dear friend and mentor Rick Imai, who passed away in early 2006. Among his many achievements at the OECD was the contribution he made to the OECD Review of the Korean Health System, which was published in 2003. Throughout the process of producing the Review, Rick was an enthusiastic, attentive, and dedicated reviewer. His comments, suggestions, and directions much helped to improve the policy relevance and soundness of the analysis. His understanding of the health sector in the wider context of economic systems was invaluable, too.

<sup>†</sup> Health Division, OECD.

developments and emerging policy challenges in the Korean health system (Section III) and draws attention to areas requiring farther reform (Section IV). Finally, Section V presents a conclusion.

## II. The OECD Reviewed the Korean Health System in 2003<sup>1</sup>

### Early successes: universal coverage, health improvements and low cost

After starting to expand coverage in 1977, Korea took only 12 years to establish universal National Health Insurance (NHI) providing basic protection against the risk of illness for the entire population and offering large freedom of choice of providers to patients. The system was set up successfully in three respects: its short time frame, its low cost, and its gradual approach. This achievement was partly made possible by a policy of limiting the generosity of benefits to ensure public-sector affordability, which was facilitated by rapid economic growth.

At the time universal coverage was attained in 1989, the social health insurance system financed less than a fourth of total health spending while cost sharing accounted for 61% of total health spending and government taxation for the rest. Patients had to make substantial co-payments towards their treatment charges. Great reliance on consumer cost sharing and low social-insurance contributions were two among the key factors that helped to contain the consumption of health care services and the NHI cost overall. This was also facilitated by a government policy to control providers' fees within the NHI system. Growth in real per capita health expenditure until the mid-1990s is almost wholly explained by volume increases, because the government kept the increase in the price of health services and medical fees below general price inflation. These policies helped Korea to maintain a level of health expenditure below what could be expected for an OECD country with Korea's standard of living, an achievement which Korea maintains up to today (Figure 1), in spite of growth in real health spending well above real GDP since 1989.

Fast economic development and the set up of national health insurance were paralleled by unprecedented achievements in the health of the population. Life expectancy rose from 51 years in 1960 to 71 years in 1990 (OECD *Health Data* 2007). Infant mortality rates were steadily reduced, while mortality and morbidity patterns changed from communicable diseases to chronic and lifestyle-related illnesses.

### Health-system reforms in 2000 challenged the performance of the Korean health system

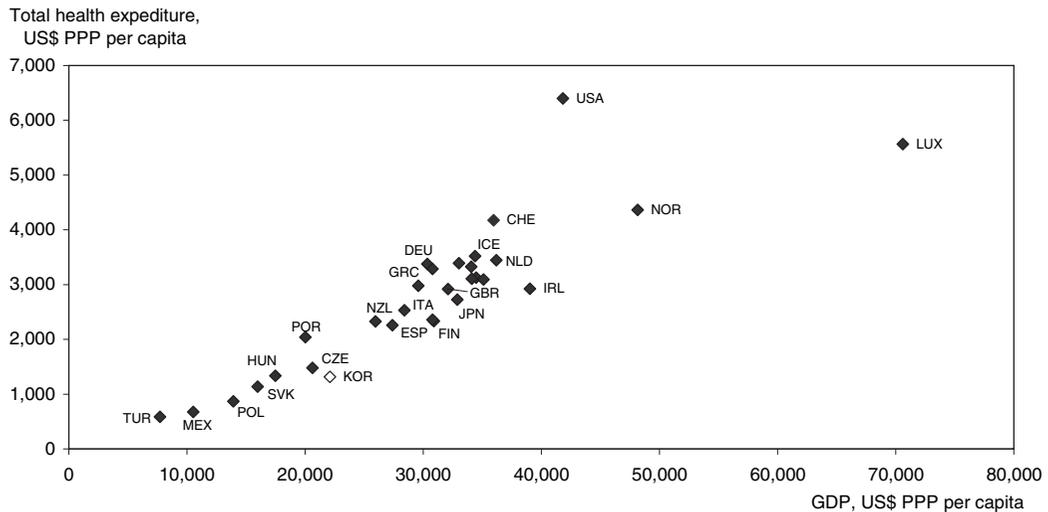
The Korean government sought improvements in health-system performance with two significant and challenging reforms in July 2000. First, the NHI was reformed from a multiple-insurer to a single-insurer system by integrating autonomous quasi-public insurance societies (the integration reform). Second, the functions of prescribing and dispensing of drugs were separated, attributing the former exclusively to doctors and the latter exclusively to pharmacists (the separation reform).

The integration reform aimed at improving fairness in financing by creating a system with uniform

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<sup>1</sup> This section summarises the key results from the OECD 2003 review of the Korean health system (OECD, 2003).

Figure 1. Per Capita Health Expenditure and Per Capita GDP in OECD Countries, 2005.



Notes: Health spending data for Australia, Hungary, Japan, and the Netherlands refer to 2004.

Source: *OECD Health Data 2007*.

income-related contributions for all and by integrating the finances of insurance societies with very different risk structures. The reform also merged fragmented pools, thereby helping more efficient spreading of risk. Economies of scale in management helped to deliver lower expenditures in administration in the years immediately following the reform, while the organisational structure and its geographical configuration was rationalised. However, other efficiency-related benefits did not materialise as expected. In particular, the reformed NHI Corporation did not appear to take full advantage of its single-purchaser position to act as prudent buyer of health care services, bargain improved standards of delivery or contract special delivery conditions with selected providers. Although the reform did not exacerbate NHI expenditures, contribution rates in the new system were set at a fiscally neutral rate without any reduction in the emerging (since 1997) fiscal deficit of the NHI system.

The financial position of the NHI was further undermined by the separation reform. This reform required the professional specialisation of doctors and pharmacists. Until July 2000, prescribing doctors in Korea were able to dispense medicines, as is the practice in oriental medicine and in certain other Asian countries. The separation reform was aimed at reducing the excessive prescribing of pharmaceuticals resulting from doctors' incentives to over-dispense drugs—the sale of pharmaceuticals represented a substantial source of their revenues. The reform led to some decrease in the overuse of antibiotics and a reduction in excessive prescribing. Despite initial inconvenience, it raised patients' awareness by giving them the ability to check upon doctors' prescriptions. It also led to a sharp reduction in doctors' incomes which precipitated strikes. The government was obliged to agree fee increases in order to placate the doctors, which led to a substantial increase in NHI spending. There was also further upward pressure on NHI spending due both to a volume and a price effect in

the consumption of drugs. The volume effect included an increase in outpatient consultations by doctors and the shifting from self-medication at the pharmacy to formal medication reimbursed by the NHI. The price effect included a higher unit cost of prescribed branded drugs (which gained market shares after the reform).

The two reforms were ground-breaking. Korean society had historically placed a high value on growth-first policies, individual responsibility, and a limited government involvement in the social sectors. But since the late 1990s, a new attention to the welfare needs of the population and the idea of a comprehensive rights-based social assistance system had emerged (OECD, 2000). These ideas influenced health reforms to reduce horizontal inequity in finance (integration reform). Furthermore, they led the government to assume greater responsibility for steering health-system performance—as reflected in the separation reform. While the goals of the July 2000 reforms were appropriate, implementation, particularly of the latter, left much to be desired. The government did not encourage broad consensus across stakeholders. This led to harsh confrontation and deterioration in the relationship between the medical profession and other stakeholders. Furthermore, the financial deficit of the NHI system, which at a more modest level pre-dated the July 2000 separation reform, reached a crisis proportion. The two reforms showed the importance of implementing systemic changes gradually, with planning of the changes and negotiation with interested parties, particularly those who are likely to lose from the changes.

The OECD recommended several actions to improve the Korean health-system performance

The OECD identified several areas where performance of the Korean health system might be enhanced (see Box 1 for a summary). First, the OECD advocated better mechanisms to tackle inequities in access and financing. Despite improved horizontal equity in NHI financing following the integration reform, important barriers to access of health care persisted for low-income Koreans in the form of high out-of-pocket expenditure. Increasing catastrophic coverage under the NHI, introducing income-rated annual caps on co-payments, and supporting the safety net role of public health centres and public hospitals would help to tackle access problems.

Second, the OECD suggested measures to improve financial sustainability. A rise in contribution rates would help finance the expansion in benefit and utilisation. Maintaining public expenditure control and the sustainability of NHI outlays called for a more explicit government policy for the rate of growth of public spending on health care, together with implicit or explicit spending targets two or three years ahead. A strong negotiating position on medical fee levels should also be maintained so that the level of fees be kept sustainable, in light of forecasts of revenues and anticipated growth in volume.

Third, for the provision of health care, the Korean health system depends largely on the market, with mainly private hospitals and self-employed professionals paid by fee-for-service. The OECD recommended better provider incentives for an efficient use of resources. These would involve a more widespread implementation of Diagnostic Related Groups (DRGs) payments, and negotiating a move away from pure fee-for-service payments to mixed or hybrid payment systems which combine

volume related payments with fixed payments per capita (capitation) or are based on prospective payments.

Fourth, to improve cost effectiveness, the integrated NHI could promote more prudent purchasing of health services and better appraisal of medical claims to reduce unjustified variation in service provisions. An overall drug policy, based on reference prices, the use of generic equivalent—where available—and monitoring of prescribing patterns were among the changes recommended by OECD to improve the cost-effectiveness of drug consumption. Furthermore, the OECD recommended greater attention to illness prevention and health promotion.

Fifth, regulation and self-regulation of the quality of clinical care is a key area for health-system improvement. The Korean government had traditionally adopted a *laissez-faire* policy towards regulating private suppliers. Fee-for-service incentives encourage growth in the volume of care and even inappropriate care at the expense of quality. There is scope to engage clinical groups in the development and implementation of protocols of good practice, for example in exchange for certain financial rewards by the NHI. Quality control has been left mainly to the responsibility and initiative of private providers. The OECD suggested that better data to monitor quality of care, including both non-medical aspects of the responsiveness to patients' demands and the impact of health care on health outcomes and quality of life, were desirable.

