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Republic of Korea Health System Review

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Preface

The Health Systems in Transition (HiT) profiles are country-based reports that provide a detailed description of a health system and of policy initiatives in progress or development. HiTs examine approaches to the organization, financing and delivery of health services and the role of the main actors in health systems; describe the institutional framework, process, content and implementation of health and health-care policies; and highlight challenges and areas that require more in-depth analysis. HiT profiles seek to provide information to support policy-makers and analysts in the development of health systems. They are building blocks that can be used:

- to learn in detail about different approaches to the organization, financing and delivery of health services and the role of the main actors in health systems;
- to describe the institutional framework, the process, content and implementation of health care reform programmes;
- to highlight challenges and areas that require more in-depth analysis;
- to provide a tool for the dissemination of information on health systems and the exchange of experiences of reform strategies between policy-makers and analysts in different countries; and
- to assist other researchers with more in-depth comparative health policy analysis.

Compiling the profiles poses a number of methodological problems. In many countries, there is relatively little information available on the health system and the impact of reforms. Due to the lack of a uniform data source, quantitative data on health services is based on a number of different sources, including the World Health Organization (WHO), national statistical offices, the Organization for Economic Co-operation and Development (OECD) health data, the International Monetary Fund (IMF), the World Bank, and any other sources considered useful by the authors. Data collection methods and definitions sometimes vary, but typically are consistent within each separate series.

The HiT profiles can be used to inform policy-makers about experiences in other countries that may be relevant to their own national situation. These profiles can also be used to inform comparative analyses of health systems. This series is an ongoing initiative and material is updated at regular intervals. In-between the complete renewals of a HiT, the APO has put in place a mechanism to update sections of the published HiTs, which are called the “Living HiTs” series. This approach of regularly updating a country’s HiT ensures its continued relevance to the member countries of the region.

Comments and suggestions for the further development and improvement of the HiT series are most welcome and can be sent to apobservatory@wpro.who.int. HiT profiles and HiT summaries for Asia Pacific countries are available on the Observatory’s website at http://www.wpro.who.int/asia_pacific_observatory/en/.

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List of abbreviations

ADL	Activities of Daily Living
AMI	Acute Myocardial Infarction
CAM	complementary and alternative medicine
CnHTA	Center for New Health Technology Assessment
CT	Computed Tomography
DALYs	disability-adjusted life years
DREC	Drug Reimbursement Evaluation Committee
DRG	Diagnosis Related Group
DUR	Drug Utilization Review
EMR	Electronic Medical Records
EMS	Emergency Medical System
EMT	Emergency Medical Technician
HALE	health-adjusted life expectancy
HIA	Health Impact Assessment
HIPDC	Health Insurance Policy Deliberation Committee
HIRA	Health Insurance Review and Assessment Service
HP 2020	National Health Plan 2020
HRN	Health Right Network
HTA	Health Technology Assessment

ICD	International Classification of Diseases
KABONE	Korean Accreditation Board of Nursing Education
KAPO	Korea Alliance of Patient Organizations
KCDC	Korea Center for Disease Control and Prevention
KHA	Korean Hospital Association
KIMEE	Korean Institute of Medical Education and Evaluation
KMA	Korean Medical Association
K-MEDI	Korea Medical Dispute Mediation and Arbitration Agency
KNHANES	Korea National Health and Nutrition Examination Survey
KOIHA	Korea Institute of Healthcare Accreditation
KTM	Korean Traditional Medicine
LTC	long-term Care
MCPoS	Medical Claim Portal Service
MFDS	Ministry of Food and Drug Safety
MOHW	Ministry of Health and Welfare
MOSF	Ministry of Strategy and Finance
MRI	magnetic resonance imaging
NCCPB	National Cancer Control Planning Board
NCDs	noncommunicable diseases
NECA	National Evidence-based Healthcare Collaborating Agency
NEDIS	National Emergency Department Information System
NEMC	National Emergency Medical Center
NGOs	nongovernmental organizations

NHI	National Health Insurance
NHIS	National Health Insurance Service
NHPA	National Health Promotion Act
OECD	Organisation for Economic Co-operation and Development
OOP	out-of-pocket
OTC	over-the-counter
PPP	purchasing power parity
RBRV	Resource-Based Relative Value
RPHA	Regional Public Health Act
TFR	total fertility rate
U-healthcare	Ubiquitous Health Care (based on ICT)
VHI	Voluntary Health Insurance

Abstract

The Republic of Korea has achieved a rapid improvement in health outcomes thanks to economic development and universal health coverage through national health insurance. It achieved universal coverage of the population in 1989, just 12 years after the introduction of social health insurance. In 2000, all insurance schemes were merged into a single payer with a uniform contribution schedule and benefits coverage.

Despite universal coverage of the population, financial protection and high OOP payments have remained a key policy issue. Health-care delivery relies heavily on private providers. This system induces demand for new, though sometimes not cost-effective, services and technologies not yet in the national health insurance benefit package because they are not subject to fee regulation. The referral system does not function well in the private sector-dominated delivery system. Tension between private providers and the Government has been substantial, and providers have been a stumbling block to health care reforms such as the prospective payment system.

In contrast to rapid economic growth and decreasing inequality until the 1980s, inequality has been increasing since the 1990s. Policy to reduce the inequality in health care and health outcomes should be a priority for the Government. Rapid ageing of the population is a challenge to the health-care system, and the new long-term care insurance improves access for older people to long-term care. Coordination between hospitals and long-term care facilities along with strengthening of primary health care and gatekeeping can contribute to the continuum of care to meet the needs of an older population.

Executive Summary

The health status of the population has improved noticeably over the years in the Republic of Korea. In 2011, the life expectancy of males was 77.7 years and 84.5 years for females. The top cause of mortality is cancer, and the number of those who are physically active decreased by more than 20% during the period of 2005–2012. Various indicators of child mortality including neonatal, infant, and under-five mortality rate have shown great improvements due to high rates of prenatal care utilization and facility delivery. Overall, the health status of the Korean population is better than that of many other countries in Asia. The Republic of Korea faces problems of rapid ageing along with low fertility, which is expected to make it the second most aged country by 2050. Though currently stable, the age dependency ratio is expected to increase steeply as the baby-boomers age and as smaller numbers of young people reach productive age.

The Republic of Korea achieved universal health coverage of its population in 1989, just 12 years after the introduction of social health insurance. It was first implemented among formal sector workers in large firms and incrementally extended to workers in smaller firms and finally to the self-employed. Prior to 2000 there were three separate types of insurance schemes (with more than 350 insurance societies). In 2000, all insurance schemes were merged into a single payer with a uniform contribution schedule and benefits package. In contrast to public health financing, health-care delivery relies heavily on the private sector, though some public health facilities provide medically necessary services at the central, regional and municipal levels.

The Ministry of Health and Welfare plays a central role in health planning, policy formulation and policy implementation at the national level. In collaboration with the Ministry, regional governments are in charge of managing regional medical centres while each municipality is in charge of managing health centres, health subcentres and primary health-care posts. The Ministry's approach to health planning is generally based on the health needs of the population, but sometimes influenced by political

changes. Taking account of the social determinants of health, health in all policies has been emphasized.

The Ministry of Health and Welfare has delegated the task of running the National Health Insurance (NHI) to two quasi-public organizations—the National Health Insurance Service (NHIS) and the Health Insurance Review and Assessment Service (HIRA)—while retaining indirect control over it. Under a single-payer health insurance system, it has become feasible to collect utilization data of the entire population. HIRA has made efforts to improve the quality of health services by providing both health providers and consumers with feedback and information generated from the claims database. Purchasing decisions on health services to be included in the NHI benefit package are centralized.

To regulate health-care providers and improve the quality of their services, the Ministry of Health and Welfare introduced a new hospital accreditation programme in 2011, in which participation was voluntary for most hospitals. A new license reporting mechanism was also recently introduced whereby licensed health professionals are required to report completion of continuing professional education as well as updated employment status every three years.

Health care is financed through National Health Insurance covering the entire population. Other than some very new and costly technologies, most health care services, including medical check-ups and cancer screening, are included in the benefits package with relatively high cost-sharing. The role of voluntary health insurance (VHI) in health care financing is increasing, and its role has been controversial.

Out-of-pocket (OOP) payments still required in social insurance include copayments for covered services and full payment for services not included in the benefits package. Patients pay 20% of the cost for insured services in inpatient care, and differential cost-sharing is applied for outpatient care, depending on the level of health provider. The poor are exempted from cost-sharing at the point of service, and vulnerable patient groups have access to discounted copayment rates. There is a ceiling on OOP payments, with differential ceilings applied to different income groups, but the ceiling applies only to insured services. High OOP payments have been a serious concern and are increasingly driven by payments for uninsured services, most of which involve new technology and medicines with uncertain cost effectiveness.

For employees, health insurance contributions are proportional to wage income and shared equally between the employee and employer. Health insurance contributions for the self-employed are based on both income and the value of property such as houses and vehicles. As a single payer system, health insurance has a uniform contribution formula and benefits coverage nationwide. Population ageing and a flexible labour market with diversified forms of employment or income will be a challenge for revenue collection through social health insurance, which depends significantly on formal sector labour. Other sources of revenue generation for health care seem inevitable in the future, such as an earmarked consumption tax and a surcharge on income (e.g. interest income) other than payroll.

Social health insurance is managed by quasi-public agencies: the National Health Insurance Service (NHIS) deals with premium collection, risk pooling, fund management, and reimbursement to providers, and Health Insurance Review and Assessment Service (HIRA) is responsible for claim review, assessment of appropriateness of health care, technical support to benefit packages and the design of the provider payment system. Health care providers are paid under the fee-for-service system, and fees are negotiated annually between the NHIS and provider associations. Along with the dominance of private providers, fee for service payment has contributed to the rapid increase in health expenditure. Other payment methods include Diagnosis Related Group (DRG)-based prospective payments to acute care providers for seven disease categories and per-diem payments differentiated by 17 disease categories to long-term care hospitals.

Since the introduction of social health insurance, physical and human resources have been increased in response to the growing demand for health care. The numbers of practicing doctors and nurses have been increasing continuously, but they are still less than the average of Organisation for Economic Co-operation and Development (OECD) countries. Most capital investment was made in the private sector, so their share of hospitals and beds has increased over years; and the number of acute beds has increased rapidly, contrary to a downsizing trend in other developed countries. In addition, the increase in hospital beds has been concentrated in metropolitan areas, which in turn resulted in a concentration of human resources in large metropolitan hospitals. Almost all private health facilities have had electronic medical records (EMR) in place because they claim for health care costs electronically. The

Government has tried to extend the scope of U-healthcare (ubiquitous health care based on IT) to the elderly and patients with chronic diseases.

While communicable diseases which were prevalent until the 1970s have declined significantly, chronic or noncommunicable diseases (NCDs) now represent the top causes of mortality. The Ministry of Health and Welfare has the function of basic planning, technical support, capacity building, evaluation, and financing for public provision of public health and medical services. In addition, Korea Centers for Disease Control and Prevention (KCDC) is functioning as a specialized agency of the Ministry. Provision of public health services is shared between the public and private sectors, due to the predominance of the private sector in the provision of health care.

Health care facilities are classified into two or four tiers according to two different legal frameworks, namely, the Health Care Law and the NHI Law. The role of primary care in gatekeeping is rather weak, as patients have much freedom in selecting their first-contact provider as well as choosing referred providers. With near-unlimited accessibility of the patients and their preference for high-tech medical care, patients are increasingly utilizing specialized general (usually tertiary care) hospitals.

All therapeutic prescription drugs except injections are to be prescribed by a doctor and dispensed by a pharmacist. Over-the-counter (OTC) medicines are mainly dispensed and provided by a pharmacist at a pharmacy. Advertising prescription drugs has been prohibited while advertising non-prescription drugs has been allowed. The generic substitution rate has been negligible. The NHI financial situation is closely connected to expenditure on medicines, given that more than 20% of total health expenditure is dedicated to pharmaceuticals. A positive list system whereby only drugs included in the formulary can be reimbursed in the NHI was introduced in 2007. After getting market authorization for a new drug, pharmaceutical companies are required to submit a dossier of cost-effectiveness and negotiate its price with NHIS.

In the early 2000s, the Republic of Korea introduced two major reforms: merger of insurance societies into a single insurer system and the separation of medicine prescribing and dispensing. The two reforms benefitted from the paradigm change in health policy-making. Progressive civic groups actively participated in the policy process and supported the reforms whereas physicians went on strike against the pharmaceutical reform. Responding to the rapid ageing of population, a

new social insurance for long-term care (LTC) was introduced, principally for the elderly, in 2008. National Health Insurance Service (NHIS) is also the insurer for LTC insurance. Coordination between health insurance and LTC insurance, and between health care and social care still needs to be improved.

As the level of OOP payments remains high in spite of the universal coverage of population, the extension of benefits coverage has been of high priority. The Government has reduced cost-sharing for catastrophic cases and introduced a ceiling on cumulative OOP payments for insured services. However, providers tend to promote uninsured services to increase profits, resulting in financial burden on patients. For the financial sustainability of national health insurance, reform of the payment system for providers is needed, and prospective case-based payment, which currently applies to only seven disease categories, should be extended.

The Government emphasizes the sustainability of the health system as an objective, including efficiency improvement and coping with new health risks. Financial risk protection and equity has improved but is still challenging. The proportion of households with high health OOP payments had steadily decreased until 2000, but then the trend reversed. Equity in financing varies across different sources, such as tax, the NHI contribution, and OOP payment.

User satisfaction is modest. In a 2011 Ministry of Health and Welfare survey, 63.9% of the respondents reported being “satisfied” with overall health system performance. In terms of socioeconomic status, health care utilization is relatively equitable, but the poor still face barriers in accessing primary care and receiving uninterrupted care. Inequalities in health outcomes are evident in both men and women from birth to death between different socioeconomic strata. Regional health inequalities are observed between Seoul and other areas as well as between rural and urban areas. Between genders, a substantial female excess in ill-health (measured by self-reported health and chronic diseases) was reported.

Personal health expenditure represents 89.1% of total, with limited role of public health. From the perspective of technical efficiency, the number of annual outpatient visits per active medical doctor is much higher than in other OECD countries, and the number of inpatient discharges per active medical doctor is a little higher than the OECD average. However, the length of stay is much longer than other OECD countries and the proportion of pharmaceutical expenditure has been higher than in other

high-income countries.

The Republic of Korea has achieved a rapid improvement in health outcomes thanks to economic development and universal health coverage through national health insurance. Although national health insurance provides some protection mechanisms, such as exemption from copayments for the poor, reduced copayments for catastrophic illness like cancer, and a ceiling on cumulative OOP payment depending on income, high OOP payments have remained a key policy issue. The heavy financial burden results from provider behaviour rather than the benefits coverage itself. Private providers induce demand for new, but sometimes not cost-effective, services and technologies not yet included in the benefit package because they are not subject to NHI fee regulation.

The referral system does not function well in the private sector-dominated delivery system, and patients prefer tertiary care hospitals. Tension between private providers and the Government (and the national health insurance system) has been substantial, and health care providers have been a stumbling block to health care reforms such as the prospective payment system. Government needs to increase the role of public financing or to reduce the level of households' direct payments for health care by raising health insurance contributions and expanding benefit coverage.

The Republic of Korea achieved rapid economic growth in the 1970s and 1980s along with decreasing inequity. However, inequity has been increasing since the 1990s, which has had a big impact on health care system and population health outcomes. Policy to reduce the inequality in health care and health outcomes should be a priority for the Government. Very rapid ageing of population is a key challenge to health care system, too. New long-term care insurance improves access for the elderly to long-term care. However, avoidable admissions to hospitals are still nontrivial, and coordination between hospitals and long-term care facilities along with strengthening of primary health care and gatekeeping can contribute to the continuum of care to meet the needs of the aged population.

1 Introduction

Chapter summary

The Republic of Korea faces problems of rapid ageing along with low fertility, which is expected to make it the second-most aged country by 2050. Though currently stable, the age dependency ratio is expected to increase steeply as the baby-boomers age and as smaller numbers of young people reach productive age.

The country has enjoyed significant economic growth over recent decades. However, the economic crisis of 1997 ushered in an era of mass layoffs, which had negative effect on health and health-care utilization. The annual economic growth rate, which had remained at over 3% since then, dropped to 2.0% in 2012. Economic polarization has continued to deepen and the portion of middle class has shrunk to be lowest level since 1990. Income inequality has worsened slightly since 2006.

The health status of the population has improved noticeably over the years. In 2011, the life expectancy of males was 77.7 years and 84.5 years for females. The top cause of mortality are different forms of cancer, at 146.5 deaths per 100 000 people in 2012. The number of those who are physically active decreased by more than 20% during the period of 2005–2012. The percentage of people who have received a health checkup during the past two years has gradually increased in recent years, to 58.1% of men and 50.3% of women, respectively, in 2012. Overall, the health status of Koreans is better than that of other Asian countries.

Various indicators of child mortality including neonatal, infant, and under-five mortality rate have shown great improvements due to high rates of prenatal care utilization and facility delivery. As of 2011, the completion rate of immunization (4 doses DTaP, 3 doses IPV, 1 dose MMR, 3 doses Hepatitis-B, 1 dose Varicella) for 3-year-old children was 89.6%.

1.1 Geography and socio-demography

The Republic of Korea is located in East Asia, constituting the southern part of the Korean Peninsula. It shares land borders with the Democratic People's Republic of Korea to the north, and maritime borders with China to the west and Japan to the east. Lying in the North Temperate Zone with a mostly mountainous terrain, the Republic of Korea has a continental climate alternating with a humid subtropical climate during the summer East Asian monsoon.

The total population of the Republic of Korea was 49.8 million in 2011 and reached 50 million in June 2012. The female share of the total population was 50.3% in 2011, compared to 49.9% in 1980 (Table 1.1).

The total fertility rate (TFR) is generally very low compared to other countries. TFR was lowest at 1.08 in 2005, rebounding slightly recently to 1.24 in 2011. Due to the low TFR, the proportion of children (population aged 0–14) has declined, from 33.9% in 1980 to 15.7% in 2011.

The number of the elderly in the Republic of Korea started to grow in 2000 when the proportion of the population aged over 65 years reached 7.2%; this is expected to reach 14% in 2017, making it officially an aged society. The transition from an ageing society to an aged society has been faster than in any other country. The share of the elderly was 11.4% in 2011, which was below the average of OECD countries. However, the pace of ageing is very fast, and is expected to make the Republic of Korea the second-most aged country after Japan by 2050.

Table 1.1 Trends in population/demographic indicators, selected years

Indicator	1980	1990	1995	2000	2005	2010	2011
Total population (in millions)	38.1	42.9	45.1	47.0	48.1	49.4	49.8
Population, female (% of total)	49.9	49.9	49.9	49.8	50.1	50.2	50.3
Population age 0-14 (% of total)	33.9	25.6	23.0	21.0	19.1	16.2	15.7
Population ages 65 and above (% of total)	3.9	5.0	5.9	7.3	9.3	11.1	11.4
Population growth (average annual growth rate, %)	1.6	1.0	1.0	0.8	0.2	0.5	0.7
Population density (people per km ²)	395.2	444.4	467.5	487.3	497.0	508.2	512.0
Fertility rate, total (births per woman)	2.82	1.57	1.63	1.47	1.08	1.23	1.24
Birth rate, crude (per 1000 people)	22.6	15.2	15.7	13.3	8.9	9.4	9.4
Death rate, crude (per 1000 people)	6.3	5.8	5.4	5.2	5	5.1	5.1
Age dependency ratio	60.7	44.1	40.6	39.5	39.6	37.6	37.3
Distribution of population (urban, %)	57	74	78	80	81	83	83
Proportion of single-person households (% of total households)	4.8	9.0	12.7	15.5	20.0	23.9	24.7

Source: World Bank, 2013; KOSIS.

The age dependency ratio was 37.3 in 2011, in other words 100 people of working age had to support 37.3 dependents (children or the elderly). The age dependency ratio has continued to fall until 2011. However, as the baby-boomers join the aged group and as a smaller number of children reach working age, the age dependency ratio is expected to increase steeply. On the other hand, the share of the working age population is expected to decrease once it reaches a peak of 37 million in 2016.

Along with rapid economic growth, urbanization has also advanced significantly. The share of urban population reached 83% in 2011, compared to 57% in 1980. The proportion of single-person households has been growing and in 2011, it reached around a quarter of all households. This can be attributed in part to the ageing population. In 2011 for example, 25.8% of single-person households were an elderly person living alone (KOSIS 2013). Another factor is the increase in single working women.

1.2 Economic Context

The Republic of Korea has enjoyed rapid economic growth over recent decades. Its GDP was US\$1.1 trillion in 2011, positioning the country as one of the top 15 in terms of economic size worldwide in 2012 (Table 1.2). Nominal GDP per capita was US\$22 388 in 2011 while purchasing power

parity (PPP) GDP per capita was US\$29 786, the result of the country's relatively low prices for products and services.

Despite the continued growth of the PPP GDP per capita, the growth of the nominal GDP per capita was interrupted in the years from 1995 to 2000, which can be attributed to the economic crisis of late 1997. One of the direct effects of the economic crisis was the near halving of GDP in US dollars per capita, brought about by the abrupt devaluation of the Korean currency. Though the trend recovered, the per capita GDP in 2000 was below that of the year before the economic crisis set in.

The 1997 economic crisis was characterized by the mass layoff of employees and large-scale restructuring of businesses, which contributed to a rapid increase in unemployment. Unemployment reached 4.4% in 2000, more than twice as high as the figure in 1995 (2.1%). As of 2011, the rate was 3.4%.

Because of reduced income and increased unemployment, the economic crisis had a negative effect on health and health-care utilization. In 1998, immediately after the onset of the economic crisis, health-care utilization fell significantly among almost all households. More specifically, health-care utilization among low-income groups and unemployed households was adversely affected by the crisis (Yang et al., 2001).

The recent worldwide economic recession triggered by subprime mortgages in the United States did not spare the Republic of Korea, though its economic performance outshines many other developed countries. Its annual economic growth rate, which sustained over 3% since the millennium, dropped to 2.0% in 2012, a sign of slowdown. Moreover, contrary to the expectations of the Lee administration, the trickle-down effect of economic growth did not noticeably occur. Economic polarization continued to deepen and the share of middle class has shrunk to its lowest since 1990. The share of middle class, defined as households with income between 50% and 150% of the median income, decreased from 74.5% in 1990 to 70.9% in 2000 and 67.3% in 2010 (Won et al., 2013).

Income inequality has worsened slightly since 2006. Gini coefficient was estimated based on all households including single-person households and households in rural areas. The Gini coefficient (0.310) in 2010, which was calculated using disposable household income, was comparable to the average Gini coefficient of OECD countries (0.313) of the same year.

Table 1.2 Trends in population/demographic indicators, selected years

Indicator	1980	1990	1995	2000	2005	2010	2011
GDP (billions, USD)	63.8	263.8	517.1	533.4	844.9	1014.9	1114.5
GDP, PPP (billions, USD)	90.6	341.2	562.1	808.4	1096.7	1413.8	1482.7
GDP per capita (USD)	1674	6153	11 468	11 347	17 551	20 540	22 388
GDP per capita, PPP (USD)	2376	7960	12 465	17 197	22 783	28 613	29 786
GDP annual growth rate (%)	-1.5	9.2	9.2	8.5	4.0	6.3	3.7
Public expenditure (% of GDP)		14.2	14.3	16.6	19.7	19.9	20.4
Cash surplus/deficit (% of GDP)		1.7	2.4	4.4	0.9	1.7	1.8
Tax burden (% of GDP)		14.4	14.2	15.4	14.7	15.1	15.6
Value added industry (% of GDP)	36.6	41.6	41.9	38.1	37.7	38.8	39.3
Value added in agriculture (% of GDP)	16.2	8.9	6.3	4.6	3.3	2.6	2.7
Value added services (% of GDP)	47.3	49.5	51.8	57.3	59.0	58.5	58.1
Labour force (total, millions)		19.2	21.4	22.7	24.0	25.0	25.4
Unemployment, total (% of labour force)	5.2	2.5	2.1	4.4	3.7	3.7	3.4
Poverty rate (% below national poverty line) ^a					7.9	6.3	6.3
Income inequality (Gini coefficient)					0.330b	0.341	0.342
Real interest rate	-4.9	-0.5	1.5	3.4	4.9	1.8	4.2
Official exchange rate (US\$)	607	708	771	1131	1024	1156	1108

a: estimated based on gross income and excluding single-person households; b: as of 2006.

Source: World Bank, 2013

Neoliberalist economic policies have increased flexibility in the labour market. The percentage of non-regular workers amounted to 34.9% in 2010 and their average wage was just 57.1% of that of regular workers. This in turn has contributed to the recent increase in poverty. For example, based on gross income, 10.0% of households were below the national poverty line excluding single-person households in 2011, and the share of households earning under 50% of the median income was 14.9% (Im and Noh, 2013).

1.3 Political context

The Republic of Korea is a constitutional democracy. Its constitution also determines the structure of the government. Its government is divided into three branches: executive, judicial, and legislative. The country has had a presidential system with an independent chief executive since its first election in 1948.

It was not until mid-1990s that decentralization began in earnest. Although elections for mayors and governors were held for the first time in 1960, this attempt at decentralization was short-lived because of the military coup in 1961, and it was not attempted again under the series of military governments from the 1960s through to the 1980s. Instead, the mayors and governors of local governments were appointed by the President during the authoritarian regime. After a prolonged political debate, decentralization was revived in 1991, though only partially in a sense that the system of appointing mayors and governors remained. It was only after a civilian government was launched that formal decentralization was achieved in 1995 through a historic election that was carried out to elect the heads of local executive governments and the members of local legislative bodies.

1.4 Health status

The health status of the population has improved noticeably over the years. Life expectancy at birth has increased to over 80. In 2011, life expectancy for males was 77.7 years and 84.5 years for females (Table 1.3). Likewise, the total mortality rate has fallen rapidly for both males and females.

Table 1.3 Mortality and health indicators, selected years

Indicator	1980	1990	1995	2000	2005	2010	2011
Life expectancy at birth, total	65.8	71.3	73.4	75.8	78.4	80.6	81.0
Life expectancy at birth, male	61.8	67.3	69.6	72.3	75.1	77.2	77.7
Life expectancy at birth, female	70.0	75.5	77.4	79.6	81.9	84.1	84.5
Total mortality rate, adult, male (per 1000)	307.1	230.4	195.7	156.9	120.9	98.2	95.0
Total mortality rate, adult, female (per 1000)	152.7	95.7	75.8	60.0	44.6	33.6	32.0

Source: World Bank, 2013.

The three main causes of mortality are cancers, cardiovascular diseases and cerebrovascular diseases. The number of deaths due to cancer reached 146.5 per 100 000 persons in 2012 (Table 1.4). Cancers with the highest mortality were lung cancer (33.1 per 100 000), liver cancer (22.5 per 100 000), and stomach cancer (18.6). Cancer mortality among men and women is 1.7 times that of women, with 184.5 deaths per 100 000 for men and 108.5 for women (Figure 1.1). High-risk cancers for men were lung (48.3 per 100 000), liver (33.7 per 100 000) and stomach cancers (24.2 per 100 000), while those for women were lung (17.8 per 100 000), colon (13.9 per 100 000) and stomach cancers (12.9 per 100 000).

The second cause of death is circulatory diseases (117.1 per 100 000) such as cardiovascular (52.5 per 100 000) and cerebrovascular diseases (51.1 per 100 000). Over the years, deaths from cardiovascular diseases have continued to increase while deaths from cerebrovascular diseases decreased. Mortality from circulatory diseases was higher among women (123.8 per 100 000) than men (110.4 per 100 000). The trend of increasing ischemic heart diseases is evident, and mortality has more than tripled since 1990.

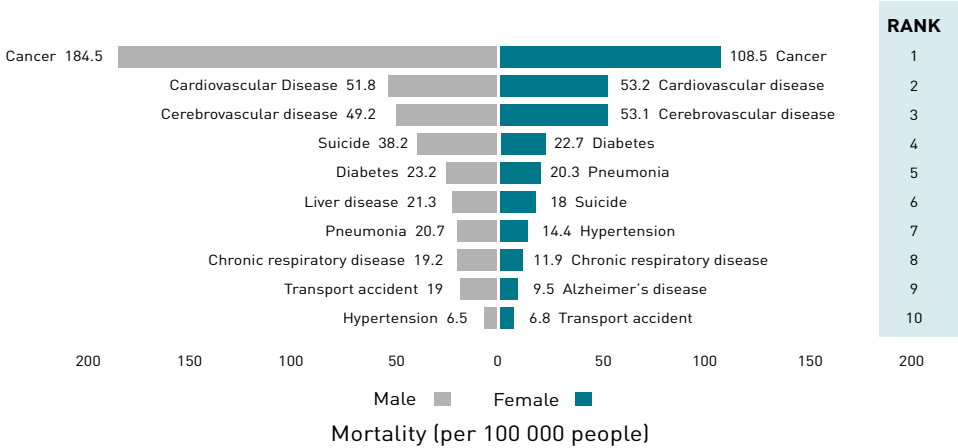
Some noticeable changes in the causes of death can be seen in diabetes. Mortality from diabetes increased more than fivefold, from 4.5 per 100 000 in 1983 to 23.0 per 100 000 in 2012, which has made diabetes in the fifth-biggest cause of death in men and the fourth in women. A similar trend can be found in suicide, which is considered an external cause of death. Mortality from suicide more than tripled, from 8.7 per 100 000 in 1983 to 28.1 per 100 000 in 2012. Suicide ranked as the fourth major cause of death overall and specifically fourth in men and the sixth in women. Mortality from transport accidents has decreased since a peak in 1995, but remains one of the ten major causes of death for both men and women.

Table 1.4 Main causes of death, selected years (Unit: 100 000 people)

Causes of death (ICD-10 classification)	1983	1990	1995	2000	2005	2010	2012
Communicable diseases							
All infectious and parasitic diseases (A00-B99)	26.5	13.3	11.8	13.0	11.3	13.4	14.1
Tuberculosis (A15-A19)	18.8	9.3	8.3	6.8	5.5	4.4	4.5
Sexually transmitted infectious diseases (A50-A64)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
HIV/AIDS (B20-B24)	-	0.0	0.0	0.1	0.1	0.2	0.2
Noncommunicable diseases							
Circulatory disease (I00-I99)	166	136.7	138.9	122.7	115.6	112.5	117.1
Malignant neoplasm (C00-C97)	72.1	91.5	110.5	121.4	133.8	144.4	146.5
Colon cancer (C18)	1.7	3.7	5.8	8.8	12.4	15.4	16.3
Cancer of larynx, trachea, bronchus and lung (C32-C34)	6.8	13.3	20.8	25.9	29.5	32.1	33.9
Breast cancer (C50)	1.0	1.4	2.0	2.5	3.3	3.7	4.0
Cervical cancer (C53)	0.3	0.8	1.2	1.5	2.2	1.9	1.8
Diabetes (E10-E14)	4.5	9.9	17.3	22.6	24.2	20.7	23.0
Mental and behavioral disorders (F00-F99)	3.3	2.8	11.5	13.5	9.2	9.9	11.1
Ischemic heart disease (I20-I25)	2.3	8.6	13.0	21.4	27.4	26.7	28.9
Cerebrovascular disease (I60-I69)	67.5	63.1	79.8	73.1	64.1	53.2	51.1
Chronic respiratory disease (J00-J99)	27.8	18.3	24.4	33.8	29.2	37.1	45.2
Digestive disease (K00-K93)	50.2	37.0	39.2	31.2	23.0	22.2	22.4
External causes							
Transport accident (V01-V99)	11.5	33.2	38.7	25.3	16.3	13.7	12.9
Suicide (X60-X84)	8.7	7.6	10.8	13.6	24.7	31.2	28.1
Ill-defined and unknown causes of mortality (R95-R99)	210.2	166.3	81.1	71	65.6	51.8	49.9

Source: KOSIS, 2013.

Figure 1.1 Ten major causes of death by gender, 2012



Source: KOSIS, 2013.