Finally, actions to improve governance were identified as desirable by OECD. Even if the Korean health system were to continue to rely heavily on private provision and financing, the market needed to operate in an appropriate regulatory and accountability framework. To encourage transparency and accountability, the OECD recommended strengthening mechanisms for negotiation and partnership building links both with civil society and with service providers, and to improve the accountability of the NHI and providers. This would require improved performance monitoring and assessment, as well as better capacity to analyse the impact of reforms on the system and more transparent discussions with stakeholders. During the implementation of the separation reform, this would have avoided the breakdown in trust between the medical profession and civil society, and mitigated civil-society perceptions that fee increases led exclusively to increased doctors' income.

### **Box 1. OECD Policy Recommendations for Improving the Korean Health System Performance**

1. Tackle financial barriers to access by introducing income-related annual caps on accumulated co-payments.
2. Increase the contribution rate in the near future to restore financial balance in the NHI.
3. Introduce spending targets for NHI expenditure linked to forecast of revenue growth with 2–3 years perspective, and on this basis develop a clear negotiating position for fees.
4. In addition, strengthen government's ability to control public expenditure on health by a gradual (negotiated) programme of provider payment reforms to develop mixed and hybrid payment systems in place of sole reliance on fee-for-service.
5. Promote cost effectiveness through more active and prudent purchasing of services and products by the NHI.
6. Put greater emphasis on illness prevention and health promotion initiatives.
7. Formalise rules for reimbursement of pharmaceuticals based on reference prices and, where available, the use of

generic equivalents.

8. Implement policies to improve prescribing patterns based on prescription guidelines, and systematic audit and appraisal of prescription behaviours.
9. To ensure continuing professional contestability for predominantly privately owned facilities, maintain the network of public health centres and selected public hospitals.
10. Promote quality of care by strengthening and giving incentives to self-regulation and external performance measurement and improvement initiatives.
11. Improve governance of the system, particularly by further developing regular and transparent negotiations between representatives of civil society, health insurers and providers and by improving accountability of the NHI and providers.
12. Improve data collection, especially in relation to quality, expenditure on drugs and medical services, and statistics on providers' gross and net income.
13. Improve the ability to analyse the consequences of changes to the system for contributors, patients and providers.
14. In the longer term, if the NHI remains limited to a basic benefit package with high co-payments, private health insurance (PHI) coverage can be recommended for services excluded from the basic package but not for co-payments. "Gapcoverage" insurance should not be allowed. However, medical savings accounts might play a valuable role in allowing Koreans to prepare for the rise in costs due to the inevitable ageing of the population.
15. If NHI is extended substantially to cover both more services and to reduce co-payments, action to strengthen cost control will be even more necessary.
16. A gradual implementation approach to reforms will be preferable to "big bang" reforms.

Source: OECD (2003).

The following sections of this paper develop the analysis of the Korean health system's performance undertaken by the OECD in 2003, taking as a starting point the long-term challenges faced by Korea (Section III), and then focusing on the need for reform (Section IV).

### III. Emerging Policy Challenges<sup>2</sup>

Ageing populations, growing income, technology advances—these well-known factors reflect upon increasing demands on health and long-term care systems across all OECD countries. Korea is no exception. Demographic and expenditure challenges, already highlighted by the OECD in 2003, have continued in recent years. They might well be exacerbated in the future.

#### A rapidly ageing population

The average age of the population is rising in all OECD countries, yet this is happening more quickly in Korea than in most other OECD countries. Birth rates in Korea have dropped sharply from 6 children per woman in 1960 (compared to an OECD average of 3.2) to only 1.1 children per woman in 2005 (compared to an OECD average of 1.6) (OECD *Health Data* 2007). In four decades and a half, Korea moved from having the second highest fertility rate in the OECD, to occupying the lowest rank (Figure 2). Life expectancy at birth has increased by 26 years since 1960 (from 52 years to 78 in

<sup>2</sup> Sections III and IV draw in some parts from an earlier article by Hurst (2007).

2005), more than twice the gains for the OECD area as a whole (OECD *Health Data* 2007). By 2005, Korea had caught up with the OECD average life expectancy, having started in 1960 from the second lowest position. The proportion of the elderly aged over 65 in the Korean population, currently the third lowest in the OECD area, is projected to become the third highest by 2050, if current trends in fertility declines and life expectancy gains continue into the future (OECD, 2006a)<sup>3</sup>.

Ageing populations will exercise pressure on health and long-term care costs. Long term care spending is correlated across countries with the percent of people aged 80 and over (OECD, 2005), although great cross-country variation suggests that several factors other than the number of the very elderly may affect the actual level of expenditure on long-term care. Health spending also tends to increase with age. Although the high cost associated with death<sup>4</sup> is postponed as life expectancy lengthens, the elderly cohorts grow in number. As senior citizens gain extra years of life, relative health cost will rise, remain stable, or drop depending on assumptions about an expansion, equilibrium or compression of disability during those years. Recent OECD analysis suggests that policy makers should not count on reductions in severe disability among the elderly to moderate future demand. In fact, clear evidence of a reduction in disability is evident only in 5 of the 12 countries reviewed (Lafortune et al., 2007)<sup>5</sup>. And although Korea was not part of the study, Japan, another Asian country with a similarly high share of the elderly projected for 2050, saw a rise in the prevalence of arthritis, heart problems, dementia, diabetes and hypertension among the elderly people between 1989 and 2004 (Lafortune et al., 2007). According to one Korean study, the number of people with dementia has gone up significantly over the past few years, and is expected to continue to increase (Ko et al., 2007).

### Income growth

Health spending tends to increase faster than income in most countries. In the case of Korea, the growth of health spending relative to income has accelerated since 2000. Between 1989 (when universal health insurance coverage was achieved) and 2000, growth in real health spending per capita averaged 6.2% per year, compared to a growth of the economy of 5%. Since 2000, real health spending growth—at 8.7 percentage points—has been well above the OECD average of 4.5%. While the growth in real health spending per capita exceeded economic growth by only 0.8 percentage point during the period 1989–2000, this difference reached nearly 5 percentage points between 2000 and 2005 (Table 1) (OECD *Health Data* 2007). This fast uptake of health spending has been reflected in a

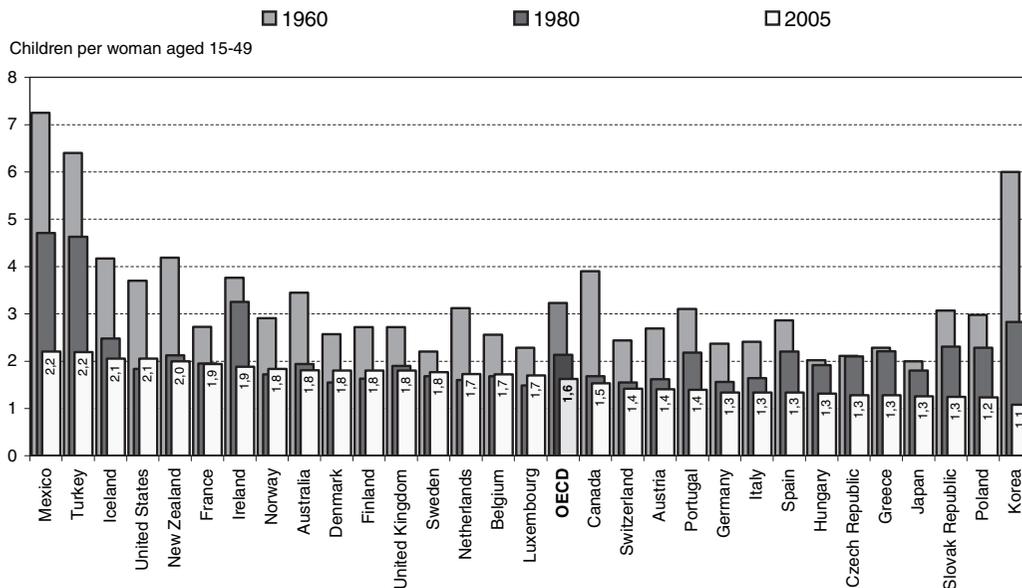
<sup>3</sup> The share of the population aged 65 and over is expected to grow from 14% in 2005 to 25% in 2050, on average across OECD countries. In Korea, the growth will be from 9% to 34%. The share of the OECD population aged over 80 is projected to rise from 2.5% to 7% in Korea, and from 1.5% to 5.2% in the OECD as a whole.

<sup>4</sup> The high cost of health care tends to occur in the year or two preceding death.

<sup>5</sup> The paper assesses the most recent evidence on trends in disability among the population aged 65 and over in 12 OECD countries: Australia, Belgium, Canada, Denmark, Finland, France, Italy, Japan, the Netherlands, Sweden, the United Kingdom and the United States. Dependency was defined, where possible, as one or more limitations in basic activities of daily living. There is clear evidence of a decline in disability among elderly people in only five of the twelve countries (Denmark, Finland, Italy, the Netherlands and the United States). Three countries (Belgium, Japan and Sweden) report an increasing rate of severe disability among people aged 65 and over during the past five to ten years, and two countries (Australia, Canada) report a stable rate

1.2 percentage point increase in the share of total health spending to GDP between 2000 and 2005, contrasting with the below-average increase of the 1989–2000 period (Table 2). Korea’s share of health spending in the economy remains below the OECD average of 9% and still somewhat below the level of health spending that can be expected from a country with Korea’s income level. But these

Figure 2. Fertility Rates, 1960, 1980 and 2005



Source: OECD Health Data 2007.

Table 1. Health Spending Growth Exceeds Income Growth

	Period 1989–2000			Period 2000–2005		
	Average real per capita health spending growth (%)	Average real per capita income growth (%)	Difference over the period (%)	Average real per capita health spending growth (%)	Average real per capita income growth (%)	Difference over the period (%)
Korea	6.2	5.	0.8	8.7	3.9	4.8
OECD average	3.8	2.2	1.4	4.5	2	2.5

Source: OECD Health Data 2007.

Table 2. Health Spending As a Share of GDP

	Korea	OECD average
1989	4.4	6.8
2000	4.8	7.9
2005	6	9
Difference between 1989 and 2000	0.4	1.1
Difference between 2000 and 2005	1.2	1.1

Source: OECD Health Data 2007.

trends are a clear illustration that, as the economy grows and national coverage expands, people demand health systems that deliver more and better health services.

### Rapid diffusion of technology

Technology advances encourage progress in the way diseases are treated. Yet, the diffusion of medical technologies is also one of the main drivers of health expenditure in all OECD countries. Purchasing power and reimbursement incentives, especially for purchases of diagnostic technologies, are positively correlated with the diffusion of these technologies (Eun–Hwan Oh et al., 2005; Slade and Anderson, 2001). Relatively low income and low public reimbursement for several high–cost technologies could have tempered incentives for the rapid diffusion of these services in Korea. But the high propensity of hospitals, almost entirely privately owned, to acquire expensive technology and seek high revenue by inducing demand for uncovered services has led to a relatively high rate of adoption of medical technology. Supply of high–cost, advanced medical technology such as CT scans and MRI is above the OECD average, and is the highest compared to OECD countries with similar purchasing–power parity income, such as New Zealand, Portugal and the Czech Republic (Figures 3 and 4). There is no technology assessment in Korea, and no government control of overall supply, which seems to have resulted in excess capacity (OECD, 2003).

### Strong projected cost increase

Recent OECD estimates suggest that strong increases in the public cost of health and long–term care can be expected over the next half century in all OECD countries (Oliveira Martins and de la Maisonneuve, 2006). The projections are based on assumptions that: i) population ageing will result in a postponement of death–related cost and of the on–set of illness and disability; ii) the cost of long–term care increases in line with ageing; iii) the demand for health care increases with income, with an income demand elasticity of 1; and iv) the impact of the non–ageing–related cost drivers, which include GDP growth but also technological change and relative health prices, is captured by a residual which in fact dominates ageing–related effects.

Cost increases are projected to range between 3 and 6 percentage points of GDP for the OECD as a whole, depending on the policy scenarios considered. Korea is projected to lie on the top end of the range (Figure 5). Under a so–called ‘cost–pressure’ scenario<sup>6</sup>, total public expenditure on health and long–term care would more than treble from 3.3% to almost 12% of GDP in 2050. Under a so–called ‘cost–containment’ scenario, total public expenditure on health and long–term would increase to around 9% of GDP in Korea in 2050. While these projections are based on a specific set of underlying assumptions, they do suggest that health spending is likely to place strong pressure on public finances and the overall cost of the health system over coming decades. Furthermore, considering that only

<sup>6</sup> Under the ‘cost pressure scenario’, cost pressures over and above the income effect will continue to drive health expenditure at the average OECD historical rate (1% per annum) until 2050. Under a ‘cost containment scenario’, extra cost pressures will gradually be brought under control and be reduced to zero by 2050 in all countries. A third assumption is made that each country will continue to experience until 2050 its own ‘country–specific’ residual effect in the past two decades, which in the case of Korea has been 2.4% per annum.

Figure 3. MRI Units, Number Per Million Population, 2005 (or latest year available)

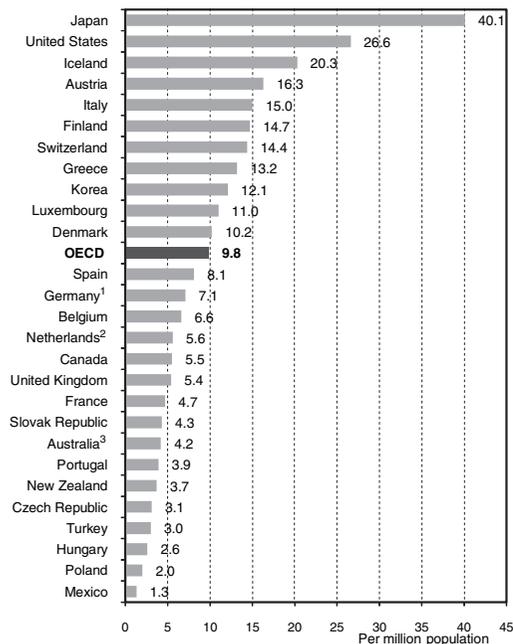
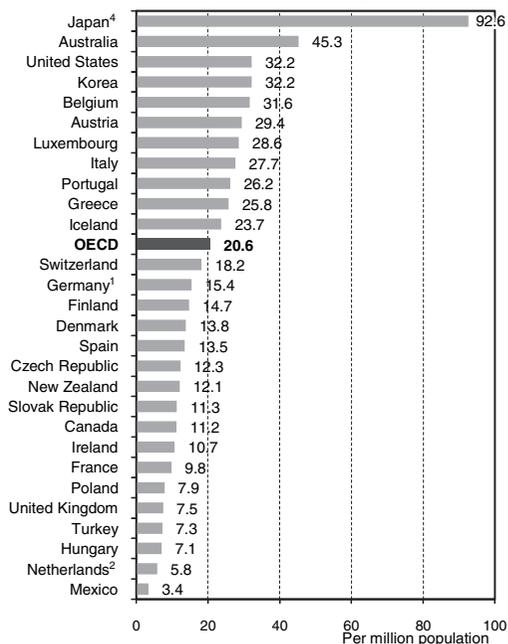


Figure 4. CT Scanners, Number Per Million Population, 2005 (or latest year available)



- Notes: 1. Data for Germany only include equipment installed in the hospital sector though there is additional equipment in the ambulatory sector that is not counted in official statistics.
2. The figures for the Netherlands under-estimate the real number of devices in that country, because they refer to the number of hospitals reporting to have at least one of these items of equipment rather than the total number of items of equipment in hospitals.
3. In Australia, data for MRI units, mammographs and radiation therapy equipment relate only to those eligible for reimbursement under Medicare.
4. In Japan, data for CT scanners relate to 2002 rather than 2005, because the 2005 data is more limited in terms of coverage of institutions and type of CT scanners.

Source: *OECD Health Data 2007*.

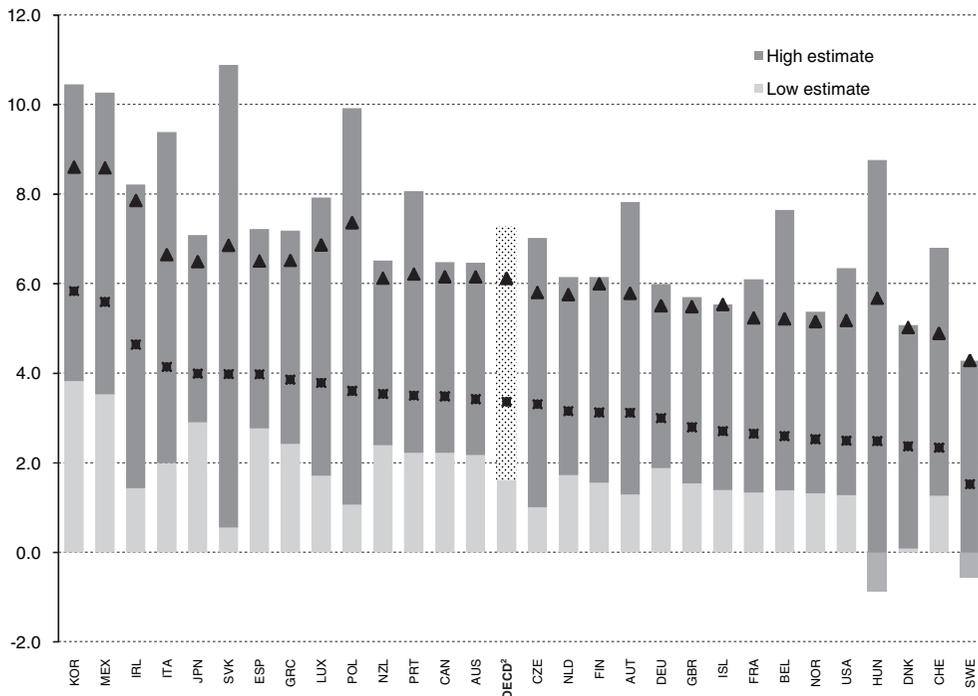
about half of health spending is financed publicly, *total* public and private spending on health and long term care in Korea could exceed 24% of GDP under a ‘cost pressure’ scenario and 18% of GDP under a ‘cost containment’ scenario in 2050 (Hurst, 2007).

Faced with rapidly ageing population, growth in demand, and the projected high growth of health and long-term care cost, Korea must adapt the supply of health and long-term care services to the changing needs of its population, provide high-quality care, and ensure that health financing is both sustainable and does not jeopardise access to care. These are not new challenges for Korea. In fact, many were already highlighted by the OECD in 2003.

#### IV. Areas for Reform

This section discusses three main areas for reforming the Korean health system: adapting supply to changes in need; enhancing access; and addressing financial sustainability.

Figure 5. Total Increase in Health and Long-term Care Spending by Country, 2005-2050<sup>1</sup>  
In percentage points of GDP



Notes: 1. The vertical bars correspond to the range of the alternative scenarios, including sensitivity analysis. Countries are ranked by the increase of expenditures between 2005 and 2050 in the cost-containment scenario. Turkey was not included because data limitations made it impossible to calculate one of the scenarios.

2. OECD average excluding Turkey.

Source: Oliveira Martins and de la Maisonneuve 2006, "The Drivers of Public Expenditure on Health and Long-Term Care: An Integrated Approach," in OECD Economic Studies no. 43, February.

## Adapting supply to changing needs

### *Preventing the onset of illness and disability*

As the population ages, the capacity to compress or at least non-expand morbidity and disability will have important implications on future health and long-term care cost in Korea. The potential contribution of certain public health interventions and, in particular, the promotion of healthy lifestyles is clear. OECD work on the determinants of variations in mortality across OECD countries suggested that premature mortality is positively associated with lifestyle variables such as alcohol and tobacco consumption (Or, 2000a and 2000b). According to WHO, at least a third of the overall disease burden in developed countries is caused by tobacco, alcohol, high blood pressure, cholesterol and obesity (WHO, 2002).