As included in the National Health Insurance (NHI) benefit package, the Republic of Korea started to provide a national cancer screening programme for stomach cancer, breast cancer and cervical cancer in 2002, liver cancer in 2003, and colon cancer in 2004. Beneficiaries of the Medical Aid Program and the lower-income half of NHI beneficiaries are eligible for free screening. The average screening rate for these five cancers increased to 37.5% of those eligible for the screening programme in 2012 as compared to 15.3% in 2004 (MOHW, 2013).

On the other hand, age-standardized disability-adjusted life years (DALYs) decreased substantially during the 2000–2012 period (Table 1.5). DALYs from all causes decreased by about 25%, most of which could be attributed to the reduced DALYs from noncommunicable diseases.

Table 1.5 Age-standardized DALYs (per 100 000)

Year	Communicable & other group I	Noncommunicable diseases	Injuries	All causes
2000	1771	18 805	3315	23 891
2012	1452	13 824	2646	17 921

Source: WHO Global Health Observatory Data Repository, 2014

The Korea National Health and Nutrition Examination Survey (KNHANES) provides various data on health behaviours and risk factors. According to KNHANES, the smoking rate among males has come down, but remains high at 43.7% as of 2012 (Table 1.6). By contrast, the smoking rate among females has shown an increasing trend, although it is still under 10%.

It was also reported that one in two workers is exposed to passive smoking (KCDC, 2013).

High-risk drinking is defined as consumption of seven cups of alcohol for men and five cups for women per session or at a rate of more than twice a week. The share of high-risk drinkers was 21.8% in men and 6.0% in women in 2012, which meant that one in every five men was considered a heavy drinker. With regard to age, male high-risk drinkers tend to be in their 30s–50s while females in their 20s–30s are more likely to be high-risk drinkers.

Physical activity has declined dramatically. The proportion of people who are physically active has decreased by more than 20%, from 71.1% in 2005 to 50.8% in 2012 among males and from 66.1% to 43.1% among females. The decrease in physical activity needs further investigation because physical inactivity is one of the major health risk factors for noncommunicable diseases and its economic burden is significant. An income-related disparity in physical activity was evident among men, considering the rate of physical activity among the lowest income quartile was 47.4% while it was 56.6% among the highest quartile in 2012 (KCDC, 2013). The prevalence of obesity has also been increasing over the years, especially among men.

The percentage of people who have received a health checkup during the past two years has been gradually increasing, at 58.1% of men and 50.3% of women in 2012. The gender disparity in health checkups has been persistent over the years, and is due mainly to the difference in health checkup rate between men and women in their 30s. The health checkup rate was 56.9% for men and 35.2% for women in their 30s, respectively. The gender disparity among those in their 30s has been linked with the fact that free health checkups are available only when the dependents of NHI beneficiaries reach 40. However, the gender disparity in cancer screening has been in the opposite direction, with the cancer screening rate in females about 1.5 times higher than for males. 53.5% of females were screened as compared to 37.5% of males in 2013. At the same time, both the health checkup rate and cancer screening rate were higher among high-income groups than low-income groups.

Table 1.6 Morbidity and factors affecting health status, selected years (%)

		1998	2001	2005	2007	2008	2009	2010	2011	2012
Smoking	Males	66.3	60.9	51.6	45	47.7	46.9	48.3	47.3	43.7
	Females	6.5	5.2	5.7	5.3	7.4	7.1	6.3	6.8	7.9
Current drinking	Males	-	-	19.9	21.3	24.5	21.4	22	23.2	21.8
	Females	-	-	3.4	3.5	6.2	5.4	5.6	4.9	6.0
Physical activity	Males	-	-	71.1	57.9	60.1	58.8	53.5	50.9	50.8
	Females	-	-	66.1	51.7	54	53.9	48.3	43.1	43.1
Health checkup	Males	55.7	53.4	53	52.2	52.1	53.6	57	56	58.1
	Females	42.8	42.2	41.9	43.7	44.2	46.7	48.5	47.8	50.3
Obesity	Males	25.1	31.8	34.7	36.2	35.3	35.8	36.4	35.1	36.3
	Females	26.2	27.4	27.3	26.3	25.2	26	24.8	27.1	28
Hypertension	Males	32.5	33.2	31.5	26.9	28.1	30.4	29.3	32.9	32.2
	Females	26.9	25.4	23.9	21.8	23.9	22.2	23.9	23.7	25.4
Diabetes	Males	9.5	-	10.5	11.8	10.6	10.7	11	11.9	10.1
	Females	7.9	-	7.7	7.3	8.5	8.4	8.3	7.6	8
Decayed tooth	Males	-	-	-	41.6	37.6	37.4	37.5	36.3	37.9
	Females	-	-	-	36.7	33.8	31	30.7	29.5	32.1

Source: KCDC, 2013.

On dental health, the prevalence of decay has decreased slightly in recent years, as noted with 37.9% in males and 32.1% in females having at least one decayed tooth in 2012. An income-related disparity was again evident as the lowest-income quartile had the highest prevalence of decay.

Over the last two to three decades, various indicators of child mortality have shown clear improvement. The neonatal mortality rate declined from 3.1 per 1000 live births in 1990 to 1.7 in 2010 (Table 1.7). The infant mortality rate has gone from 12.4 per 1000 live births in 1980 to 3.5 in 2010. The under-five mortality rate declined from 14.4 per 1000 live births in 1980 to 4.1 in 2010. And maternal mortality was 18 per 100 000 live births in 1990 and 16 in 2010. The decrease in child mortality can be attributed to high rates of prenatal care utilization and facility delivery. Almost 100% of babies are delivered in health facilities in the Republic of Korea. Prenatal care, including the use of ultrasonography, as well as postnatal care including free health checkups for infants are now provided as an NHI benefit.

Table 1.7 Maternal, child and adolescent health indicators, selected years

Indicator	1980	1990	1995	2000	2005	2010	2011
Adolescent birth rate (15–19 years)	13.3	5.1	3.4	2.5	2.1	2.2	2.2
Neonatal mortality rate (per 1000 live births)		3.1	2.4	2.6	2.5	1.7	1.7
Infant mortality rate (per 1000 live births)	12.4	6.1	4.7	5.2	4.8	3.5	3.4
Under five mortality rate (per 1000 live births)	14.4	7.1	5.5	6.1	5.7	4.1	4.0
Maternal mortality rate (per 100 000 live births)		18	18	19	17	16	-

Source: World Bank; WHO Global Health Observatory Data Repository, 2014

The coverage rate of child immunization is high. A survey of a representative sample of 7040 3-year-old children in 2011 found the coverage rate of immunization was highest for MMR (1 dose, 99.2%), followed by BCG (1 dose, 98.8%), Hepatitis-B (3 doses, 98.7%), Polio (3 doses, 98.4%), Varicella (1 dose, 97.7%), Japanese encephalitis (2 doses, 95.9%), and DTaP (4 doses, 93.5%). In addition, the completion rate of immunization (4 doses DTaP, 3 doses IPV, 1 dose MMR, 3 doses Hepatitis-B, 1 dose Varicella) for 3-year-old children was 89.6% (KCDC, 2012).

The health status of the Republic of Korea is good relative to that of other Asian countries. As of 2011, average life expectancy was 66.4 years in South Asian countries while it was 73.7 in East Asia and the Pacific. Looking at life expectancies of specific countries such as Japan (82.6), China (75.0), Vietnam (75.5), Malaysia (74.7), Thailand (74.0), and India (66.0), its life expectancy of 80.9 years confirms that its health status is high for the region (World Bank, 2013).

2 Organization and governance

Chapter summary

The Republic of Korea achieved universal health coverage in 1989, with the entire population being covered by either national health insurance or the tax-based Medical Aid Program. In contrast to public health financing, health-care delivery relies heavily on the private sector, though some public health facilities provide medically necessary services at the central, regional, and municipal levels.

The Ministry of Health and Welfare plays a central role in health planning, policy formulation, and policy implementation at the national level. In collaboration with the Ministry, regional governments are in charge of managing regional medical centres while each municipality is in charge of managing health centres, health subcentres and primary health-care posts. The Ministry's approach to health planning is generally based on the health needs of the population, but sometimes influenced by political changes. Taking account of the social determinants of health, health in all policies has been emphasized. The recognition of rapid ageing coupled with low fertility as a potential threat to society has become a driving force for strengthened intersectoral collaboration.

The Ministry of Health and Welfare has delegated the task of running the NHI to two quasi-public organizations – the National Health Insurance Service (NHIS) and the Health Insurance Review and Assessment Service (HIRA), while retaining indirect control over it. Under a single-payer health insurance system, it has become feasible to collect utilization data of the entire population. HIRA has made efforts to improve the quality of health services by providing both health providers and consumers with feedback and information generated from the claims database. Purchasing decisions on health services to be included in the NHI benefit package are centralized. To regulate health-care providers and improve the quality of their services, the Ministry of Health and Welfare introduced a new hospital accreditation programme in 2011, in which participation was voluntary for most hospitals.

A new license reporting mechanism was also recently introduced whereby licensed health professionals were required to report completion of continuing professional education as well as updated employment status every three years. There is no choice of health insurer within the NHI while patients are given almost a free choice of health-care providers, which incurs unnecessary spending from health insurance funds. Since 2012, NHIS has been piloting a Citizen Council for Health Insurance to hear the general public's opinion on the benefit expansion policy.

Advertising prescription drugs has been prohibited while advertising non-prescription drugs has been allowed. The generic substitution rate has been negligible. A positive list system whereby only drugs included in the formulary can be reimbursed in the NHI was introduced in 2007. After getting market authorization for a new drug, pharmaceutical companies are required to submit a dossier of cost-effectiveness and negotiate its price with NHIS.

2.1 Overview of the health system

As noted thus far, national health insurance finances the Republic of Korea's health system. The NHI covers about 97% of the population, and the remaining 3% is covered by the Medical Aid Program, a tax-funded program to ensure access to health-care for low-income citizens. In contrast to the public sector-dominant financing, health-care delivery relies heavily on the private sector. This is because the Government has let health-care providers in the private sector directly respond to increases in the demand for health-care that social health insurance has brought about. As of 2012, almost all clinics and about 94% of hospitals were privately owned.

Public health facilities provide medically necessary services not only for the general public but also target populations at the central, regional, and municipal levels. They include national hospitals, special corporatized public hospitals, regional medical centres, health centres, health subcentres and primary health-care posts.

Some national hospitals are accountable to the Ministry of Health and Welfare while others are accountable to other ministries. The former include special hospitals such as the National Rehabilitation Center, five psychiatric hospitals, two hospitals for tuberculosis, and one for leprosy. The latter include hospitals targeting specific groups, for example, the National Police Hospital and several hospitals for armed forces. Special

corporatized public hospitals, established based on special laws for the public interest, include the National Medical Center, the National Cancer Center and National University Hospitals.

As of 2012, there were 34 regional medical centres directly under regional governments and 254 health centres accountable to municipalities. Health subcentres and primary health-care posts, numbering 1315 and 1895 respectively as of 2012, provide basic health services in the areas where health centres do not exist or are not easily accessible (MOHW, 2013). There are also hospitals owned by regional governments that provide health services for specific populations such as children, the elderly, and the mentally ill.

The role and function of health providers is not well differentiated, particularly between clinics and hospitals. Some clinics have inpatient beds while all general hospitals provide outpatient services. There is no gatekeeper in the health-care system. Citizens are not required to register with any health-care provider, even though there are many local clinics. Thus, patients have the freedom to choose health-care provider at any level according to their preference as long as they can afford to pay higher out-of-pocket (OOP) payments in general hospitals and tertiary hospitals. Recently, the concentration of patients in the so-called “big 5” general hospitals has been an issue. The lack of differentiation of health-care providers’ roles and the absence of a gatekeeping system have been highlighted as causes of inefficiency in health-care delivery.

2.2 Historical background

The private-dominant health-care delivery system can be traced back to the early years of the Republic of Korea, when the Government adopted a laissez-faire position in providing health services for citizens. The task of meeting the health needs of the population had been left to the private sector until social health insurance was first introduced in 1977 as a measure of the 4th Economic Development Program (1977–1981). The introduction of social health insurance and the tax-based Medical Aid Program contributed to significantly enhancing access to health services, which the poor had largely been excluded from by cost.

The ensuing incremental approach to extending coverage led to the achievement of universal population coverage in 1989, resulting in a steep increase in health-care utilization in a very short period. As a result of responding to this increase in demand, the private sector expanded dramatically.

2.3 Organization

2.3.1 Ministry of Health and Welfare

The Ministry of Health and Welfare is responsible for promoting the health and welfare of the population and plays a central role in health planning, policy formulation, and policy implementation at the national level. It directly manages several national hospitals such as psychiatric hospitals and tuberculosis hospitals where the private sector fails to meet the needs, and implements various public health policies through collaborating with regional medical centres as well as health centres at the municipal level. With regard to health financing, the Ministry entrusts the running of NHI, the major source of financing, to two quasi-public entities, the National Health Insurance Service and the Health Insurance Review & Assessment Service.

2.3.2 Regional governments

In collaboration with the Ministry of Health and Welfare, regional governments are in charge of managing regional medical centres. Regional governments can create their own plans to build new hospitals for their residents. Recently, the governor of Gyeongnam Province decided to close down a regional medical center in Jinju City. The closure of the Jinju medical center, which had long suffered from financial deficits, faced strong resistance from civil society.

2.3.3 Municipalities

Each municipality, or si-gun-gu, is in charge of managing health centres, health subcentres and primary health-care posts. As each municipality has one health centre that provides various public health services including antenatal care, vaccination, and health checkup as well as basic medical care, municipal governments can make and implement plans to improve the health of their residents through its health centres. Municipalities can also establish health subcentres and primary health-care posts to ensure their residents' access to basic health services in the areas where access is difficult.

2.3.4 National Health Insurance Service

NHIS, until recently called the "National Health Insurance Corporation", is a quasi-public organization that is in charge of running the NHI. As a single payer, its major role includes management of beneficiaries, collection of contributions, and payment to health-care providers. Every

year NHIS negotiates with the representatives of different types of provider on fee levels for the following year. NHIS is accountable to the Ministry of Health and Welfare.

2.3.5 Health Insurance Review & Assessment Service

HIRA is also a quasi-public organization and is in charge of reviewing health insurance claims and assessing health services provided in the NHI. It reviews medical claims filed by providers and sends the results to the NHIS, which then reimburses providers. HIRA also assesses the quality of health services according to quality assessment guidelines. To health-care providers, its role is similar to that of a regulatory entity because it reviews the claims and assesses the quality of the health services that they provide for patients. HIRA is also accountable to the Ministry of Health and Welfare.

2.3.6 National Evidence-based Health-care Collaborating Agency (NECA)

Established in 2009, NECA is a relatively new quasi-public agency that is in charge of carrying out health technology assessment. It generates evidence on the clinical effectiveness and cost-effectiveness of various health services, technologies and health products, and informs consumers, health-care providers and health policy decision-makers including the payer.

2.3.7 Private health-care providers

Private health-care providers play a major role in delivering health services in the Republic of Korea. From the launch of the NHI, private clinics and hospitals have been designated as providers for the NHI beneficiaries, so they have not been allowed to opt out. The quality of care they provide is monitored by HIRA. In addition, hospitals are encouraged to gain accreditation on a voluntary basis. Professional associations such as the Korean Medical Association, the Korean Hospital Association and the Korean Pharmaceutical Association meet separately with representatives of NHIS to negotiate the fee level of the services that their members provide.

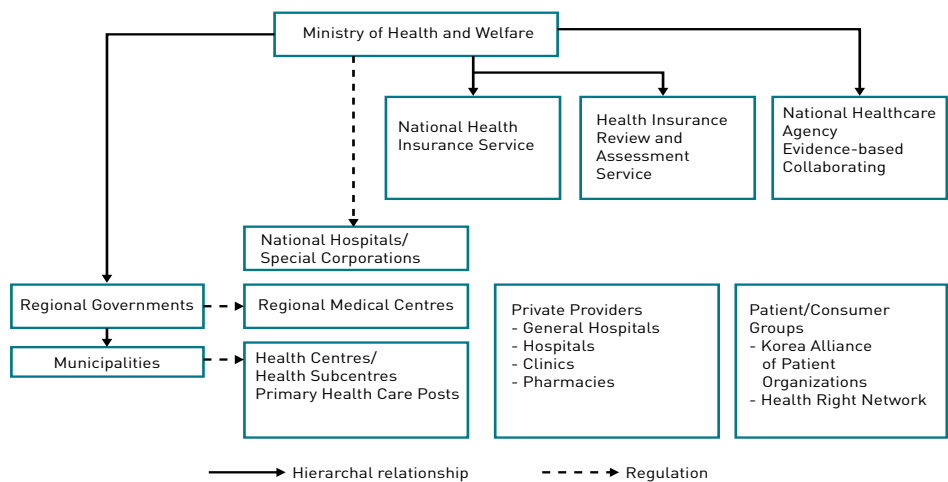
2.3.8 Patient/consumer groups

In a health system where private providers are dominant, the role of patient/consumer groups as nongovernmental organizations (NGOs) cannot be overemphasized. The Korea Alliance of Patient Organizations

(KAPO) was established in 2010 as an umbrella patient group, including as its members individual patients groups such as those battling leukemia, kidney cancer and multiple myeloma. With the aim of enhancing the welfare and rights of patients, KAPO advocates extending of NHI benefit coverage for its members and for the general public.

Established in 2003, the Health Right Network (HRN) is a typical NGO that strives to ensure the right to health of citizens and patients as health consumers. The activities of HRN include enhancing citizens' right to freedom of information, advocating the expansion of NHI benefit coverage and opposing the privatization of health-care.

Figure 2.1 Organization of the health system in the Republic of Korea



Source: Asia Pacific Observatory on Health Systems and Policies

2.4 Decentralization and centralization

With NHI in place as the main financing source, health financing is centralized while most service provision is privatized. Rather than directly running the health insurance programme, the Ministry of Health and Welfare has delegated the task of running it to NHIS and HIRA, two quasi-public organizations, but it retains indirect control over the NHI. For example, the head of NHIS is appointed by the President on the recommendation of the Minister of Health and Welfare, while the president of HIRA is appointed directly by the Minister.

Regional governments and municipalities do not have authority to raise extra revenues for health, other than local taxes and local revenue-sharing from national taxes. However, they have some freedom to decide how to allocate their revenue for the health of their residents. As owners of public medical centres, regional governments used to have the authority to decide how to run regional medical centres, even including closure, though they were supposed to consult with the Ministry of Health and Welfare. For example, some regional governments have contracted out the running of public medical centres suffering from chronic financial deficits. The closure of Jinju medical centre was an unusual case of a regional government taking its own decision, which recently led to legislation requiring regional governments to conduct prior consultation with the Ministry on any closure of a regional medical centre.

2.5 Planning

The Ministry of Health and Welfare is at the centre of health planning in the Republic of Korea. Its approach to health planning is generally based on the health needs of the population, but is sometimes influenced by political changes. For example, the Ministry's plan for cancer control is a long-term plan reflecting the importance of cancers as the major cause of death. In contrast, its plan for strengthening public health-care has varied according to the political climate. A few examples of health planning are discussed below.

Planning of the health workforce has been an important policy agenda since 1977 when the 4th Economic Development Program (1977–1981) started. In particular, the government implemented a policy of increasing the supply of health human resources to meet the increased demand for health-care following the introduction of social health insurance in 1977. For example, the entrance quota of medical colleges was 1380 at 14 medical colleges in 1977, increasing to 3058 at 41 medical colleges in 2006 (MOHW, 2013). At present, the number of practicing doctors is 200 per 100 000 people, which is still lower than the average of OECD countries.

Taking into account that cancer is the leading cause of death in the country, the Ministry developed a 10-year plan for cancer control in 1996. As the first achievement of the plan, the National Cancer Control Planning Board (NCCPB) was created to manage and coordinate R&D in the prevention, diagnosis, and treatment of cancers. Currently, the second 10-year (2006–2015) plan for cancer control is being implemented.

Meanwhile, the Ministry of Health and Welfare developed a five-year plan for strengthening public health-care in 2005, in recognition that public health facilities should be safeguards to provide relevant health services for the population, especially for vulnerable groups. Though the ambitious goal of bringing the share of public facilities up to 30% of total facilities has not been achieved yet, a Government-led plan for strengthening public health-care is regarded as important, especially in a situation that profit-oriented private health providers are dominant.

2.6 Intersectorality

Taking account of the social determinants of health, health in all policies has been emphasized by recommending health impact assessment (HIA), especially in connection with the Healthy City Project. Though not a legal requirement, an HIA of this type aims to encourage municipalities participating in the Healthy City Project to plan healthy public policies and projects and to assess their impact on health. HIAs have been conducted for several public policies, whether directly health-related or not. One example is the HIA of KTX, the high-speed railway system.

Another type of HIA, which is carried out as a part of environmental impact assessment, is a legal requirement and has been in place since 2010. Among various determinants of health, this type of HIA focuses on physical environmental risk factors such as air pollution, water quality, noise and vibration which may be incurred by development projects like building an industrial complex or thermal power plant, for example. The HIA feeds the results back into the decision-making process.

From a decade ago, rapid ageing coupled with low fertility was recognized as a potential threat, and it became a driving force of intersectoral collaboration. A committee to address low fertility and the ageing society was organized in September 2005. The committee, chaired by the President, commanded intersectoral collaboration with 12 ministries including the Ministry of Finance and Economy, the Ministry of Education, and the Ministry of Health and Welfare. The committee played the role of control tower to cope with socioeconomic problems incurred by low fertility and rapid ageing. After the Lee administration was inaugurated in 2008, the committee was adjusted, and would be chaired by the Minister of Health and Welfare. Though it was downgraded, the committee still commanded intersectoral collaboration with vice-ministers concerned to discuss policy goals and direction in a low-fertility, ageing society.

Smoking is one of the major health risk factors. Among various strategies to lower the smoking rate, an increase in cigarette price is always on the policy menu and also needs intersectoral collaboration. The Government increased tobacco tax in 2005, and some of the tobacco tax was earmarked for a health promotion fund. This was possible because other ministries including the Ministry of Strategy and Finance (MOSF) recognized the importance of health promotion for the population. A further significant increase in the cigarette price through taxation was recently made.

The National Health Plan 2020 (HP 2020) is the third national health promotion plan launched since the National Health Promotion Law was enacted in 1995. Considering the social determinants of health, HP 2020 set up targets in various areas to enhance the health of the population. In terms of intersectorality, the Ministry of Health and Welfare needs to collaborate with other ministries like the Ministry of Education and the Ministry of Employment and Labor to improve the health of schoolchildren and industrial workers, respectively.

Apart from enhancing population health, HP 2020 also aimed to reduce inequalities in health. Not only did it establish targets to reduce health inequalities in individual projects such as tobacco control, alcohol control and physical activity, it also aimed to enhance the health of vulnerable groups such as the disabled and ethnic minorities.

2.7 Health information management

2.7.1 Information systems

Under a single-payer health insurance system, it is feasible to collect the utilization data of the entire population because all medical services covered by the NHI are reported to the insurer for claims purposes. Although it may have a problem with accuracy of coding, the claims database provides a good platform for improving the quality of health services in various ways.

Using the claims database, for example, NHIS established a large database comprising of a representative sample of 1 million people with nine years' (2002–2010) follow-up of their health-care utilization in 2012, which is expected to contribute to better understanding of health utilization patterns, providing customized health management services and reducing health-care costs.

HIRA has made efforts to improve the quality of health services by providing both health providers and consumers with feedback and information generated from the claims database. In 2010, HIRA established a drug utilization review (DUR) system whereby information on the drugs a patient is taking and their contraindications is provided for prescribing doctors and pharmacists. DUR is expected to protect the health of the patients and reduce expenditure on drugs by reducing unnecessary drug utilization. In addition, HIRA publicizes information on the quality of health-care providers at all levels. The information, including antibiotics prescription rates, the number of medicines per prescription and Caesarean-section rate, is made available on the website of HIRA for consumers' reference.

Meanwhile, the National Emergency Medical Center (NEMC) started work on the National Emergency Department Information System (NEDIS) in 2003 by setting the standard of information on treatment. By 2011, NEMC completed implementation of NEDIS in 117 emergency departments nationwide including 16 regional emergency medical centres and 45 district emergency medical centres (NEMC, 2013). Based on the information collected from NEDIS, NEMC published emergency care statistics in 2013, including data on utilization of emergency care and resources.

2.7.2 Health technology assessment

Health technology assessment (HTA) in South Korea began in 2000. Since then, questions have been raised about the objectivity and fairness of the methods used to evaluate the safety/effectiveness of health technologies that were implemented as part of the procedure for determining whether a treatment provides benefit for patients (CnHTA, 2013). The Ministry of Health and Welfare entrusted projects involved in assessing new health technologies to HIRA for smooth implementation of the new health technology assessment system in June 2007, and accordingly, the New Health Technology Assessment Project Division was officially established. Since the National Evidence-based Health-care Collaborating Agency, a new HTA body, was established in March 2009, the work, organization and personnel were transferred from HIRA in June 2010, and thus the work is currently being undertaken by the NECA's Center for New Health Technology Assessment (CnHTA).

HTAs in the Republic of Korea tend to focus on safety, effectiveness, and cost-effectiveness. The Committee for New Health Technology Assessment evaluates the safety and effectiveness of medical procedures and diagnostics, usually based on systematic reviews of existing literature. The Committee, commissioned by the Ministry of Health and Welfare, consists of 20 health professionals. There are five specialized assessment committees by specialty area, including internal, surgical, dental, traditional medicine and other procedures, which prepare review reports for deliberation by the Committee. The Center for New Health Technology Assessment has carried out many evaluations, and the number of HTA reports amounted to almost 270 as of December 2013 (CnHTA, 2013).

While evaluation of the safety and efficacy of new drugs is carried out by the Ministry of Food and Drug Safety, evaluation of cost-effectiveness for health insurance reimbursement is carried out by HIRA. The Drug Reimbursement Evaluation Committee (DREC), appointed by the president of HIRA, deliberates on assessment reports on the cost-effectiveness of new drugs submitted by pharmaceutical companies and decides whether or not the drugs can be included in the NHI benefit package. DREC used to consist of 16 health-related professionals and experts before July 2013. Now it consists of a pool of about 50 health-related professionals and experts, out of whom a maximum of 21 are selected for each DREC meeting.

2.8 Regulation

2.8.1 Regulation and governance of third-party payers

The NHIS is the only public health insurer. It is supervised by and accountable to the Ministry of Health and Welfare, which has indirect control over the operation of the NHI through formulation and implementation of health insurance-related policies.

Purchasing decisions on health services to be included in the NHI benefit package are centralized. The Health Insurance Policy Deliberation Committee (HIPDC), which consists of 25 representatives of payers (enrollees), providers and the government/public experts, plays a critical role in deciding the contribution rate and the range of health services included in the NHI benefit package and endorsing the fee contract between health providers and NHIS..

2.8.2 Regulation and governance of providers

The Ministry of Health and Welfare is the main regulator of health-care providers at the national level. To improve the quality of services, the Ministry introduced a hospital evaluation programme in 2004, which was mandatory for general hospitals. Despite its positive effect, critics said that the hospital evaluation programme failed to let health-care organizations make voluntary efforts to improve the quality of their services (MOHW, 2013b). The Ministry replaced the hospital evaluation programme with a new hospital accreditation programme in 2011, in which participation was voluntary for most hospitals, though it was mandatory for tertiary hospitals, special hospitals, long-term care hospitals and psychiatric hospitals. The Ministry entrusted a task of accreditation to the Korea Institute of Health-care Accreditation (KOIHA), which was founded in 2010 based on Article 58 of the Medical Service Act. Although the results of accreditation were made available online for patients' informed choice of hospitals, the participation rate for the accreditation programme is reported to be low. This can be attributed to voluntary participation and high fees for accreditation. As of 2013, the proportion of hospitals accredited was as low as 9.3% (Suk, 2013).

2.8.3 Registration and planning of human resources

It was not until recently that information on the employment status of licensed health professionals became available. To solve the problem of ineffective license management, a consultative commission consisting of the representatives of the Government, health providers and academics was created in 2009. The commission recommended a revision of the Medical Law to introduce a new license reporting mechanism whereby health professionals holding licenses are required to report the completion of continuing professional education as well as their updated employment status every three years. As a result, batch reporting started in April 2012 and lasted for one year. A periodic license reporting system will then be in place, contributing to improvement of the quality of health human resources through information on employment status and continuing professional education.

Currently, the quota of residents in teaching hospitals is set by the Korean Hospital Association (KHA) with approval by the Ministry of Health and Welfare. The qualification test for medical specialists is managed by the Korean Medical Association (KMA). The medical specialist system, modelled after the American system, was first introduced in

1952 in order to facilitate training of high quality medical professionals amid the devastation that the Korean civil war had brought. Since then, the Government has been involved in planning the supply of medical specialists. Recently, both the KHA and KMA, opposed to the Government's regulation of the medical specialist system, have insisted that the Government should empower professional associations to manage the system.

2.8.4 Regulation and governance of pharmaceuticals

If manufacturers or importers want to sell new drugs in the Republic of Korea, they must obtain market authorization from the Ministry of Food and Drug Safety, which regulates the safety and effectiveness of drugs. According to the regulation on drug classification criteria, the Ministry classifies drugs into two categories: over-the-counter (OTC) drugs and prescription drugs. General sales of some OTC drugs in supermarkets have sparked vigorous debate between pharmacists and the general public. However, some OTCs including fever reducers have been available in supermarkets since 2012. Broadcast advertising of prescription drugs has been prohibited while advertising of OTC drugs has been allowed.

Since the implementation of the policy separating prescribing and dispensing of medicines in 2000, generic substitution by pharmacists has been in place, but its actual implementation rate has been negligible. One of the reasons is lack of confidence among the public and doctors in bioequivalency tests. Another reason is the regulation that pharmacists should notify *ex post facto* the prescribing doctors or dentists of a generic substitution within a day, which has made pharmacists reluctant to make the substitution.

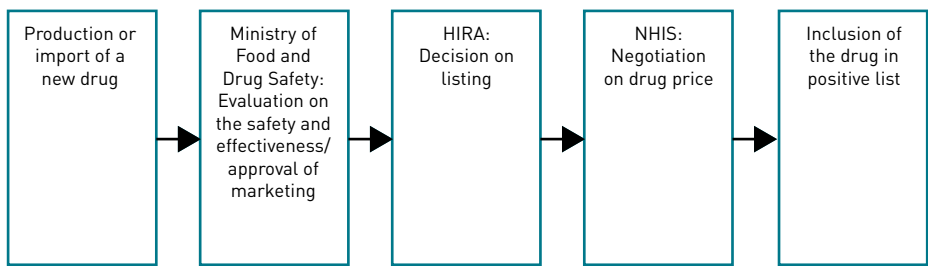
As a condition of the increase in dispensing fees in their negotiations with NHIS in 2012, the Korea Pharmaceutical Association agreed to encourage its member pharmacies to increase twentyfold the rate of generic substitution, which was less than 0.1% of total prescriptions at that time. Despite the two bodies' agreement, it is reported that the rate of generic substitution has remained low, and about half of the entire pharmacies had never tried generic substitution (Kukmin Daily, 22 Oct 2013). To boost generic substitution, HIRA introduced an incentive system for generic substitution in November 2013, over the dissent of doctors. Pharmacies are rewarded by 30% of the savings generated by generic substitution. The effectiveness of this incentive needs to be evaluated.

Once pharmaceutical companies get market authorization for new drugs, they are required to submit a dossier of the cost-effectiveness of those drugs to be included in the NHI formulary. A positive list system whereby only drugs included in the formulary can be reimbursed in the NHI was first introduced in 2007. In the positive list system, decisions on reimbursement of new drugs are made by DREC. The criteria that DREC considers for the reimbursement decision are as follows: clinical benefits such as severity of disease and potential to replace existing therapies; cost-effectiveness; budget impact based on target population, expected sales and substitution effect; whether and at what price the drug of interest is reimbursed in other countries; and other impacts on the health of the population. Among the above-mentioned criteria, cost-effectiveness is critical to the reimbursement decision. Since the positive list system has been in place, many drugs have been denied reimbursement in the NHI mainly for the reason of not satisfying the cost-effectiveness criterion (Jirawattanapaisal et al., 2009).