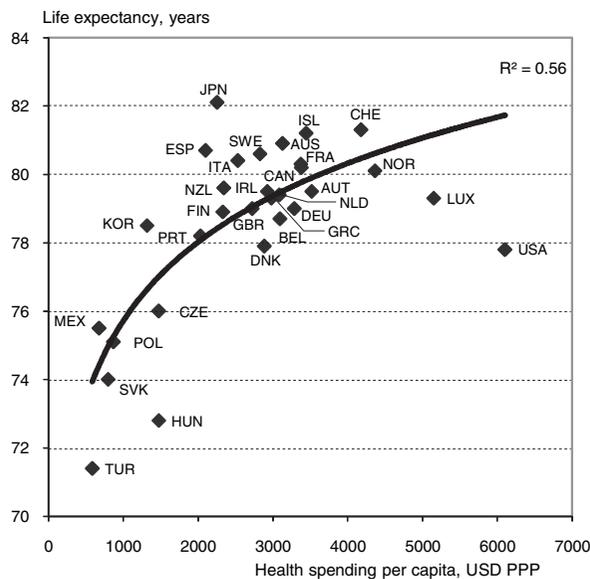
Korea has achieved dramatic increases in the health of its population over the past 40 years. Between 1960 and 2005, gains in life expectancy totalled 27 years—compared to an OECD average of 10 years. Life expectancy is above what could be forecasted given Korea's health spending (Figure 6). Many indicators of healthy lifestyles are favourable, although the country has developed some significant risky behaviours which may impact health outcomes, notably smoking and drinking.

Take smoking. Smoking rates for Korean women are the lowest in the OECD (4.6% of women smoking daily in 2005), although there could be substantial underreporting. Korean men, conversely, show the second highest smoking rate in the OECD: 46.6% of men smoking daily, nearly double the OECD average for men and women combined (Table 3). Such high prevalence seems to have an important economic cost for Korea, especially associated with high rates of stomach and lung cancer (Lee et al., 2007).

The evidence suggests that price increases through higher taxes, advertising and promotional bans, smoking restrictions, consumer education campaigns, and smoking cessation therapies are among the most cost effective measures for discouraging smoking (WHO, 2003). As in other OECD countries, Korea levies tobacco taxes and earmarks them to health. Moreover, taxation on tobacco was increased by six and a half times in 2001 (OECD, 2003)<sup>7</sup>. This, together with health education programmes promoting more healthy lifestyles, seems to have encouraged cuts in the rate of smoking among men—and also in the already low rates of women—in most recent years, as shown in Table 3.

Korea’s traditional diet—featuring limited caloric intake and high consumption of fruit and vegetables (Table 3)—places the country’s eating habits among the healthiest in the OECD area. This seems to have contributed to a low prevalence of obesity by OECD standards (Figure 7). Civil society and the government have invested heavily in mass-media campaigns and support to local farmers to promote high quality local foods. Since the 1980s, the Rural Living Science Institute has trained extension workers to provide monthly demonstrations of cooking methods for traditional Korean foods (WHO, 2002).

Figure 6. Life Expectancy at Birth and Health Spending Per Capita, 2005



Source: OECD Health Data 2007.

<sup>7</sup> Yet, funds raised from this source have been predominantly used to cover deficits in the NHI system rather than to fund public spending on health care.

Koreans are, however, showing signs of switching towards a Western-style diet with reduced consumption of cereals, increased consumption of fats and animal products, and increased dining outside the home (Lee and Sobal, 2003). During the past decade, obesity has increased substantially, leading to dramatic increases in type 2 diabetes and cardiovascular complications (Kim, Ahn and Nam, 2005; Park et al, 2007). Also worrisome are Korea's drinking habits. The country belongs to the upper third of OECD countries for the rate of alcohol consumption among the population aged 15 and over. Korea has the highest alcohol intake among OECD countries with comparable levels of per capita GDP. Retention of the healthy characteristics of the Korean diet and maintenance or rising of physical activities, especially among children and the elderly, is necessary to prevent further increases in overweight and obesity.

This evidence suggests that Korea's public health performance might offer grounds for improvement. Illness prevention and public health services have historically been weak in Korea, and considered as a matter of individual rather than collective responsibility. Overall, Korea spends on prevention and public health about 1.7% of its total expenditures on health, compared to an OECD average of 2.6 (OECD *Health Data* 2007). Partly, this low share comes from Korea's strong dependence on private sector financing, where the share of spending on promotion and public health is as low as 0.1%.

More recently, Korea has invested substantially in population health activities. A National Health Promotion Act was enacted in 1995. A white paper, the National Health Promotion Plan 2010, published in 2002, placed priority on reducing consumption of tobacco and alcohol, increasing physical activities, improving healthy nutrition, and strengthening management of chronic diseases. Large financial resources collected primarily through tobacco taxes have been added to the public sector funding.

However, it was not until 2006 that about half of these funds started to be actually allocated to health prevention. In 2003, for example, only 4% was earmarked to promotion, the rest being directed to finance curative activities of the NHI system. The structure needed to implement, coordinate and

Table 3. Indicators of Healthy and Risky Behaviours in Korea

	1990	2000	2005	OECD (2005)
Tobacco consumption—% of males daily smokers	65.7 <sup>1</sup>	52.9 <sup>1</sup>	46.6	29.8
Tobacco consumption—% females daily smokers	6.4 <sup>1</sup>	5.4 <sup>1</sup>	4.6	19.3
Total fat intake—grammes/capita/day	57.7	76.8	83.1 <sup>2</sup>	133
Total protein intake—grammes/capita/day	84.5	85.8	89.6 <sup>2</sup>	103.9
Total calories intake—calories/capita/day	3034	3052	3035 <sup>2</sup>	3406.8
Sugar consumption—kilos per capita	32.3	34.5	36.9 <sup>2</sup>	45.4
Fruits and vegetables—kilos per capita	248.4	299.8	275.1 <sup>2</sup>	223.5
Alcohol consumption—liters/capita (15+)	9.1	8.9	8.1	9.5

Notes: 1. Data refer to 2004; 2. Data refer to 2003.

Source: OECD *Health Data* 2007.

Figure 7. Percentage of Adult Population with Body Mass Index over 30 (Obese Population), 2005 or Latest Year



Note: 1. For Australia, Czech Republic, Luxembourg, New Zealand, the United Kingdom and the United States, figures are based on health examination surveys, rather than health interview surveys.

Source: *OECD Health Data 2007*.

evaluate health promotion efforts is still underdeveloped. To date, there is no systematic evaluation of health promotion policies, nor any system for channelling information on public health performance from the local to the national level (Nam and Engelhardt, 2007). There is also a risk that expenditures on curative services may crowd out population health resources because incentives built into the Korean health systems remain directed at curing disease. Immunisation provides an illustrative example. National vaccination services are not included in the cover provided by the NHI (Moon and Shin, 2007). A large proportion of Korean families choose nonetheless to bear privately the cost of vaccination against diphtheria, pertussis and tetanus (DPT) (97% of children being vaccinated in 2005) and for measles (90% of children). Another example is the medical education system. Only one university offers master-level courses in health promotion and prevention (Nam and Engelhardt, 2007). Despite recent efforts to add graduate and undergraduate health education courses, the system of medical training and education curricula leans towards curing illness. Finally, the concept of health

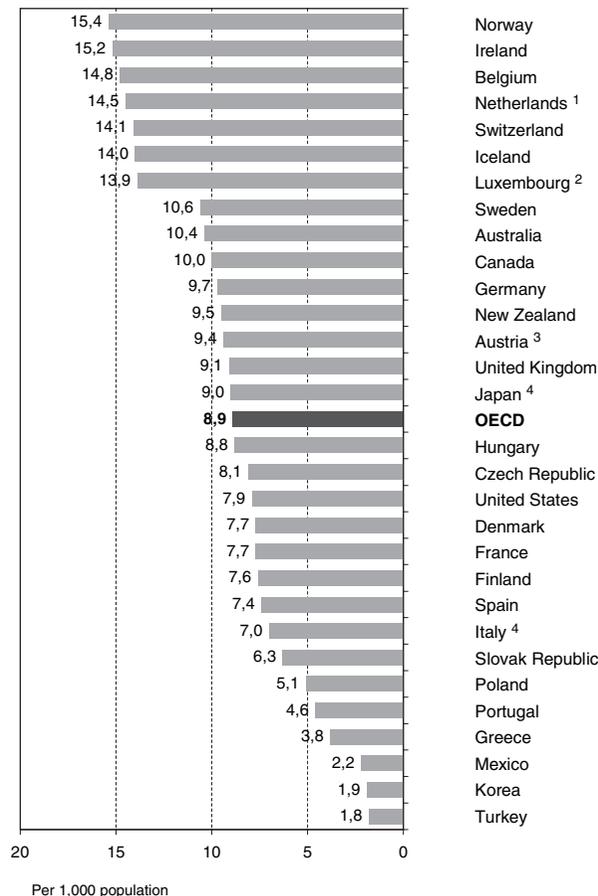
promotion is still associated with specific programmes, such as tobacco control, and specific providers, such as public–health centres. Korea is only slowly adopting a more integrated view of health promotion and prevention, combining interventions in different care and cure settings.

### *Providing the providers*

Human resources are critical for providing high–quality health services to the Korean population, especially in light of the expected rise in demand over the next decades. Although capacity remains considerably below the OECD average, Korea is investing heavily in training new doctors and nurses.

At 1.6 per 1000 population, the number of doctors in Korea is the second lowest among OECD countries after Turkey, and much below the OECD average of 3 per 1000 population (OECD *Health*

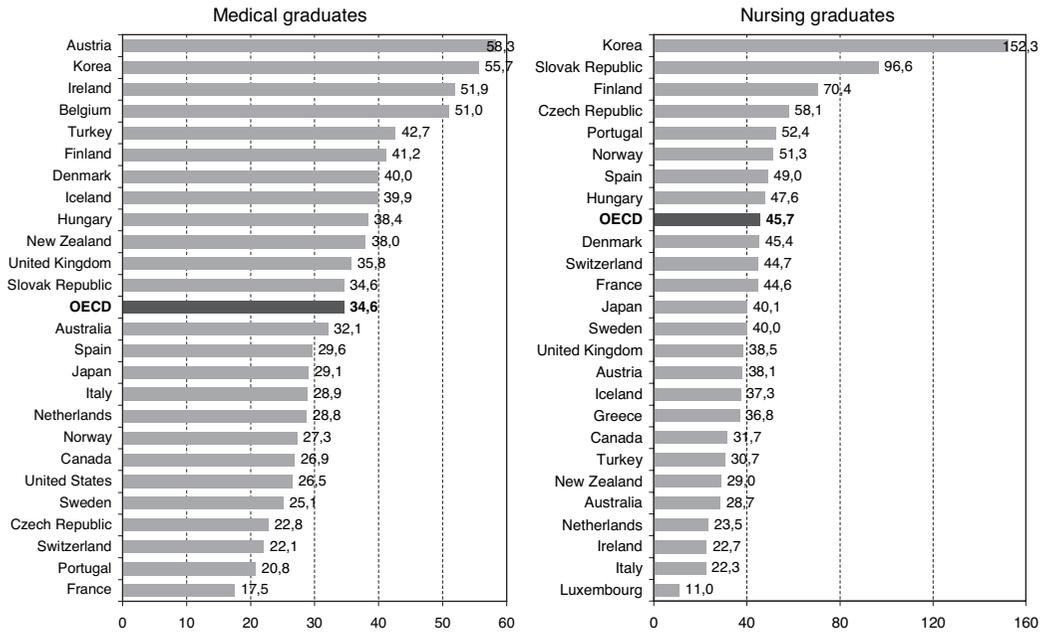
Figure 8. Practising Nurses per 1000 Population, 2005 (or Latest Year Available)



Notes: 1. The Netherlands reports all nurses entitled to practise rather than those practising only.  
 2. Luxembourg includes nursing aids.  
 3. Austria reports only nurses employed in hospitals.  
 4. The calculation of average annual growth rate for Japan and Italy is based on a slightly different time period to avoid break in series resulting from methodological changes.

Source: OECD *Health Data 2007*.

Figure 9. Medical and Nursing Graduates per 1000 Physicians/Nurses, 2005 (or Latest Year Available)



Source: *OECD Health Data 2007*.

Data 2007). Even more striking is the picture for nurses, accounting for 1.9 per 1000 population in Korea, against an OECD average of 8.9 (Figure 8). Korea is investing considerable resources in training new health professionals; in 2005, it ranked at the top among its OECD peers in the number of new medical and nursing graduates relative to the existing professional populations (Figure 9). Strong investment in human resources reflects an expansion in the number of medical schools and in entrants since the early 1980s (OECD, 2003). The number of doctors doubled between 1990 and 2005. Similarly, the number of practicing nurses has risen sharply, up from 1.1 in 1994, mirroring significant training investment.

Despite strong training rates, the rapid ageing of the Korean population will both increase the demand for health professionals and reduce supply due to retirements. This may necessitate Korea’s adopting an overall strategy for health workforce, even if largely decentralised human–resource policies may make this hard. As the working population declines, health professionals should be encouraged to delay retirement, as with the workforce in general. Korea may also face a need to recruit health professionals internationally. Rapid wage increases and labour shortages since the late 1980s led to employment of workers from numerous Asian countries. Coordination of human resource and migration policies will help to bring about efficient utilisation of skills<sup>8</sup>.

There is no explicit policy for enhancing retention and improving working conditions, or for reducing burnout, particularly for nurses. Despite vacancies registered at health care institutions, only

<sup>8</sup> Unfortunately, data on the stock and flows of foreign trained and foreign–born health professionals in OECD countries, recently analysed by OECD, are not available for Korea (Dumont and Zurn, 2007).

60% of licensed nurses were employed in health care services in 1998. Dissatisfaction with working and pay conditions, as well as difficulties in reconciling work and family life, are major factors pushing nurses to leave the profession in Korea. This suggests that better recruitment and retention would go a long way in addressing projected shortages. Desirable practices may include arranging childcare and flexible working schedules, as well as improved salaries and educational grants (Park and Choi, 2001).

### *Extending long-term care services and capacity*

Korea will need to introduce policy changes to address the social and health care needs of an ageing population and the pressure this exerts on delivery systems, particularly given the reduced supply of informal care and possible increases in the numbers needing care<sup>9</sup>.

More than 86% of the over 65 elderly have one or more chronic diseases and 19% are fully dependent on others for their activities of daily living (ADL), such as bathing, feeding, moving around and using the toilet (Cho et al., 2004). Most elderly people who need support with ADL are cared for informally in families. However, systems of support to elderly people are changing rapidly. Traditionally, families of three or four generations lived under the same roof. Today, most Koreans live within nuclear families consisting of parents and their children. The decline in fertility, increased female participation in the labour market, and changes in social attitudes towards family roles, have all reduced the supply of informal care and changed caregiving modes. These trends are likely to continue into the future.

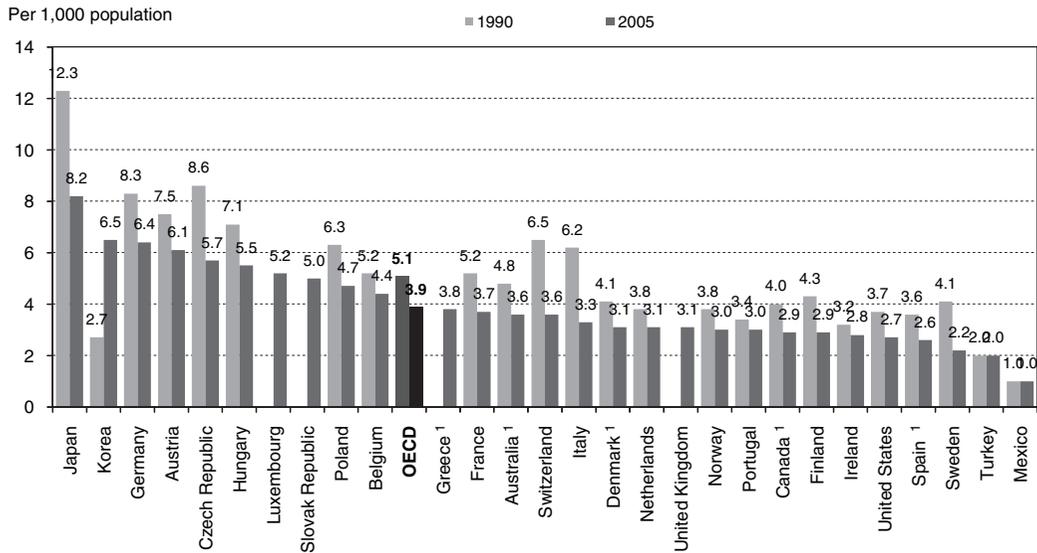
Long-term care (LTC) beds in hospitals and in nursing homes offer health and nursing care to elderly people with chronic illness and disability. However, formal systems for providing home and institutional care are not well developed yet. For example, in 2002, there were only 54 LTC hospitals and 171 residential or nursing home facilities in Korea (Kwon, 2006). In 2001, only 0.39% of the population aged 65 and older could be accommodated in LTC beds (Cho et al., 2004). As in the case of Japan, shortage of long-term care beds has encouraged costly ‘social admissions’ where ‘acute care’ beds may be inappropriately devoted to long-term care use, lengthening the duration of stay in acute settings (Jeong and Hurst, 2001; Hurst, 2007; Cho et al, 2004). Research suggests that at least 14% of inpatient cases in acute care hospitals were inappropriate in 2001 (Kwon, 2006). In marked contrast to the trend in other OECD countries, the number of acute care beds in Korea increased rapidly between 1990 and 2005—from 2.7 to 6.5 per 1000 population—and is now one of the highest in the OECD (Figure 10)<sup>10</sup>.

As of 2001, only 18.8% of surveyed elderly expressed the intention to use LTC formal facilities, according to the Korean National Survey of LTC Need (Kim and Kim, 2004). Nonetheless, the

<sup>9</sup> Using data from the 2001 Korean National Survey of LTC Need in the Elderly, Ko et al. (2007) observe that the number of persons with dementia has increased dramatically in Korea and this trend is expected to continue to grow. This will imply significant economic and social cost for the future (Suh et al., 2006).

<sup>10</sup> Besides the use of acute care beds for long-term care treatment, this may be encouraged by the lack of capacity planning for hospital beds and investment incentives in the private, profit-oriented hospital system of Korea (OECD, 2003).

Figure 10. Acute Care Hospital Beds per 1 000 Population, 1990 and 2005



Note: 1. Data for these countries refer to 2004.

Source: *OECD Health Data 2007*.

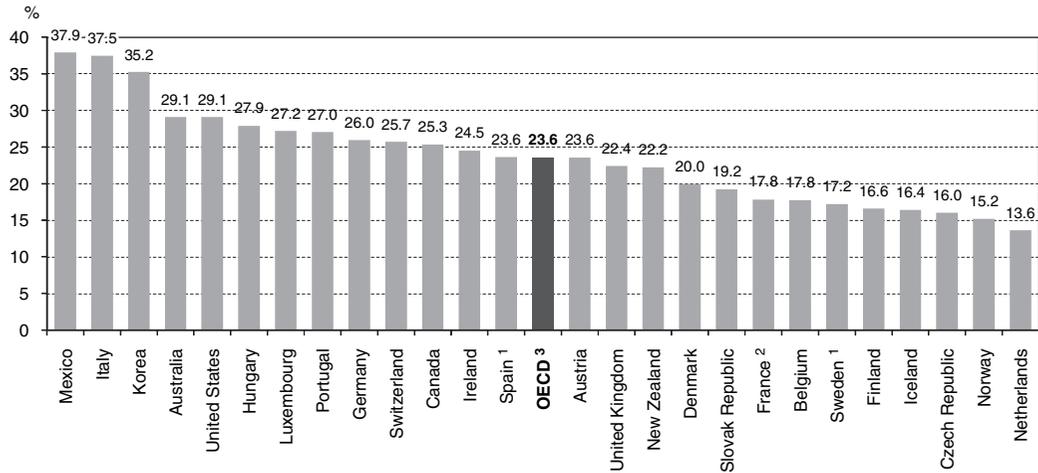
urgency of providing LTC beds in retirement centers and nursing homes is well recognised. The Korean government is considering expanding long-term care services. It also plans to enhance early discharge programmes for patients in need of LTC, with a view to reducing lengths of stays in hospitals and hence costs (Ryu et al., 2005).