Once DREC decides to reimburse a new drug in the NHI, the pharmaceutical company has to negotiate the price of the drug with NHIS (Figure 2.2). The following factors are considered in the negotiation: the assessment report by DREC; budget impact; the price of the drug in other countries including OECD; patent status, i.e. whether or not the drug comes off patent; and domestic R&D expenditures.

Re-evaluation of listed drugs in the NHI formulary was implemented along with the positive list system. All drugs in the NHI formulary were categorized into 49 therapeutic groups, and their re-evaluation was planned to be completed in five years, based on the clinical effectiveness and cost-effectiveness of the listed drugs. Facing strong objections from pharmaceutical companies, however, the Government withdrew the plan after having completed re-evaluation of a few therapeutic groups including hyperlipidemia, migraine, and hypertension. Instead, re-evaluation based on cost-effectiveness was replaced with price cuts based on relative price within the same ingredients, that is, any drug prices exceeding 80% of the maximum price for any given mix of ingredients should be lowered to the 80% price level.

Figure 2.2 Procedure for pricing and reimbursing new drugs



Source: Asia Pacific Observatory on Health Systems and Policies

2.8.5 Regulation of medical devices and aids

Due to advances in health technology, demand for high-tech medical devices has grown. There are currently no controls on the acquisition of expensive devices. In order to prevent excessive utilization of such devices, the Government imposed an import license regime in 1981. However, the regulation was abolished in late 1980s, so expensive technology such as CT scanners and MRI machines could be imported freely. In addition, a regulation requiring approval for setting up MRIs, which defined the criteria for qualifying hospitals, was abolished in 2000, so even clinics have been able to install MRI machines. Due to these deregulatory measures, private health-care providers, whether hospitals or clinics, can make decisions on purchasing expensive high-tech devices according to their profitability, which is most likely feasible in a fee-for-service payment system.

2.8.6 Regulation of capital investment

Except for the restriction on capital investment from external private sources, there has been no regulation on capital investment in hospitals. According to the Medical Law, only health professionals and not-for-profit corporate bodies are allowed to make capital investments in hospitals while other external private funds are not.

In principle, not-for-profit corporate bodies are not allowed to make profits from providing health services, but they are allowed to make profits from running extra business such as funeral arranging, parking lots, restaurants, and so on. Private health-care providers can make a decision on capital investment according to their own judgment on profitability. This explains partly how large hospitals have been able to continue expanding bed numbers without receiving investment from

external private funds so far. Recently, the Government has planned to allow hospitals to establish subsidiaries able to receive investment from external private sources on side-businesses as mentioned above, so that hospitals can increase the number of beds using the resulting profits. Suspecting privatization of health-care by stealth, however, civil society groups and some health professional groups are vigorously opposing the Government's plan.

2.9 Patient empowerment

2.9.1 Patient information

Considering the asymmetry of information in health-care, it is important to provide relevant information for consumers to ensure the maximum benefit from the appropriate use of health-care. Using the claims database which includes every medical claim of the whole population, HIRA provides information on health providers and medicines. HIRA also discloses information on the prices of 32 service items not covered in the NHI that 113 general hospitals of over 300 beds provide, such as ultrasound, PET and MRI scans, implants, robotic surgery, and so on.

Evaluation of the appropriateness of health services aims to ensure the quality of health services that the NHI covers. Under the National Health Insurance Law, HIRA posts the evaluation results in 18 areas of health service so that patients may compare and make a rational choice of provider. However, this kind of information has been underutilized so far. Just 7.5% of patients have looked up the evaluation results of health providers, and most did not know such information was available [Consumers Korea, 2012].

A DUR system supports drug prescribing and dispensing by providing real-time information on the safety of drug use such as contraindications. HIRA provides an online DUR service for patients to check the safety of medicines they are prescribed. Taking into account the high prescription rates of antibiotics and injections, DUR is expected to not only promote drug safety but also reduce unnecessary drug spending. However, just 25.1% of consumers knew about DUR according to a recent survey [Consumers Korea, 2012].

2.9.2 Patient choice

Under the single-payer insurance system, it is mandatory for every citizen to be enrolled in the NHI. There is no choice of health insurer within the

NHI, although purchase of private health insurance from multiple private insurers is permitted. Unlike the lack of choice of insurer within the NHI, patients are given almost free choice of health-care providers in two ways. First, there is no gatekeeping in the health system. Patients are not required to register with primary care doctors and have the freedom to visit any doctor. For example, a 10-year-old patient with influenza can visit a family physician, a general practitioner, a pediatrician, or an ENT specialist. Second, patients literally have the freedom to choose between clinics and hospitals as long as they pay a higher co-payment. Patients are nominally required to visit primary care providers for a referral letter to secondary or tertiary care hospitals and have to pay higher co-payment if they bypass primary care providers. In reality, a substantial share of patients, even with simple health problems, prefer going directly to higher-level providers with higher co-payments. This incurs unnecessary spending from health insurance funds.

On the other hand, Article 46 of the Medical Law stipulates that patients can choose experienced and/or specialist doctors for an additional fee. Unlike its original purpose of enhancing patient choice and competition among providers, however, this freedom of choice of experienced doctors has hardly been guaranteed. More often than not, those doctors have been allocated to patients for treatment, regardless of patients' intentions or preferences, because they can be a source of additional hospital revenue. Most doctors in tertiary care hospitals are eligible for the additional fee, and their patients rarely have a choice of doctors. Government has recently announced the plan to reform the system by enhancing the criteria of experienced physicians and guaranteeing more informed choice for patients.

2.9.3 Patient rights

The Basic Law on Health and Health-care enshrines patient rights in several aspects: the right to health and health-care, the right to ask for information on the health-care policy of central and local governments and for medical records, consent in health-care procedures, and protection of confidentiality and privacy. The Medical Law also protects patient rights in a similar way to the Basic Law. In addition, patients have a right to make a claim for medical dispute to the Korea Medical Dispute Mediation and Arbitration Agency (K-MEDI), which was established in 2012. In the health-care sector, consumers are usually placed at a disadvantage with regard to health-care providers due to asymmetry of information, thus the establishment of K-MEDI is expected to contribute

to improved protection of patients' rights associated with patient safety and malpractice.

The Ministry of Health and Welfare carries out a nationwide survey on arrangements to enable physical access to public facilities for disabled people every five years. The first survey, completed in 1998, revealed that 47.4% of public facilities had such arrangements in place for disabled people, and the figure increased to 72.3% in 2003 and 77.5% in 2008. However, the percentage of public facilities with infrastructure maintained at the legal standard was 55.8% in 2008 (MOHW, 2013).

2.9.3 Complaints procedures (mediation, claims)

As medical consumerism gains more influence, the number of medical complaints or disputes is expected to increase. In fact, the number of medial disputes officially reported increased 2.2-fold from 1674 to 3407 during the period of 2000–2009 (Lee et al., 2012). In order to cope with the increase, the Medical Dispute Mediation Law was enacted in 2011, which led to establishment of K-MEDI. Currently, the burden of proof of doctors being responsible for adverse medical events lies on patients. On behalf of patients, NGOs are trying to shift the burden of proof to providers, in which case doctors would have to prove that they were not responsible for medical misadventures.

2.9.4 Public participation

It is not easy for individual members of society to influence national health insurance policy. However, there are some opportunities for public representation in decision-making bodies, directly or indirectly. A typical example of public participation that can influence purchasing decisions is the Citizen Council for Health Insurance. A pilot of the Citizen Council for Health Insurance was implemented in 2010, when 30 lay citizens selected randomly among applicants participated in a discussion about priority-setting with regard to the extension of the NHI benefit package. The pilot revealed that the general public were highly interested in participating in the priority-setting process and active deliberation led them to consensus on not extending benefits to low-priority services (Kwon et al., 2012). Since 2012, NHIS has been piloting a Citizen Council for Health Insurance to hear the general public's opinion on the benefit expansion policy. Recently, HIRA also announced a plan for a citizen council in order to reflect public opinion in the decision-making process on drug reimbursement.

2.9.5 Patients and cross-border health-care

In the past, a small number of rich patients would travel abroad for medical treatment of severe diseases such as cancer. Recently, the number of foreign patients visiting the Republic of Korea for medical treatment has increased. This new phenomenon has made not only health providers but also the Government regard medical tourism as a profit-making industry. Thus, medical tourism has become an important policy agenda at regional as well as national levels. Many regional governments have signed memoranda of understanding to collaborate on medical tourism with major hospitals in their regions. However, the impact of medical tourism on the health-care system is uncertain and often controversial in the Republic of Korea.

3 Financing

Chapter summary

Healthcare is financed through National Health Insurance covering the entire population. Other than some of very new and costly technologies, most health-care services, including medical check-ups and cancer screening, are included in the benefits package with relatively high cost-sharing. The role of voluntary health insurance (VHI) in health-care financing is increasing, and its role has been controversial.

Out-of-pocket (OOP) payments still required in social insurance include co-payments for covered services and full payment for services not included in the benefits package. Patients pay 20% of the cost for insured services in inpatient care, and differential cost-sharing is applied for outpatient care, depending on the level of health provider. The poor are exempted from cost-sharing at the point of service, and vulnerable patient groups have access to discounted co-payment rates. There is a ceiling on OOP payments, with differential ceilings applied to different income groups, but the ceiling applies only to insured services. High OOP payments have been a serious concern and are increasingly driven by payments for uninsured services, most of which involve new technology and medicines with uncertain cost effectiveness.

For employees, health insurance contributions are proportional to wage income and shared equally between the employee and employer. Health insurance contributions for the self-employed are based on both income and the value of property such as houses and vehicles. As a single payer system, health insurance has a uniform contribution formula and benefits coverage nationwide.

Social health insurance is managed by quasi-public agencies: the National Health Insurance Service deals with premium collection, risk pooling, fund management, and reimbursement to providers, and Health Insurance Review and Assessment is responsible for claim review,

assessment of appropriateness of health-care, technical support to benefit packages and the design of the provider payment system. Fees for services in the benefits package are negotiated annually between the NHIS and provider associations.

Health-care providers are paid under the fee-for-service system, and due to the dominance of private providers, this has contributed to the rapid increase in health expenditure. Other payment methods include Diagnosis Related Group (DRG)-based prospective payments to acute care providers for seven disease categories and per-diem payments differentiated by 17 disease categories to long-term care hospitals.

3.1 Health expenditure

Health expenditure has increased rapidly. Total health expenditure as a percentage of GDP has doubled in the last 15 years, from 3.7% in 1995 to 7.4% in 2011. For the last 10 years, the mean annual real growth rate of health expenditure was greater than that of GDP. The Republic of Korea has experienced one of the highest rates of increase in health expenditure among OECD countries. With stagnant economic growth and rapid ageing of the population, rising health expenditure is becoming a major concern. For example, the proportion of health expenditure for the elderly has increased from 19.3% in 2002 to 34.4% in 2012.

Although the Republic of Korea has a social health insurance system covering the entire population, public expenditure accounted for 55% of total health expenditure in 2011, an increase from 39% in 1995. The percentage of OOP payments of total health expenditure has decreased from 52% in 1995 to 35% in 2011. Due to the nature of the contribution-based health insurance system, the role of Government (tax-based) spending is relatively small in health-care financing.

Table 3.1 Trends in health expenditure in the Republic of Korea, 1995 to 2011

Expenditure	1995	2000	2005	2011
Total health expenditure in US\$				
PPP per capita (2005 prices)	340	555	1,011	1,831
Total health expenditure as % of GDP	3.7	4.3	5.6	7.4
Mean annual real growth rate in total health expenditure*	7.2	8.5	10.3	8.6
Mean annual real growth rate in GDP*	9.6	4.1	4.0	3.4
Public expenditure on health as % of total expenditure in health	38.6	50.4	53.3	55.3
Private expenditure on health as % of total expenditure in health	61.4	49.6	46.7	44.7
Government health spending as % of total government spending	6.3	9.9	11.5	15.2
Government health spending as % of GDP	1.3	2.2	3.1	4.6
OOP payments as % of total expenditure on health	51.8	39.4	37.5	35.2
OOP payments as % of private expenditure on health	84.4	79.4	80.3	78.9
VHI as % of total expenditure on health	2.9	5.0	3.9	5.5
VHI as % of private expenditure on health	4.7	10.1	8.4	12.3

* Calculated as the mean of the annual growth rates in national currency units at 2005 GDP prices.

Note: Public expenditure on health includes government spending and social security funds

Source: MOHW, 2012a.

The majority of health expenditure is spent on medical services. Inpatient care, outpatient physician care, and medical devices/medicines account for 35%, 24%, and 23% of total health expenditure respectively. There is little difference between public sector health expenditure and total health expenditure in terms of the relative share of service programmes, as seen in Table 3.2. The percentage of expenditure on public health/prevention in public sector health expenditure and total health expenditure is only 4.5% and 3.1%, respectively.

Table 3.2 Public expenditure on health by service programme, 2011

Programme	% of public expenditure on health	% of total expenditure on health
Health administration and insurance	4.9	3.7
Public health and prevention	4.5	3.1
Medical services:		
Inpatient care	37.1	35.0
Outpatient/ambulatory physicians services	24.7	24.2
Outpatient/ambulatory dental services	2.3	8.2
Ancillary services	1.1	0.9
Home and domiciliary health services	2.7	1.8
Medical devices, medicines, etc.	22.8	23.2

Source: MOHW, 2012a.

3.2 Sources of revenue and financial flows

The major mechanism for health-care financing in Korea is social (national) health insurance, covering the entire population. Most of the medical care services, except very new costly technology with uncertain cost effectiveness, are included in the benefits package, but with relatively high cost-sharing. The contribution for health insurance is set as the percentage of income or other measures of the ability to pay. Social health insurance has a single payer system with a uniform contribution rate and benefits package for the insured. The share of social health insurance contribution in total health expenditure has increased from 30.9% in 1990 to 43.6% in 2011. The majority of health-care providers are in the private sector (about 90% of hospitals are private), and the role of Government budget allocation in total health expenditure is relatively small, at just 11.7% in 2011.

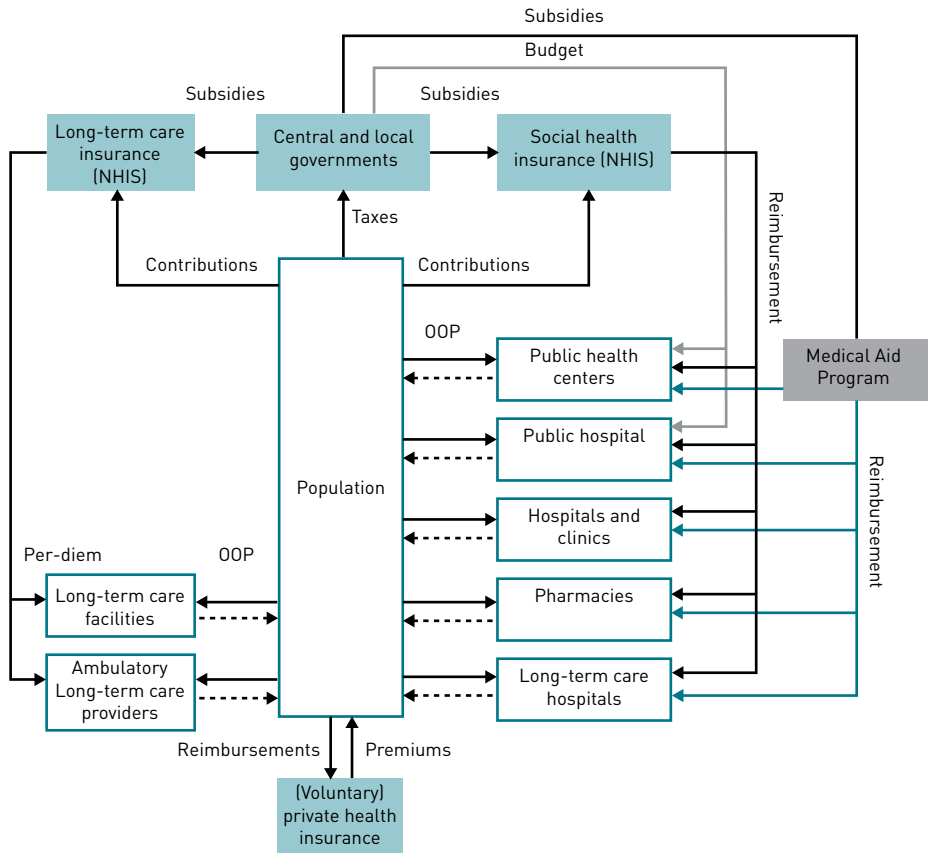
As the share of social health insurance in total health expenditure has increased, the share of OOP payments has decreased from 55.7% in 1990 to 35.2% in 2011. OOP payments in social insurance consist of co-payment for covered services and full payment for uncovered services (those services not included in the benefits package). Although the share of OOP payment in total health expenditure has steadily decreased, it is still higher than that in other OECD countries and has caused concern about insufficient financial protection. The role of VHI in health-care financing has been increasing but its share of total health expenditure is still about 5%.

Table 3.3 Sources of revenue as a percentage of total expenditure on health according to source of revenue, 1990, 1995, 2000, 2005, and 2007 to 2011

Source of revenue	1990	1995	2000	2005	2007	2008	2009	2010	2011
General government expenditure	8.6	7.9	11.5	12.2	13.0	12.8	13.1	12.7	11.7
Earmarked taxes or social insurance contributions	30.9	30.6	38.9	41	42.1	42.1	43.6	43.7	43.6
OOP payments	55.7	51.8	39.4	37.5	35.6	35.5	34.2	34.2	35.2
VHI	1.2	2.9	5.0	3.9	3.9	4.4	5.1	5.4	5.5
Other	3.6	6.7	5.2	5.3	5.4	5.3	4	4	3.9

Source: MOHW, 2012a.

Figure 3.1 Financial flows



Source: MOHW, 2013a

3.3 Overview of the statutory financing system

3.3.1 Coverage

Population

The Health Insurance Law was enacted in December 1963 by the military government soon after its coup d'état. But the law did not include the requirement of mandatory coverage, and social insurance for health-care was not actually implemented until the mid-1970s. The Health Insurance Law was substantially revised in December 1976 to stipulate compulsory enrolment in health insurance.

Employees of large corporations with more than 500 workers were the first group to be covered by health insurance in 1977, which was incrementally extended to smaller firms with more than 16 employees in 1983. The Medical Aid Program for the poor began in 1977, and school teachers and Government employees joined the health insurance in 1979. To extend health insurance to the self-employed, the Government implemented pilot programmes in a few rural and urban areas in the early 1980s. Health insurance was extended to the rural self-employed in January 1988, followed finally by the urban self-employed to achieve universal health coverage in 1989 (Kwon, 2009).

From the beginning, the health insurance system adopted family-based membership, and dependents became members of the scheme their household head was enrolled in. Since 2000, those with more than a certain amount of income cannot be dependents and are required to pay their own contribution. No opting-out from the statutory health insurance system is allowed. The poor are exempted from paying contributions and co-payments. They are covered by the tax-financed Medical Aid Program.

Scope

Population coverage has been given higher priority than the scope and depth of service coverage in the development of health insurance in the Republic of Korea. The benefits are explicitly defined and mainly in the areas of curative services such as diagnosis, treatment, traditional medical care, emergency care, pharmaceuticals and dental care. They also include biannual health check-ups, such as cancer screening for those over 40 years old. Thanks to the single payer system, all insured have access to an identical benefits package. Cash benefits are available for limited areas such as maternity benefits and funeral benefits.

Cost-effectiveness criteria were formally applied to benefits package decisions for new medicines and technology in 2006. For medical services, various criteria are considered, including clinical effectiveness, cost-effectiveness, financial burden on patients and fiscal impact on health insurance. Technical reviews of benefit decisions are provided by relevant committees in the health insurance agency. Based on these reviews, the final decision is made by Health Insurance Policy Deliberation Committee.

The Health Insurance Policy Deliberation Committee makes major decisions such as premium contributions, benefit packages, cost sharing, and pricing of medical care and pharmaceuticals. The Committee has 25 members with the Vice Minister of Health and Welfare as the chair. It is a tripartite committee consisting of representatives of payers, providers and expert/governments. Eight members represent payers (labour unions, employer associations, civic groups, etc.), eight come from health-care providers (physicians, hospitals, dentists, pharmacists, nurses, etc.) and eight are experts and public agencies representatives (Ministry of Health and Welfare, Ministry of Strategy and Finance, National Health Insurance Service, Health Insurance Review and Assessment, and four experts).

Depth

A 20% co-payment is required for inpatient care services included in the benefit package, but this ranges from 30% to 60% for outpatient care, depending on the level of provider. The poor are exempted from cost-sharing at the point of service, and vulnerable patient groups (e.g., the elderly, patients with catastrophic conditions such as cancer) have access to discounted co-payment rates. There is a ceiling on OOP payments for each six months, with differential ceilings applied to different income groups.

3.3.2 Collection

For employees, health insurance premiums are proportional to wage income and shared equally between the employee and employer. The contribution rate is uniform for all employees and has increased from 4.21% of wage income in 2004 to 5.64% in 2011. There is a salary ceiling for the contribution assessment, but it is very high (a monthly wage of about US\$ 70 000), and only a limited number of people are in that category. As the reliability of information about the income of the self-employed is doubtful, health insurance premiums for the self-employed are based on both income and property value (house, vehicle). The NHIS

as the single health insurance agency collects the premium. The poorest 3–4% of the population do not pay contributions and are managed through the Medical Aid Program, which is financed by the general revenue of the central and local governments but administered (including payments to providers) through the health insurance system.

In the past, wage income was the predominant source of income for households. However, the source of household income has diversified into rents, interest, investment income and beyond. If insurance premiums are charged only on wage income, it is not only inequitable but also distorts (discourages) labour participation. In the near future, health insurance contributions will need to be assessed against all types of income to improve the efficiency and equity of the health financing system.

Yang, Kwon, et al. (2003) showed that payment of health premiums in 1996–2000 was regressive, but the degree of regressivity decreased over the years. Choi (2012) shows that in 2006–2011, premium payments were still regressive. These results mean that premium setting in health insurance, which is supposed to be proportional to the ability to pay, is not equitable in reality. Indeed, it is more difficult to assess the income of the self-employed than employees. Although the health insurance contribution of the self-employed is assessed on the basis of both income and assets, it may still fail to accurately measure their ability to pay.

3.3.3 Pooling of funds

Revenue collection, pooling, and purchasing functions are integrated into the single health insurance agency. Before the merger of all health insurance societies into a single insurer in 2000, there were three types of health insurance schemes: 1) government employees and teachers and their dependents, administered by a single insurance society; 2) industrial workers and their dependents, by some 140 insurance societies; and 3) the self-employed (e.g. farmers) and employees in small firms with less than five employees by about 230 insurance societies, so-called “regional health insurance”.

Before 2000, the health insurance system consisted of quasi-public insurance societies subject to strict regulation by the Ministry of Health and Welfare. Beneficiaries were assigned to insurance societies based on employment (employees) or residential area (self-employed). There was no competition among health insurance societies to attract the insured and no selective contracting with health-care providers. Even before the

merger in 2000, Korean SHI societies functioned like a single “purchasing” agency because there was no difference in the statutory benefits coverage among insurance societies and health providers were paid by a uniform payment scheme with claims reviewed by a central agency (Kwon, 2003a).

3.3.4 Purchasing and purchaser-provider relations

The single payer system does not exercise selective contracting. All licensed providers are guaranteed a contract with NHIS unless they have committed serious misconduct. Since the beginning of the health insurance system, the Government has mandated all health-care providers to participate in its health insurance programme (in other words, providers should treat all SHI patients). The fee schedule for health-care providers is strictly enforced, and the Government wanted to ensure that (predominantly private) providers could not opt out from social health insurance. This policy of mandatory participation of providers in the health insurance system has contributed to better access for patients. But SHI may now need to consider selective contracting with providers based on their cost and quality performance, as the supply of health providers is more than adequate.

NHIS is an independent quasi-public organization and HIRA is the specialist agency for the health insurance system. NHIS deals with premium collection, fund management, and reimbursement to providers, while HIRA is responsible for claim review, assessment of appropriateness of health-care, design of the provider payment system, and technical input to benefit package decisions. Human resource policy and the operating budgets of health insurance agencies are rather strictly controlled and monitored by the Ministry of Health and Welfare. As of 2011, contributions to all social security programmes (pension, unemployment insurance, workplace injury, health insurance) are collected by NHIS and distributed to each social security programme.

The pricing of services in the benefits package is negotiated annually between the NHIS and provider associations (including the medical association, hospital association, dental association and the traditional medical association). If the negotiation fails, the Health Insurance Deliberation Policy Committee makes a decision on the fee schedule. Prices of new originator medicines are negotiated between NHIS and pharmaceutical manufacturers once HIRA makes a decision on listing. Prices of generic medicines are set as the fixed percentage of the originator medicine once the patent is exhausted.

3.4 Out-of-pocket payments

High OOP payments, which currently represent about 35% of total health expenditure, are a serious concern in the Republic of Korea, threatening the role of national health insurance in providing sufficient financial risk protection. The proportion of total OOP spending on cost-sharing for insured services compared to direct payments for uninsured services (those not included in the benefits package) was 62.7% versus 37.3% in 2006, shifting to 54.5% and 45.5% in 2011 (Seo, et. al, 2011). In other words, OOP payments are increasingly for uninsured services, most of which are driven by the adoption of new technology and medicines with uncertain cost effectiveness. Extra payments for private wards and surcharges for specialist services, which are the major types of OOP payment for insured services, accounted for 25% and 24% of total OOP payments in 2011, respectively.

Out-of-pocket payment is regressive as the level of payment depends on health-care utilization, not on the income of the patient. As a result, OOP payment is a bigger financial burden on the poor. Poorer households have experienced a greater increase in the proportion of health expenditure from total household income (Jung and Hur, 2012). High OOP payment requirements can result in catastrophic expenditure on health. Lee and Lee (2012) examine catastrophic health-care expenditure, which is defined as household spending on health of greater than 10% of total annual household income. They show that the proportion of households that experienced catastrophic health expenditure was 13.63% in 2008 and 14.63% in 2009. Song and Shin (2010) show that catastrophic health-care expenditure has contributed to the impoverishment of households.

The Government has increased the benefits package to reduce the financial burden of OOP payment. For example, the co-payment rate was cut from 20% to 5% for patients with catastrophic illnesses such as cancer in the 2000s. This policy of reducing OOP payment has improved equity in health-care utilization by cancer patients, with the poor experiencing a larger increase in health-care utilization than the rich (Kim and Kwon, 2014).

3.4.1 Cost-sharing (user charges)

Patients share 20% of the cost of insured inpatient care services. Differential cost sharing is applied for outpatient care specifically at 30%, 40%, 50%, and 60%, depending on the level of the provider, with lower

cost-sharing for primary care to encourage its use. Health insurance provides protection mechanisms such as reduced cost sharing for the elderly, children under six, and patients with chronic conditions (e.g. 10% for patients with renal dialysis) or catastrophic conditions (e.g. 5% for cancer patients). Low-income people enrolled in the Medical Aid Program are exempt from cost sharing.

There are ceilings on (cumulative) OOP payments for any six-month period. Initially there was a uniform ceiling, which was later changed to three levels of ceiling depending on income level. Starting 2014, health insurance will implement seven ceiling levels related to income. Although the ceiling on cumulative OOP payments helps ease the financial burden of health expenditure for patients, it is applied only to OOP payments for insured services. Consequently, the financial burden of OOP payments for uninsured services can be still heavy, especially for the poor.

Table 3.4 User charges for health services

Health Service	Type of user charge in place	Exemptions and/or discounted rates	Cap on OOP spending	Protection mechanisms for children and the elderly	Other protection mechanisms
Public Health Center	Fixed rate: 30%	Flat amount (1100 KRW + prescription fee 500 KRW) when total expenditure is less than 120 000 KRW	Cap on OOP payment for 6 months - for lower income percentile 50%: 2 million KRW - for middle income percentile 30%: 3 million KRW - for higher income percentile 20%: 4 million KRW		Reduced Co-payment Rate - Severe disease patients (e.g. cancer) in hospital, outpatients and prescriptions are subject to 5% co-payment for 5 years from registration - for chronic renal failure: 10% - for cardio-cerebrovascular patients getting operations: up to 5% (maximum length of inpatient stay: 30 days) - for severe burns: up to 5% - for “unregistered” cancer patients: 20% - for “unregistered” rare and incurable disease: 30–60%
Physician Clinics (Primary care)	Fixed rate: 30%			For the elderly over 65 years, flat amount (1500 KRW) if total expenditure is less than 15000 KRW	
Outpatient care units of hospitals (Outpatient specialist visit)	Fixed rate: 40% (hospital), 50% (secondary hospital), 60% (tertiary hospital)	For rural areas, fixed rate is reduced by 5% (i.e. 35% for hospital, 45% for secondary hospital in rural areas)			
Outpatient prescription drugs	Fixed rate: 30%	Higher rate (40% for secondary hospital, 50% for tertiary hospital) for minor diseases that do not require upper-level hospital care		For those over 65 years, flat amount (1200 KRW) if total expenditure is less than 10 000 KRW	
Inpatient stay	Fixed rate: 20%			For children under 6, fixed rate: 10%	

Source: NHIS, 2014

3.4.2 Direct payments

Use of uncovered services is a driving factor in high OOP levels. The majority involve new technology, most of which are not cost-effective, but they are continually used by providers (demand inducement). As the fees for insured services are set by the NHIS, the margin from those services is low. Health-care providers have a strong incentive to provide more uninsured services because of the freedom to set prices for such services and consequently obtain higher profit margins.

3.5 Voluntary health insurance

The role of private health insurance has been controversial. The Ministry of Health and Welfare and the NHIS are concerned about moral hazard effects, such as those with private health insurance using more of the services covered by social health insurance. Private health insurance may have a negative effect on the financial sustainability of social health insurance if moral hazard is not controlled for.

3.5.1 Market role and size

Although all citizens are enrolled in social health insurance, many of them purchase voluntary private health insurance to cover the co-payments for insured services and payments for uninsured services (under social insurance). Since the OOP payment share in total health expenditure is higher than in other OECD countries, Jeong (2011) shows that about three quarters of households have purchased private health insurance.

Another reason for high private health insurance enrolment is associated with the fact that life insurance is very popular in the Republic of Korea, and that private health insurance is often sold as a package with life insurance. At the same time, the bundling of insurance products makes obtaining an accurate estimate of the size of the private health insurance market (number of enrollees, total private health insurance expenditure, etc.) difficult.

3.5.2 Market structure

Lee and Hyun (2011) show that women, the highly educated, those with higher incomes, and those who are concerned about health are more likely to purchase private health insurance, while age is negatively associated with enrolment. The lack of any significant relationship

between health status and the likelihood of purchasing private health insurance implies that, with universal social health insurance coverage, adverse selection is not a major concern in the private health insurance market. However, vulnerable populations such as the elderly and those with low education or low income are less likely to join voluntary health insurance (Baek, et al., 2012). Based on panel data, Jeon and Kwon (2012) found that the experience of health expenditure promotes the additional purchase of private health insurance in the following year.

3.5.3 Market conduct

Based on the comparison of health-care utilization between the purchasers and non-purchasers of private health insurance, and after controlling for other characteristics, Jeon and Kwon (2013) found that the probability of any health-care utilization, both outpatient care and inpatient care, is higher for people who have private insurance. It was also found that private insurance has a positive impact on outpatient expenditure, but not on inpatient care. Based on panel data, Jeon, Oh and Kwon (2013) found that the additional purchase of private insurance increases the probability of outpatient and inpatient care use as well as outpatient care expenditure. But there was no impact on the level of inpatient care expenditure. The additional purchase of insurance seems to affect outpatient care expenditure, but not inpatient expenditure, because of a higher price elasticity related to demand for outpatient care than for inpatient care.