New institutional arrangements and medical facilities will also be necessary. First, few health care personnel have been trained in geriatric home care. Second, neither the NHI nor the government has made much attempt to develop a system of home care for the elderly (Cho et al., 2004). Priority is given in developing community health centres for care (Ryu et al., 2005). Yet, home-care services for dependent people would seem to be particularly desirable in Korea. Besides helping to contain cost, these arrangements offer the advantage of allowing the elderly to remain in their own homes. Home care enables informal caregivers to continue to play a role, especially when they are supported by formal caregivers or cash benefits. Many OECD countries have encouraged a shift in long-term care services away from long-stay institutions and towards home care. Last, continuing to support the role of informal care would be an important objective for Korea. This could be done by making monetary compensation available to enable carers with jobs to work part time or give up their employment, and by providing short-term respite care (Hurst, 2007). However, there may be a trade-off between encouraging spouses or children to provide informal care and encouraging them to remain in the workforce.

*Better quality of care*

Professional self-regulation is the prevailing approach to ensuring technical quality of care in Korea. Traditionally, the government has limited its involvement in this area, adopting a laissez-faire

Figure 11. Caesarean Sections per 100 Live Births, 2004



Notes: 1. Data refer to 2003; 2. Data refer to 2001; 3. The OECD average consists of the latest available data for 26 OECD countries.

Source: *OECD Health Data 2007*.

policy which avoids interfering with the clinical autonomy of health professionals. There is no national performance framework, nor public scrutiny of quality of care. Furthermore, the current fee-for-service arrangements encourage doctors' productivity but do not provide incentives to avoid provision of unnecessary care, nor compensation for the development and adoption of guidelines and standards of practice. This approach has led to excess use of certain care services, notably the use of injected drugs and antibiotics<sup>11</sup>, and caesarian section rates are over 40% (Figure 11).

In 2003, the OECD recommended reforms to enhance clinical regulation, suggesting developing protocols of clinical practice and implementing effective quality-monitoring mechanisms. In addition, cooperation across medical professionals to adopt evidence-based best practices was advocated. One way to stimulate quality improvements in health provision would be to pay providers on the basis of performance or to reward higher standards. As the single public health insurer, the NHI could utilise its purchasing power to link financial incentives to clinical performance and "good practice." The idea of rewarding medical facilities which demonstrate higher quality standards already exists in Korea. So-called "green facilities" are exempted from the audit of claims for a period of two years. The ability to develop this system further, for example by including financial incentives for good practice, will hinge upon the ability to implement guidelines and protocols of good practice, and the success in monitoring providers' behaviour. In order to motivate individuals to choose best practice medical facilities, co-payments for patients treated in those facilities could be lowered.

To date, the Korean government has made only cautious moves in the direction of better clinical regulation. A new policy to evaluate hospital quality was implemented in 2004, which assigned responsibility for quality assessment to a committee of providers and civil-society stakeholders. Since

<sup>11</sup> The use of antibiotics and injections is notably high in Korea (OECD, 2003). For example, prescription rates of antibiotics for acute upper respiratory infections was 64% in 2002 (Kwon, 2005a).

2005, the Ministry of Health and Welfare has disseminated information on providers' performance in relation to the overuse or misuse of health care (Kwon, 2005a). The policy is expected to empower consumers and help them choose providers, thereby exerting an effect on regulation of clinical practice.

Implementing quality of care assessment and improvement initiatives can nonetheless be challenging. Technical difficulties can jeopardize accurate measurement. Public disclosure of indicators and their use to steer clinical practice is not without risk. The choice of indicators will influence decisions over the quantity and mix of care provided, while errors in measurements may penalise good practice (or reward underperformance) and will reduce public confidence. In Korea, resistance from private providers and the traditionally idiosyncratic nature of the medical education system and of professional practice also militate against transparency and public accountability. Overcoming provider resistance, improving the choice and the collection of accurate nation-wide quality indicators, and careful use of those indicators to steer clinical practice would be in the interest of patients.

### Ensuring adequate coverage of health care

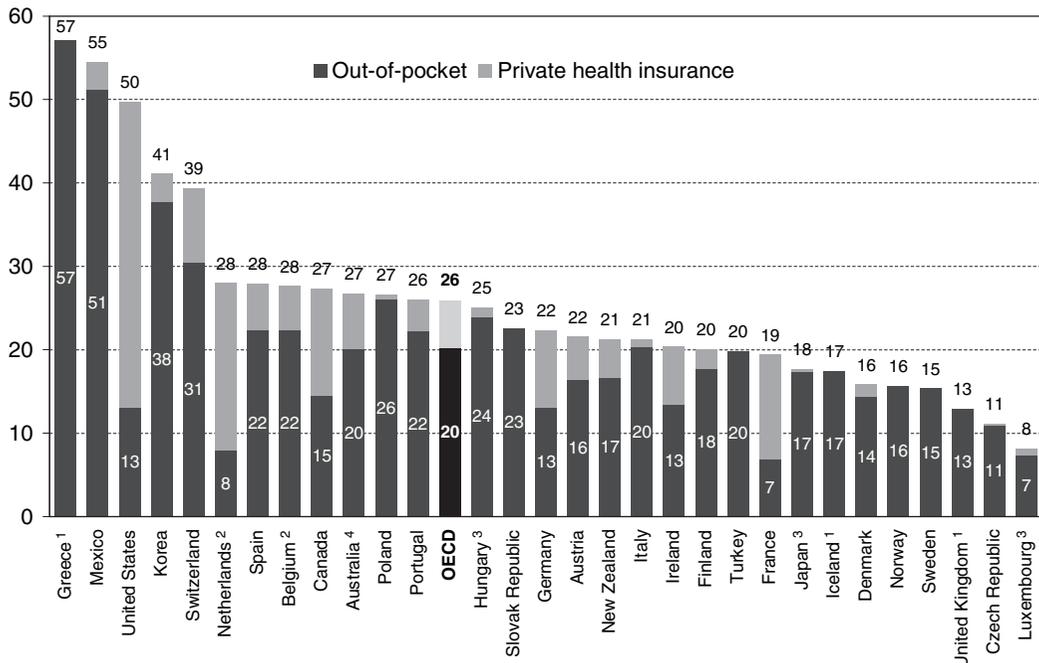
Like most OECD countries, Korea has achieved universal coverage of health-care costs for a core set of services (OECD, 2007a). In 1980, insurance coverage of inpatient and acute-care services was the lowest in Korea (29.8% of the population) among all OECD countries (OECD *Health Data 2007*). The policy followed by the government to promote universal coverage at low cost by offering limited benefits and requiring high levels of cost sharing was remarkably successful. By 1989, Korea achieved universal public health coverage. But to do this, the Korean government had to sacrifice both the breadth and the depth of coverage.

Since 1989, the NHI has been progressively expanded by adding new benefits. This allowed out-of-pocket spending to drop from a high as 62.5% of total health spending in 1980 to 57.5% in 1990, and to 37.7% in 2005 (OECD *Health Data 2007*). Yet, Korea still features the third largest share of out-of-pocket spending in the OECD, following Greece and Mexico and preceding Switzerland (Figure 12). This is also larger than that of other countries without universal health coverage, such as the United States and Turkey. As a consequence, improving the comprehensiveness of coverage and reducing financial vulnerability for the insured population remains an open challenge.

Out-of-pocket spending consists of direct household payments for uninsured services and cost sharing on public coverage systems. The decrease in out-of-pocket spending experienced by Korea has been driven mainly by a reduction in direct payments by households for services excluded from NHI cover. In 1980, direct spending by households, excluding cost sharing, accounted for 90% of total out-of-pocket payments. By 2005, this share had been reduced to 62% of total out-of-pocket payments. Today, out-of-pocket spending for uninsured services accounts for 23.4% of total health spending in Korea, a share comparable to that of Switzerland (24.8%) (OECD *Health Data 2007*).

These data reflect the progressive addition of new benefits to the NHI cover and a reduction in cost sharing. The National Health Insurance Act that took effect on 1 July 2000, added coverage for a

Figure 12. Out-of-pocket and Private Health Insurance Spending as Share of Total Expenditure on Health, 2005



Notes: 1. Separate estimates of PHI not available. 2. Share of current expenditure rather than total. 3. Data refer to 2004. 4. Data refer to 2004/05.

Source: *OECD Health Data 2007*.

number of preventive care and rehabilitation benefits. Magnetic resonance imaging and CT scans have recently been added to the NHI cover. The Ministry of Health and Welfare designed a roadmap to enhance coverage for previously uninsured drugs and tests for patients treated for cancer, open-heart surgery and brain surgery, with the aim of reducing their medical expenses (Kwon, 2005b). Catastrophic coverage for out-of-pocket payment exceeding a set ceiling was also introduced<sup>12</sup>. The Medical Aid Programme (MAP), Korea's social assistance programme providing a safety net for the most destitute, covered 3.6% of the population in 2005 (Korean Ministry of Health and Welfare, 2006). This is about the same proportion covered in 1999, but, as the share of the poor in the population has fallen, this indicates less strict criteria for eligibility to the MAP. Among the uncovered services remain expensive diagnostic tests, such as ultrasonography (Prah Gruger and Kim, 2007).