3.5.4 Public policy

In 2007, there was a crucial new development in the private health insurance market. Up to that year, private health insurance provided only fixed (cash) benefits, but since then deregulation has allowed private health insurers to sell health insurance products that link benefits to actual medical expenses. Along with deregulation, recent debates on health industry developments have been closely related to the role of private health insurance. Government, especially the Ministry of Strategy and Finance, wants to strengthen the competitiveness of the health-care industry, encourage more innovation, boost exports in the areas of medical technology and pharmaceuticals, and increase the number of medical tourists coming to the country. It also supports the idea of private health insurance because it could help ease the fiscal burden (the Ministry subsidizes the social health insurance contributions of the self-employed).

Regulation of private health insurance is also being debated. Effective consumer choice requires the standardization of private health insurance products and benefits packages. Private health insurance has a perverse incentive to enroll only “low-risk” people, and therefore guaranteed enrolment (by banning skimming of low-risk customers) is needed to protect consumers, especially those with higher risks such as the sick and the elderly. So far there has been little regulation of the non-financial aspects of private health insurance, and the scope and detailed methods of such regulation need to be designed.

3.6 Other financing

The Republic of Korea has experienced a rapid ageing of its population. In addition to increased life expectancy, the decrease in the availability of traditional family-based caregiving has rapidly boosted demand for long-term care of the elderly (Kwon, 2008). As a result, in 2008, Korea introduced long-term care (LTC) insurance, a contribution-based public insurance. LTC insurance is also managed by NHIS to minimize the administrative cost of the social insurance system. The contribution is set as a fixed percentage of the health insurance premium. As of 2012, this was set at 6.55% of the health insurance contribution. The co-payment level is 20% (for institutional care) or 15% (for home-based care). Government subsidizes contributions by the poor.

Benefits of LTC insurance are mainly services in-kind to support the activities of daily and social life at home or in LTC institutions. Cash benefits are allowed in exceptional cases (e.g. in remote areas where no long-term care provider is available). All citizens who pay health insurance contributions should pay the LTC insurance premium, but the benefits of the insurance are limited to people aged 65 or older and those below 65 with age-related debilitating conditions. An eligibility test is applied to applicants through the needs assessment system, using a 52-item screening tool and an algorithm-based scoring system (Kim, Kwon et al., 2013). The care needs are categorized into three groups, from Level I (highest need) to Level III (lowest need). The applicants whose care needs are beyond a certain threshold become LTC beneficiaries. Eligibility for LTC insurance is re-evaluated approximately once a year, in principle. In July 2014, the eligibility threshold was reduced, and two more levels were added to the LTC insurance system.

The number of eligible beneficiaries has more than doubled since the introduction of LTC insurance, from about 146000 people in 2008 to some

320 000 (approximately 5.8% of people over age 65) as of the end of 2011 (Kim, Kwon et al., 2013). The maximum of monthly benefits for LTC users is predetermined by the type of benefit chosen (institutional care vs. home care) and the care needs level (I to III).

3.7 Payment mechanisms

3.7.1 *Paying for health services*

Public health services are funded by the Government. Health insurance funds services such as primary care, outpatient and inpatient care and pharmaceutical care. Health insurance pays health-care providers (physician clinics, dental clinics and hospitals) based on fee-for-services payment. Individual physicians working in health-care institutions are paid a salary by their employers. Health insurance also sets the reimbursement price for pharmaceuticals.

DRG-based prospective payments have been applied to all acute care providers for seven disease categories since July 2013, and per diem payments differentiated by 17 disease categories are applied to long-term care hospitals. The seven diseases for DRG payment are lens procedures, tonsillectomy and/or adenoidectomy, anal and/or perianal procedures, inguinal and/or femoral hernia procedures, appendectomy, hysterectomy, and caesarean sections.

NHIS has paid health-care providers by the regulated fee-for-service system since its inception. The fee-for-service system has led to an increase in the volume and intensity of services, provision of services with a greater margin, and even a distortion in the supply of medical specialties in the long run (e.g. excess demand for training programmes for specialties producing higher income). As physicians are not permitted to charge a price greater than the fee schedule set by health insurance for insured services, they tend to charge higher fees for uninsured services to compensate.

Fee-for-service payments are based on the Resource-based Relative Value (RBRV) system. Fees for individual services are set by multiplying the relative value of a service by the conversion factor (monetary value per relative value). Relative values are determined by agreements among specialty associations. The conversion factor is negotiated annually between the NHIS and provider associations. RBRV was originally developed in the US for the Medicare programme for the elderly to correct

distortions in payment rates between services. RBRV determines the relative fees of physicians on the basis of the resource costs required to produce services: total work (time and intensity) by the physician, practice (overhead) costs and the opportunity costs of specialty training. The RBRV system inherently breeds conflicts among physicians because it affects the relative prices and thus redistributes income among physicians with different specialties. Since the introduction of the RBRV system in the early 1990s, a comprehensive revision of relative values across different services/specialties has been very difficult, and only piecemeal revision has been implemented.

To transition from the fee-for-service reimbursement to a DRG-based prospective payment system for inpatient care, the Government launched a DRG pilot programme in February 1997 for voluntarily participating health-care institutions. The pilot showed that DRG payment had positive impacts on the behaviour of health providers, such as reduction in the length of stays, medical expenses, the average number of tests and the use of antibiotics without a negative effect on quality of care (Kwon, 2003b), but strong opposition by providers was a stumbling block to the extension of DRG payment to all health-care providers. In July 2013, DRG payment for the aforementioned seven diseases was implemented for all health-care providers. But it is not yet certain that the DRG payment can be extended to other disease categories.

3.7.2 Paying health workers

Hospitals have a closed system, and all medical staff and personnel are employed by the hospital. Medical staff are paid by the hospital by salary. But many hospitals have some type of incentive mechanism for their staff, which is often based on the number of patients and profits. As a result, the incentive payment has the risk of encouraging the medical staff to induce unnecessary services.

4 Physical and human resources

Chapter summary

Since the introduction of social health insurance, physical and human resources have been increased in response to the growing demand for health-care. Most capital investment was made in the private sector, so their share of hospitals and beds has increased over years; and the number of acute beds has increased rapidly, contrary to a downsizing trend in other developed countries. In addition, the increase in hospital beds has been concentrated in metropolitan areas, which in turn resulted in a concentration of human resources in large metropolitan hospitals.

Almost all private health facilities have had electronic medical records (EMR) in place because they claim for health-care costs electronically. As part of the plan for strengthening public health services, all public health centres were equipped with integrated health information systems, including EMR, in 2011, and national hospitals have gradually had EMR introduced. Electronic health cards have never been introduced, mainly due to privacy protection. The Government has tried to extend the scope of U-health-care (ubiquitous health-care based on IT) to the elderly and patients with chronic diseases.

The numbers of practicing doctors and nurses have been increasing continuously, but they are still less than the average of OECD countries. In 2012, about 59% of doctors and 87% of nurses worked in hospitals. The employment rate of nurses was less than 50%.

4.1 Physical resources

4.1.1 Capital stock and investments

Current capital stock

As of 2012, the Republic of Korea has 3298 hospitals and 514 687 hospital beds (Table 4.1). 86.9% of hospitals and 86.7% of beds are located in urban areas. General hospitals are defined as hospitals with more than 100 beds and at least seven specialty areas, while hospitals are defined as having more

than 30 beds. The percentage of general hospitals, dental hospitals and traditional medicine hospitals located in urban areas exceeds the average across the type of hospitals, and so does the percentage of their beds in urban areas.

Table 4.1 Distribution of hospitals and beds, 2012

	Hospital			Bed		
	Urban	Rural	Total	Urban	Rural	Total
General hospitals	300	23	323	132 968	5 882	138 850
	92.9%	7.1%	100.0%	95.8%	4.2%	100.0%
Long-term care hospitals	898	189	1 087	135 692	25 362	161 054
	82.6%	17.4%	100.0%	84.3%	15.7%	100.0%
Hospitals	1 149	178	1 327	129 146	25 874	155 020
	86.6%	13.4%	100.0%	83.3%	16.7%	100.0%
Dental hospitals	199	3	202	293	24	317
	98.5%	1.5%	100.0%	92.4%	7.6%	100.0%
Korean traditional medicine hospitals	194	5	199	11 669	278	11 947
	97.5%	2.5%	100.0%	97.7%	2.3%	100.0%
Psychiatric hospitals	123	33	156	35 027	10 486	45 513
	78.8%	21.2%	100.0%	77.0%	23.0%	100.0%
TB hospitals	3	-	3	1286	-	1286
	100.0%	0.0%	100.0%	100.0%	0.0%	100.0%
Leprosy hospitals	-	1	1	-	700	700
	0.0%	100.0%	100.0%	0.0%	100.0%	100.0%
Total	2866	432	3298	446 081	68 606	514 687
	86.9%	13.1%	100.0%	86.7%	13.3%	100.0%

Source: MOHW, 2013c

Investment funding

It is not possible to mention investment funding without mentioning the NHI which, as the main source of health financing, has brought an enormous increase in demand for health services in the Republic of Korea. In contrast to the reliance on public financing through social insurance, the Government has relied heavily on private providers for the delivery of health services and supported the private sector’s capital investment with various financial arrangements.

Some noticeable capital investments were as follows: in 1978–1985, 67 private hospitals were built with international loans to improve access to health services, before health insurance coverage was expanded to the whole population in 1989. In 1991–1993, 20 000 new hospital beds

were built by providing loans of up to 50% of the capital investment. The Government made this feasible by securing bank loans of US\$ 90 million each year. In addition, a special public fund of about US\$ 700 million was raised from a special tax to subsidize construction and refurbishment of health facilities over the 1994–2012 period (MOHW, 2013).

The Republic of Korea has recently observed a rapid increase in hospital beds in metropolitan areas. However, there is concern that this increase does not reflect public health priorities and that beds are built based on profitability. Heavy reliance on the private sector is to blame: about 94% and 88% of total hospitals and beds respectively belonged to the private sector in 2012, a rise from about 91% and 81% respectively in 2002. Over a decade, the increase of hospitals and beds in the private sector was much more rapid than in the public sector (Table 4.2). Large enterprise-type hospitals and some university hospitals compete for patients and keep expanding inpatient bed numbers. Following Roemer’s well-known saying, “A bed built is a bed utilized,” these large hospitals are able to induce demand for health services under the fee-for-service payment.

Table 4.2 Mix of public and private health facilities, 2002 and 2012

Year	Variable	Public		Private		Total
		Number (%)	Index	Number (%)	Index	Number (%)
2002	Hospitals*	120 (9.2)	100	1185 (90.8)	100	1305 (100.0)
	Beds	44 534 (18.9)	100	190 498 (81.1)	100	235 032 (100.0)
2012	Hospitals*	200 (6.2)	167	3 048 (93.8)	257	3 248 (100.0)
	Beds	60 264 (11.9)	135	445 280 (88.1)	234	505 544 (100.0)

* including specialty hospitals

Source: MOHW, 2003 and 2013.

On the other hand, public funding concentrates on capital investment in rural areas where access to health services is limited due to lack of health facilities. The Government decided to develop a comprehensive plan for strengthening public health-care in 2005. Following this plan, the Government invested US\$3.3 billion in the modernization of facilities and equipment in regional medical centres and health centres in rural areas over five years (MOHW, 2013). According to the comprehensive plan, the target for the public share of total hospital beds was 30%, but this was not reached, mainly because of faster expansion of private beds. Moreover, despite the capital investment in public health facilities, most suffer from financial deficits because of the lack of demand for their services, which

has been exacerbated by increased demand for the services provided by large private hospitals.

Moreover, urban-rural disparity in the distribution of health facilities has increased. For example, along with a declining birth rate, lack of physical and human resources for childbirths led to 55 municipalities (23.7%) having no delivery facilities as of December 2012 (MOHW,2013). Public-private partnerships (PPP) for investment in capital facilities have been under exploited so far. To reduce the geographic disparity in health facilities, it was legislated in 2013 that the Ministry of Health and Welfare could designate medically-deprived areas to allow PPP for investing capital in facilities. Accordingly, the Ministry and concerned regional governments are now allowed to invest in approved private facilities for providing health services in areas where the supply falls seriously short.

4.1.2 Infrastructure

Since universal health insurance was in put in place in 1989, the number of hospital beds has been increasing. Acute hospital beds have increased at the fastest pace and it is now said that acute beds are oversupplied. Table 4.3 shows that the number of acute beds tripled over two decades and increased by 0.4 beds per 1000 people (by about 20 000 beds)in the year from 2010 to 2011.

This contrasts with the trend in some developed countries such as Japan, the United Kingdom, and USA, where the number of acute beds per capita has decreased and their utilization has diminished or at least remained stable. However, the average length of stay in acute beds has been increasing in the Republic of Korea (Figure 4.1). This is partly because providers have incentives to increase the length of stay in a situation where the supply of acute beds has been rising (OECD, 2012).

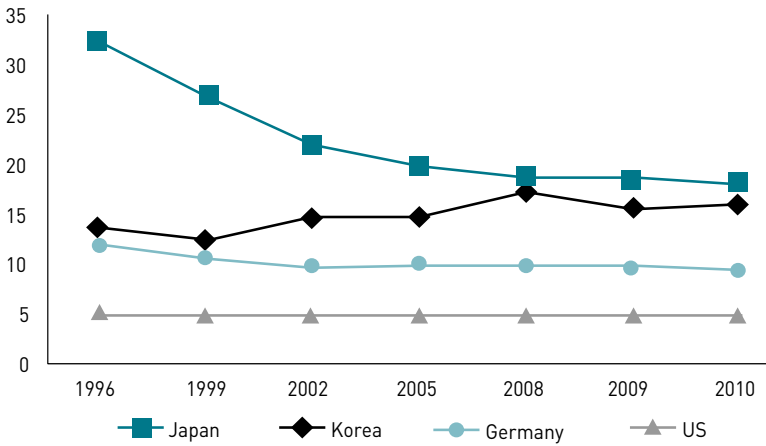
Due to population ageing, the number of long-term care hospitals has rapidly increased. The share of LTC hospital beds was over 30% of total hospital beds in 2012 (Figure 4.2).

Table 4.3 Acute hospital beds (per 1000 population), selected countries

	1990	1995	2000	2005	2010	2011
Korea	2.0	3.0	3.9	4.6	5.5	5.9
Japan	-	12.0	9.6	8.2	8.0	8.0
UK	-	-	3.2	3.0	2.4	2.4
US	3.7	3.4	3.0	2.7	2.6	-

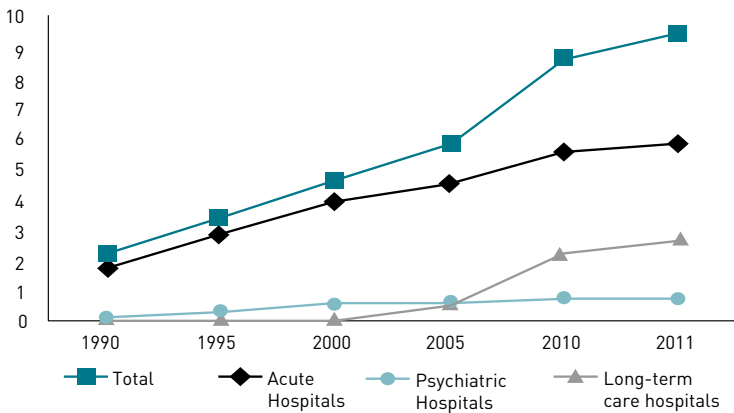
Source: OECD, 2013c.

Figure 4.1 Average length of stay (days), selected countries



Source: OECD, 2013c.

Figure 4.2 The number of beds in acute, psychiatric and LTC hospitals (per 1000 population)



Source: OECD, 2013c.

4.1.3 Medical equipment

Nowadays, there seems to be no problem with the availability, quality or quantity of basic equipment in the Republic of Korea. Introduction of new medical equipment into the health-care market has been very fast, for health services using expensive new medical devices are easily reimbursed under the fee-for-service payment. Utilization of high-tech medical equipment such as MRI, CT, and PET scanners is very popular among health-care providers and patients.