Despite the gradual inclusion of previously uninsured benefits within the coverage package, out-of-pocket payments and patients' sharing in the cost of publicly covered services remain relatively high in comparison with other OECD countries. This is not per se problematic, if it does not raise out-of-pocket spending to catastrophic levels for some households; if patient access, particularly for the chronically ill and the poor, is not negatively affected; and if cost sharing serves its intended purpose

<sup>12</sup> There is a ceiling set at half of the co-payment for bills exceeding USD 1,200 over a 30-day period. There is also a ceiling for co-payments over USD 3,000 in a 6-month period (Hurst, 2007).

of moderating health expenditure growth. However, evidence in these respects is not conclusive.

At the time the OECD reviewed the Korean health system, many citizens were left relatively unprotected in times of financial distress. Financial barriers to access could become insurmountable for some Koreans 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 constrained individuals' access to care (OECD, 2003).

Using data from the 1998 Korean Health and Nutrition Survey, recent analyses on the impact of out-of-pocket payment on medical utilisation confirms that these payments are regressive in Korea (Prah Ruger and Kim, 2007; Kim, Ko and Yang, 2005). Lower-income individuals spend a disproportionately larger proportion of their income on out-of-pocket payments for health than do higher-income groups. Financial vulnerability and sensitivity to cost sharing appear especially to be an issue for the lowest income groups and those with chronic conditions. This is also confirmed by analysis on inequities in utilisation of health services for low-income individuals in need of cancer treatment (Kim, Lee and Hong, 2005).

Access to treatment seems to vary across different types of care. Higher-income groups receive preferential access to outpatient care at medical institutions (Lu et al., 2007). An analysis of the financing mix of different types of services suggests the public share of inpatient expenditures (at 66.4% in 2001) to be much lower than the OECD average of 82% (Orosz and Morgan, 2004). Meanwhile, the publicly funded share of medical goods and medicines, which had increased dramatically following the separation reform, has reached a level above the publicly funded share for outpatient care, unlike most OECD countries (Jeong, 2005). Although the public share of health spending has grown over the years, these data suggest that Korea may need to reconsider prioritisation of its publicly-funded benefit package (Jeong, 2005).

Unfortunately, data to assess the impact of recent service-coverage expansion on access to care and financial vulnerability is not available yet, to the authors' knowledge. Analysis would also be necessary to assess whether the decision to expand services by disease category is the most appropriate policy both on the grounds of reducing financial vulnerability and on the grounds of cost-effectiveness of covered services. Finally, subject to data availability, the impact of informal treatment charges on access would require investigation.

Concerning the issue of whether cost-sharing serves its purpose of moderating health expenditure growth, the Korean government has adopted a policy of extensive patient cost sharing to control health care costs, on the assumption of high out-of-pocket price sensitivity of demand. Higher cost sharing is applied to general hospitals, under the assumption that this will reduce utilisation<sup>13</sup>. However, according to one analysis, this health care market segment is less sensitive to cost sharing. Contrary to the objectives of the Korea government to reduce outpatient flows to general hospitals, such cost sharing would not therefore entail a significant reduction in utilisation, nor a decrease in moral hazard (Kim, Ko and Yang, 2005). An improved financial framework will be needed to achieve the objective

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<sup>13</sup> The cost sharing schedule set by the Korean government varies by facility used and by type of service.

of ensuring cost containment, without jeopardising access.

### Ensuring long-term financial sustainability and value for money

The 2003 OECD Review analysed the 2000 fiscal crisis of the NHI system. This crisis—although the result of several factors—was a clear demonstration of the then financial vulnerability of the Korean National Health Insurance system. Historically, the Korean NHI had levied low social health insurance contributions in order to reduce the burden on non-wage labour cost and thus promote the competitiveness of its industry. While the NHI has recovered from its deficits, this was mainly thanks to a rise in the government subsidy to the NHI, in large part financed by an increase in the tobacco tax. It was not the result of reforms tackling the root causes of the financial crisis.

Growing demand for health and long-term care, linked, among other things, to population ageing, is likely to exercise considerable pressure on spending in the future. Against this background, maintaining NHI expenditure at a sustainable level is going to be critical over the medium to long term. Action is needed at several levels, including raising contributions to finance cost increases, extracting value for money through revising provider payment mechanisms, improving the regulation of private health insurance, and introducing carefully designed insurance for long-term care services. Such steps will help to reduce fiscal pressure on the NHI and create the conditions for an expansion in the coverage of health and long-term care services.

### *Increasing financing of social health insurance*

At around 4 percent of income, the contribution rate of the Korean NHI is well below the level in other social health insurance systems in the OECD, such as, for example, France, Germany or Japan. While this has enabled Korea to achieve universal coverage without imposing much of a burden on the economy and industry, raising contribution rates now appears inevitable, considering both the projected rise in health expenditure and the policy pursued by the Korean government to reduce cost sharing on publicly covered services and to expand coverage, in order to improve access.

It is likely to be difficult, and not desirable, to raise contribution rates to levels comparable to those of social insurance systems in other OECD countries. A large and abrupt rise in contributions would lead to higher non-wage labour cost and damage industry. Furthermore, consumers and payers in Korea are reluctant to support big rises in contributions because they fear that it might result in higher providers' income rather than in an expansion in services. There are also concerns regarding inequities in contributions, particularly as a result of incentives for underreporting and of difficulties in assessing the income of the self-employed (Kwon, 2007). The government is also unfavourably disposed towards major increases in general taxation to finance health care.

Given these concerns, Korea should pursue a policy of gradual and moderate expansion in the NHI contribution rates (and in other fiscal sources) to finance health cost. In addition, a rise in contribution rates would be acceptable only if Korea were able to ensure benefit coverage expansion. What are needed, above all, are reforms to improve value for money in the purchasing and delivery of health services. This will be even more necessary if one considers that population ageing will reduce the pool

of contributors in the NHI “pay-as-you-go” system.

### *Reforming providers' payments*

The 2003 OECD Review suggested that the fee-for-service payment and the lack of gate-keeping had led to incentives for over-provision of services. The Review recommended a more active role for the NHI as the buyer of health services, as well as provider-payment reforms to enhance value-for-money incentives in service provision.

The projected rise in health care costs, the recent expansion in coverage and the declining (albeit still high) reliance on cost-sharing mechanisms to control cost, make policies to regulate the supply side more pressing. Workforce policies have focused primarily on controlling remuneration through fee setting in the NHI system, in the interest of reducing cost. But this policy has shown its limits, and, following the separation reform, medical fees had to be raised substantially to placate striking doctors. Furthermore, current payment arrangements in both the ambulatory and hospital sectors do not encourage clinical and cost efficiency. The fee-for-service environment encouraged supplier-induced demand, particularly for the most remunerative services.

Improving payment mechanisms is clearly a key area for enhancing value for money from health-service supply. Reforms in many OECD countries have encouraged a shift towards prospective—as opposed to retrospective—pricing payments for providers, more active purchasing, and contracting by payers of hospital care (Docteur and Oxley, 2004; OECD, 2004a). While offering the potential for significant gains, however, reforms in this area have remained limited in Korea to date.

The NHI initiated a pilot Diagnostic Related Groups (DRG) payment reform for voluntarily participating hospitals in 1997. To encourage enrolment in the voluntary system, the process of review of claims filed for payment by providers to the NHI was softened for participating hospitals. The length of stay of patients in institutions that adopted DRG payments appears to have decreased compared to those remaining in institutions that did not implement DRG payments, with few changes in providers' behaviors which may impact outcomes (Lee and Lee, 2006). This suggests that the cost efficiency of the Korean hospital system may be enhanced by wider adoption of the DRG system. Furthermore, the introduction of a mechanism whereby the level of fee payment could be adjusted downwards if volumes exceed forecasts, as in the German system, would encourage financial sustainability. Such payment mechanism, already suggested by OECD in 2003, could also be applied to ambulatory care.

Provider payment incentives will be critical to achieving efficiency also in the upcoming long-term care insurance scheme. In 2005, the Korean government implemented prospective payments for voluntarily participating long-term care hospitals. Fees were based on different per-diem rates according to the functional status of the users, defined in terms of Activities of Daily Living. An analysis found that expenditure in LTC hospitals that participated in the pilot decreased by 9%, with no rise in medical complications, compared to a 2.7% expense increase for non-participating LTC hospitals over the same period. This is despite the fact that participating hospitals classified a large number of users into groups with higher functional and physical impairment—corresponding to higher

payments (Kwon et al., 2007).

Payment reforms are difficult to design and to implement. Incentives inherent in a payment system will induce reactions in providers that may run against the reform efforts. The adoption of a payment reform will also encounter significant opposition from powerful providers' groups. For example, the government's original plan was to introduce DRG-based payments for all institutions. But doctors' strikes that followed the implementation of the separation reform forced the government to abandon initial plans, making the DRG payment reform voluntary (Kwon, 2007). Policy makers should work both on designing greater incentives for providers' participation in new payment systems and on creating broad partnership with all stakeholders to make reforms in this area acceptable.

### *Carefully designed role for private health insurance*

The desirable role for private health insurance (PHI)<sup>14</sup>, and the impact of market development on health system performance, is currently the object of much controversy in Korea. This voluntary form of coverage is seen by some as an opportunity to enhance access to care, particularly considering high out-of-pocket payments. However, the way private health insurance interacts with publicly financed health coverage will have significant consequences for the financial sustainability of the Korean health system.

The share of the population covered by PHI varies considerably across the OECD. Of the 23 countries for which data are available, only 5 (Netherlands, France, United States, Canada and Ireland) reported private coverage for over half of the population in 2005 (OECD, 2007a). The role of private health insurance also varies across the OECD. In some countries, it is the primary source of health coverage for at least part of the populations; in others it duplicates the public system, offering a private alternative; and finally it can act either as a complement or as a supplement to public programmes (OECD, 2004b; Colombo and Tapay, 2004).

Private health insurance can help governments attain health system performance goals, but can also put them at risk. The effect depends, in part, on the role of private health insurance, in terms of market size and ways it interact with public systems. In countries where PHI plays a prominent role, it can be credited with injecting additional financial resources into health systems and helping to make them more responsive. However, it has also given rise to considerable equity and cost-control challenges in most of those same countries (OECD, 2004c).

In Korea, private health insurance—defined as coverage against a set of health services—is still relatively underdeveloped. However, a large market for disease-specific policies, providing a lump-sum payment in the occurrence of defined critical illnesses (e.g., cancer) has developed<sup>15</sup>. One study

<sup>14</sup> OECD (2004b) defines private health insurance as “coverage of a defined set of health services financed through private non-income-related payments (premiums) made to an insuring entity. This coverage guarantee is usually set forth in a contract between a private party and the insurance entity that spells out the terms and conditions for payment or reimbursement of health services. The insuring entity assumes much or all of the risk for paying for the contractually-specified services.

<sup>15</sup> These disease-specific policies are not included in the number of people covered by private health insurance in OECD health data. Critical illness policies, which essentially pay benefits in a similar way as life insurance, exist also in other OECD countries.

found that 43.9% of cancer patients had a disease-specific private coverage offering a sufficiently large lump sum to pay for the cost of cancer treatment (Lim et al., 2007). More recently, indemnity insurance offering gap coverage against the out-of-pocket expenditure faced by patients has developed. According to another study, 38% of the population purchased critical-illness or gap insurance policies in 2001 (Jung and Hee, 2006). The industry is now looking at developing disease-specific products into policies that would reimburse individuals for the cost of a defined set of health care services not included in the NHI cover.

There are two main roles that private health insurance could have in Korea: supplementary (i.e., coverage of goods and services not included in the NHI) and complementary (i.e., covering of cost sharing on the goods and services included in the NHI). Considering the large share of out-of-pocket health spending, private health insurance could help extending access to care for the population. In this respect, performance will largely depend on who buys cover (i.e., high-income and low-risk individuals versus those most financially vulnerable to out-of-pocket payments) and on how broad is the pool of health goods and services that PHI will be covering (i.e., medically needed care for which people experience access difficulties, or comfort services).

However, extending PHI to complementary coverage for cost sharing applicable to NHI services raises significant policy trade-offs. While potentially enhancing access to partially covered services, it removes the incentives for patients to consume medical services parsimoniously and for providers to restrain from supplying unnecessary care, especially those services with high price elasticity of demand. This will have undesirable consequences for cost control in the social health insurance system. Maintaining at least some modest cost sharing that cannot be covered by insurance helps control cost in public systems (OECD, 2004c), particularly in those systems like that of Korea that rely on fee-for-service incentives for providers. Policy makers in Korea should consider carefully the most efficient strategy to expand access for those services where high cost-sharing rates lead to barriers to access; the fiscal cost of expanding public coverage should be considered against the inefficiencies and cost pressures that would follow a policy of allowing PHI coverage of cost sharing on those services.

### *Achieving sustainable financing of long-term care cost*

Rising demand for long-term care (LTC) will put strong pressure on the Korean health systems and society. OECD projections suggest that Korea will spend between 3.1% and 4.1% of its GDP on public LTC (under different policy scenarios) in 2050—compared to 0.3% in 2005 (Oliveira Martins and de la Maisonnette, 2006). Korea would spend on public LTC alone over half of what it currently spends on health care.

Korea will need to choose how to finance future LTC cost. A consensus regarding what share of the LTC burden would be borne privately and collectively is needed. Long-term care spending involves a mix of medical and social care for the frail elderly. Today, many OECD countries finance a significant share of this cost privately. In Korea, government policy has traditionally assigned greater priority to “cure” as opposed to the management of chronic conditions and rehabilitation, and considered “care”

to be a private matter (Oh and Warnes, 2001). Mutual and family obligations, including the provision of in-kind care, continue to be important in the context of health and ageing. But, as the costs of LTC are due to rise, elderly people may face catastrophic expenses that can quickly deplete personal assets. Furthermore, societal transformations are reducing the importance of informal care provided by families (Kwon and Holliday, 2007). These transformations are likely to raise major questions for policies in Korea, because ageing is occurring faster than in most other OECD countries, and public social spending starts from a lower level than, for example, in EU countries (Scherer, 2003)<sup>16</sup>.

Korea will also need to consider whether collectively-financed LTC benefits should accrue universally or be targeted. OECD countries use different approaches to identify care beneficiaries. According to a review of LTC programmes for older people across 19 OECD countries, publicly-financed care is available to all dependent people in about half of the countries reviewed, while another half targets public financing of LTC services to the poorest, the most dependent, or both (OECD, 2005)<sup>17</sup>.

Today, Korea adopts stringent targeting of (relatively limited) LTC benefits. Public tax-based funding under the “Older Persons Welfare Act” is restricted to poorer elderly people. Care is provided free of charge to elderly people who are on social assistance benefits, and on a subsidised basis to elderly people on the margins of the social-assistance level. Those with higher incomes have to meet the total cost themselves (OECD, 2005). Discussions concerning whether to continue to grant publicly-financed LTC benefits on a targeted basis or begin to grant them universally, have gained increasing attention in policy discussions in Korea.

In this context, appropriate financing mechanisms will be needed. OECD countries fund public LTC cost through taxes or social health insurance contributions, often, but not necessarily, following similar arrangements to those used for health care services. Financing through earmarked insurance contributions is generally associated with the granting of benefits on a universal basis, although the amount of the benefit can be adjusted to the need and income of the recipients.

At the time this article was prepared, the Korean government was working on establishing a new LTC social insurance scheme for the elderly to be launched by 2008. The government’s reluctance to raise general taxes and the potential for administrative synergies with the existing NHI system explain the government’s preference for funding the new LTC scheme through social insurance financed by contributions. The new system is nonetheless expected to be funded partly by general taxation to cover subsidies for the poor, and by an element of co-payments to limit public cost, in line with arrangements used for health care (Kwon, 2006). Detailed decisions on design and implementation have not yet been announced and pilot studies are being implemented in several regions of the country.

The performance of the proposed new funding system, particularly with regard to financial

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<sup>16</sup> According to Scherer (2003), public social spending in the EU amounts to 34 per cent as compared to 7.0 per cent in East Asia.

<sup>17</sup> Obviously, the minimum benefit provision under both universal and targeted systems can be more or less generous, depending on the wealth of a country and on its public finances.

sustainability, will depend largely upon what choices are made about some key design features.

First, while it may be difficult to split medical from social care in service provision, separating the new LTC insurance system from the existing social health insurance programme would help to discourage the use of health care services to provide social care, as in the case in so-called ‘social admissions’ to acute care hospitals (Kwon, 2008). Germany and Japan have implemented separate social insurance arrangements for LTC.

Second, incentives for the provision of informal care by families need to be maintained. In a new insurance system, much of the care which is currently provided informally is likely to be transferred to the formal care sector, raising cost substantially. To avoid financial turmoil, Korea should continue to promote the provision of informal care and encourage home care for individuals with lower ADL impairments. In fact, most LTC patients do not need expensive institutional care. Rather they need help with the activities of daily living to enable them to maintain independent lifestyles. Encouraging continuation of informal care at home, including through the provision of social subsidies to informal care givers, would also be a desirable option.

A third issue concerns decisions regarding eligibility for benefits. To be socially acceptable, any system that earmarks LTC contributions to finance future benefits needs to make some minimum LTC benefits available to all those paying for it. It will be difficult to restrict eligibility of LTC benefits only to groups with incomes below a threshold if the entire population is requested to pay a specific contribution for these benefits.

Finally, to ensure financial sustainability, Korea could implement the following measures:

- Design a relatively low level of benefits that is available to all contributors and is fixed (rather than set as a share of LTC cost). The generosity of additional benefits could be varied depending on recipients’ means. Granting some minimal level of care to all elderly needing long-term care, including those above an income threshold, should limit perverse incentive for individual to remain in hospital.
- Require cost sharing, subject to catastrophic limits. Cost sharing could be higher for individuals with low ADL impairments opting for institutionalisation and for high-income elderly, with a view to promoting the supply of informal care and giving incentives for dependent people with higher incomes and low ADL impairment to choose home care.
- Design the social health insurance scheme for long-term care on a partial or fully funded basis. By 2050, it is anticipated that there will be only 1.4 workers per elderly person, compared to the current level of more than 5 workers per elderly person. The burden of paying for LTC could be unsupportable in a pay-as-you-go system.
- Alternatively, if the system is financed, in part or wholly, on a pay-as-you-go basis, ensure a broad contributory base by requiring elderly people—and not simply the working-age population—to make contributions to long-term care insurance. As the pension system in Korea matures and private savings accumulate, it should be more feasible for many elderly people in Korea to pay contributions to an LTC insurance scheme. Premiums for the elderly poor could be subsidised by the government (Hurst, 2007).

## V. Conclusion

Five years after the OECD reviewed the Korean health system, some of the weaknesses identified by the OECD have been tackled—especially by realised and planned improvements in insurance coverage. However, other weaknesses, such as the propensity of the system for rapid growth in spending and the relative absence of mechanisms to regulate quality and unnecessary care, appear to remain. The affordability of the system has not yet become an overwhelming problem because of the high economic growth rate in Korea but it might become a problem if economic growth slows in future, especially considering the recent fast rate of growth of health spending.

Meanwhile, Korea faces a demographic future even more difficult than that contemplated by the OECD five years ago—mainly because of continuing declines in fertility in Korea. OECD projections suggest that partly because of the ageing of the population, the share of GDP that will need to be devoted to public spending on health and long-term care could rise by between 4 and 10 percentage points by 2050, depending on the assumptions made. The central OECD projections of health and long-term care spending in Korea are the highest in the OECD area. The anticipated decline in the working population—in the absence of increased international migration—may make it difficult to fund and staff the extra services which are likely to be required. Raising the NHI contribution rate may be inescapable considering the demographic pressures and the growing cost associated with better coverage. Considering the incentives for cost growth inherent in the organisation of the Korean health system, improving value for money will be essential both to avoid a big rise in the NHI contributions (which would be undesirable for the competitiveness of the Korean economy) and to maintain long-term financial sustainability of the NHI system.

These factors make a strong case for further improving efficiency and thereby ensuring that health spending increases will lead to more and better services—as opposed to higher prices or unnecessary care. It seems that there will be a continuing need for reforms to the Korean health and long-term care systems in the decades to come.

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