As of 2012, there were 23.5 MRI units per million people and utilization was 19.6 per 1000 people (Table 4.4). There are 37.1 CT scanners per

million people and their utilization is 129.3 per 1000 people. The numbers of MRI and CT scanners were well above the average of OECD countries (13.3 MRI units and 23.2 CT scanners, respectively), though lower than those of Japan (46.9 MRI units and 101.3 CT scanners).

Table 4.4 Items of functioning diagnostic imaging technologies, 2012

Item	Per 1 million population	Utilization (per 1000 population)
MRI units	23.5	19.6
CT scanners	37.1	129.3

Source: OECD, 2013c

4.1.4 Information technology

The Republic of Korea is well known for IT. The percentage of households with internet access was 95% in 2010, and 84.1 people per 100 were internet users in 2012 (World Bank, 2013). The IT-friendly environment has brought widespread use of technology into the health sector as well. Almost all private health facilities have electronic medical records in place because they file claims for health-care costs electronically. As of 2012, 96.8% of health facilities were using electronic medical claims, and 82% of them adopted the Medical Claim Portal Service (MCPoS), which is a free web-based claims system developed by HIRA (MOHW, 2013).

Although the introduction of IT was relatively slow in public health facilities compared to the private sector, the Government has made a great effort to encourage the use of IT in public facilities. Establishing regional health information systems was included in the five-year comprehensive plan for strengthening public health services starting from 2005. Following this plan, the Ministry of Health and Welfare expanded the integrated health information system to all public health centres in 2011, including EMR. This made it possible to rapidly produce information on the performance of public health centres and statistics for evidence-based policy.

In addition, the establishment of health information systems in national hospitals supervised by the Ministry of Health and Welfare started in 2010. EMR systems were gradually extended into national hospitals. As a result, five national psychiatric hospitals completed EMR establishment in 2011, and two national tuberculosis hospitals did so in 2012. The EMR expansion project in national hospitals was expected to culminate with its introduction into the National Leprosy Hospital in 2013 (MOHW, 2013).

Although they may have the advantage of preventing misuse of health insurance, unlike the widespread use of EMR among health providers, electronic health cards have never been introduced. This is mainly due to provider opposition and privacy protection concerns on the consumer side. The NHIS has considered replacing the existing paper health insurance cards with smart cards containing personal information and medical records.

In 2008, a pilot project for U-health-care was implemented in four remote municipalities. A type of telemedicine, U-health-care stands for “ubiquitous health-care”, intended for patients in remote areas with limited access to health services to get necessary care through IT. The pilot aimed to evaluate the safety, effectiveness and cost-effectiveness of U-health-care. Recently, however, the Government has tried to extend the scope of U-health-care to the elderly and patients with chronic diseases who do not necessarily live in remote areas. This new U-health-care policy has faced strong criticism that it is a business-friendly policy rather than intended to improve access to health-care. The Korean Medical Association is also opposed to the policy, worrying that it will further expand the role of big hospitals, which can lure more patients through U-health-care and telemedicine.

4.2 Human resources

4.2.1 Health workforce trends

In response to the increasing demand for health services triggered by expanding insurance coverage, the health workforce has continuously expanded, though numbers of certain types of health professionals are still below the average of other developed countries. The number of practicing doctors, including primary care doctors and specialists, was 2.03 per 1000 people in 2011 (Table 4.5), which was lower than the average of OECD countries (3.18). The number of nurses has increased by over 50% in the last decade, but is much less than the average of OECD countries (8.70). Taking account of the increase in hospital beds, it is anticipated that the nurse-to-bed ratio is much lower than that of other developed countries. Recently, the Government implemented a policy of increasing the number of nursing colleges, and the number of graduates has doubled to 25 000.

The employment rate of nurses is low in the Republic of Korea, estimated at about 41% as of 2012 (MOHW, 2013). This is because demand for nurses is not high enough to accommodate the supply of nurses. The low demand could be attributed to hospital managements’ cost reduction strategies, which lead to patients’ families or informal caregivers providing some

nursing services that otherwise would be provided by licensed nurses. In contrast to the generally low employment rate of nurses, large hospitals in metropolitan areas have recently recruited more nurses, not only to provide better quality service but also to receive higher reimbursements from the insurer. As a result of nurses moving to large hospitals in metropolitan areas, most small hospitals in rural areas are suffering from a lack of nurses.

In 2012, about 87% of nurses worked in hospitals and only 13% worked in primary care settings such as clinics. Instead, nursing aides appear to have filled the nurses’ place in primary care settings, with the number of nursing aides working in the primary care setting more than five times that of nurses. About 59% of doctors worked in hospitals and about 41% worked in clinics and health centres. About 15% of dentists and traditional medical doctors were employed in hospitals (Table 4.6).

Table 4.5 Health workers (per 1000 population)

	1990	1995	2000	2005	2010	2011
Primary care doctors	-	-	-	0.49	0.55	0.58
Specialist physicians	-	-	-	1.13	1.44	1.45
Nurses	-	2.74 ^a	2.98	3.85	4.63	4.72
Midwives	-	-	0.03 ^b	0.03	0.02	0.02
Dentists	0.18	0.25	0.31	0.37	0.42	0.43
Pharmacists	-	-	0.62 ^c	0.64	0.65	0.68

Source: OECD, 2013c
a: as of 1997; b: as of 2003; c: as of 2004

Table 4.6 Distribution of health workforce in primary care and hospitals, 2012

	Medical doctors	Dentists	Oriental medical doctors	Midwives	Nurses	Nursing aides	Medical technicians	Medical records officers
Primary care	34 955	18 094	13 925	229	15 297	85 578	48 549	583
	41.3%	84.6%	84.4%	23.0%	13.3%	72.0%	55.2%	18.0%
Hospital	49 777	3294	2578	768	99 976	33 270	39407	2649
	58.7%	15.4%	15.6%	77.0%	86.7%	28.0%	44.8%	82.0%
Total	84 732	21 388	16 503	997	115 273	118 848	87 956	3232

Source: MOHW, 2013c

4.2.2 Professional mobility of health workers

Recently, some young health professionals have moved or considered moving to other countries. It is reported that 60–80 doctors and 60–70 nurses per year move to other countries such as the USA, the United Kingdom and Australia (Munhwa Daily, 23 July 2013). It is speculated that the main reason for doctors leaving the country is the difficulty of running private clinics, which are forced to compete with large enterprise-type hospitals.

4.2.3 Training of health workers

There are 40 medical colleges or schools in the Republic of Korea. Medical students have to fulfill four years of medical education on top of either a two-year premedical course or a four-year bachelor's degree. The quality of medical education is assured by the Korean Institute of Medical Education and Evaluation (KIMEE).

After obtaining a license to practice as a doctor, almost all new doctors start further training to be a medical specialist. To apply for the qualification test for medical specialists, a one-year internship and four-year residency in a specialty (three years for family doctors) are required. The hospitals or institutes for further medical training are designated by the Minister of Health and Welfare. Following recent advancements in medical knowledge, many associations of specialist doctors offer certifications of subspecialties to qualified specialists. The certification of subspecialty is valid for five years and subject to revalidation to ensure medical competency.

To become a nurse, nursing students have to fulfill either three or four years of nursing education. Recently, some nursing departments that once provided three-year nursing education have upgraded themselves to provide four-year nursing education. The quality of nursing education is assessed by the Korean Accreditation Board of Nursing Education (KABONE).

KABONE also designates and evaluates educational institutes for nursing specialists and manages their qualification test. Nurses who have practice experience of at least three years and who have completed a designated education programme for nursing specialists are eligible for the test. The nursing specialist system was first introduced in 2002 with specialties in anaesthetic, public health, home health-care and mental health nursing. Seven specialties including infection control, hospice, and

oncology nursing were added to the first batch of nursing specializations in 2006. As of 2012, about 12 800 nurses were qualified as nursing specialists in 13 specialties.

4.2.4 Doctors' career paths

The distinction between a doctor's role in a primary care setting and their role in a hospital is vague. Though attributed partly to problems with the health service delivery system, this is due more fundamentally to a lack of consideration in the training of doctors as to whether they will end up in primary care or hospitals.

Although the demand for specialist services is high, hospitals cannot satisfy consumer demand with experienced specialist doctors alone. Instead, they recruit many resident doctors to support or take the place of specialists. This lowers the staffing cost. Residency in a hospital usually lasts four years, with even family physicians undergoing three-year residencies in hospitals. Once their training as residents is complete, only a fraction of specialists are retained in hospitals and the rest have to practice in the primary care setting. Due to the lack of comprehensive health-care delivery system, those specialist doctors who, regardless of their specialty, end up working in individual clinics usually compete for patients with specialist doctors in hospitals.

4.2.5 Nurses' career paths

Despite the low nurse-to-population ratio, a high proportion of trained nurses do not have jobs in their profession. Many nurses want to work in large hospitals in metropolitan areas, but places are limited. Meanwhile, it is difficult to recruit nurses in small or medium-sized hospitals located in non-metropolitan areas. That is, there is excess demand for nurses in non-metropolitan areas. This may explain partly the low employment rate of nurses overall (Park et al., 2013).

5 Provision of services

Chapter summary

While communicable diseases which were prevalent until the 1970s have declined significantly, chronic or noncommunicable diseases (NCDs) now represent the top causes of mortality. The Ministry of Health and Welfare has the function of basic planning, technical support, capacity building, evaluation, and financing for public provision of public health and medical services. In addition, Korea Centers for Disease Control and Prevention (KCDC) is functioning as a specialized agency of the Ministry.

The main legal framework for public health activities includes the Regional Public Health Act (RPHA) and National Health Promotion Act (NHPA). The NHPA defines the role and function of the Government in public health, focusing on planning and implementation of programmes. The National Health Plan 2020, based on the NHPA, plays a key guidance role in the provision of public health services. Provision of public health services is shared between the public and private sectors, due to the predominance of the private sector in the provision of health-care.

Health-care facilities are classified into two or four tiers according to two different legal frameworks, namely, the Health-care Law and the NHI Law. The role of primary care in gatekeeping is rather weak, as patients have much freedom in selecting their first-contact provider as well as choosing referred providers. With near-unlimited accessibility of the patients and their preference for high-tech medical care, patients are increasingly concentrated around specialized general (usually tertiary care) hospitals.

In terms of the emergency medical system, the pre-hospital system is comprised of two main components: one is patient transport and the provision of supportive care, the “119 Rescue” team responsible for pre-hospital care and the other is the “1339 Service” Emergency Medical Information Center for coordination of communication between

ambulances, emergency medical facilities, and hospitals. The hospital emergency care system is separated from the general health-care system and largely composed of regional and local referral centers.

Pharmaceutical care is divided between prescription and over-the-counter drugs. All therapeutic prescription drugs except injections are to be prescribed by a doctor and dispensed by a pharmacist. OTC medicines are mainly dispensed and provided by a pharmacist at a pharmacy. The NHI financial situation is closely connected to expenditure on medicines, given that up to 21.2% of total health expenditure is dedicated to pharmaceuticals (2011). The Government has introduced several reform measures to reduce pharmaceutical expenses.

While most acute psychiatric care is provided by private providers (clinics and hospitals), long-term care and most mental health services are financially controlled by the public sector. One of the major issues in mental health has been extremely prolonged duration of admission, and national mental health policy over two decades has focused on developing community mental health services.

5.1 Public health

Over the last several decades, the Republic of Korea's health status and its determinants have changed profoundly. While communicable diseases which were prevalent until the 1970s have reduced significantly, chronic or noncommunicable diseases now represent the top causes of mortality. Accordingly, the focus of public health system and policies has shifted. Management of NCDs and their well-known risk factors, such as cigarette smoking, overconsumption of alcohol, lack of physical exercise and obesity have become major target of public health policy at the national as well as subnational level. In addition, the health system in which public health services are provided has radically changed since the late 1970s, including health-care financing largely based on social health insurance.

The Ministry of Health and Welfare is mainly responsible for policy-making and implementation in public health programmes. Although subnational authorities are also involved in the policy process, public health policies and programmes remain largely centralized. The Ministry has the function of basic planning, technical support, capacity building, evaluation, and financing (through diverse paths such as subsidies and grants). The role of subnational governments is implementation of public health programmes formulated at the national level and planning of programmes according to local needs and situation.

Korea Centers for Disease Control and Prevention also functions as a specialized agency of the Ministry of Health and Welfare. Its main activities focus on technical support based on scientific evidence, covering prevention and control of communicable and noncommunicable diseases. It investigates diseases, handles quarantine, performs laboratory testing and existing research to support policy-making and implementation at the national and subnational level.

The main legal framework for public health activities consists of the Regional Public Health Act (RPHA) and the National Health Promotion Act (NHPA), both enacted in 1995. The RPHA defines the roles and responsibilities of governments in public health. Article 2 stipulates that the State has to “perform surveys and research concerning regional health and medical care, to collect, arrange, and apply information thereon, to train and improve the quality of human resources therefor, and shall devise policies of extending technical and financial support necessary for the establishment and enforcement of health policies of the local governments” (RPHA, 1995). The metropolitan/provincial governments are responsible for supporting the district government, in addition to making their own health policies. Prior to 1995, the existing Public Health Center Law aimed only to regulate the structure and function of the public health centers at the district level. In comparison, one of the main stipulations of the RPHA is to place responsibility for a regularly updated health plan on local governments, including health need assessments and planning for the supply of health-care services. Along with this stipulation, the metropolitan/provincial governments and district governments would be required to make their health plans every four years and disclose them to the public.

The NHPA defines the role and function of respective governments in public health, focusing on planning and implementation of programmes. The Ministry of Health and Welfare is required to develop a comprehensive plan for national health development every five years, and all levels of government should develop implementation plans based on the national master plan. The responsibilities of all levels of governments include: aid for healthy lifestyles, controlling health-related advertising, campaigns against smoking and heavy drinking, nutrition, oral health, health education and workforce. The National Health Promotion Fund, based on this Act, collects earmarked tax revenues from tobacco and financially supports the implementation of health promotion programmes and activities including research and development. The Fund also contributes to NHI financing.

As of 2014, the National Health Plan 2020, based on the NHPA, is playing a key guidance role in the provision of public health services. Strategies under the Plan include: building consensus on the values of health promotion policy with a focus on prevention; providing adequate conditions for healthy public policy; and continuous performance monitoring of the plan. Measures to accomplish the goals include:

- Communication with the public and professionals about the goals and objectives of the plan;
- Training of human resources for necessary policy and programmes;
- Improving information systems for health promotion;
- Funding research to guide implementation of the policy and programme at the central and local levels;
- Developing public health education programmes and materials.

Public providers of public health services include public health centres (district/county), subcentres (subcounty), and posts (village). Most public health centres provide preventive and promotive services including immunization, management of tuberculosis, maternal and child health, screening and health checks, health education, and surveillance of communicable diseases. Health visit programmes and community-based activities are also organized and implemented by public health centres. These facilities provide curative services in addition to public health functions. In particular, the roles of subcentres and posts are significant in the provision of primary medical care in resource-poor settings such as rural areas.

Due to the predominance of the private sector in health-care, provision of public health services is shared between the public and private sectors. Private clinics and hospitals also provide services such as screening and health checks, maternal and child health, immunizations and education on healthy lifestyles. For example, only around 30% of immunizations offered by the national programme are provided by public health centres (Lee et al., 2013). Provision of services by the private sector is financed by the NHI if covered by the scheme and otherwise are self-reliant. Where the private sector is participating in provision of public health services, it is usually poorly coordinated with the public sector.

Effective and efficient disease surveillance systems are the basis of disease prevention and control. As of 2013, 77 infectious diseases are required to be notified under the mandatory surveillance system.

Health-care providers should report to the public health centre at the district level mostly through the web-based reporting system, to be further reported to KCDC through metropolitan/provincial governments. In addition to the mandatory surveillance, the Government has successively introduced sentinel surveillance systems since 2000: influenza, childhood infection, school-based sentinel surveillance, and ophthalmological infections (Park and Choi, 2007).

In addition to the national survey Korea National Health and Nutrition Examination Survey, KCDC since 2008 has obligated all district governments (and their public health centres) to perform annual community-based surveys aiming to provide relevant data for use in planning, implementing, and evaluating health promotion and disease prevention programmes at the district level (Kim et al., 2012). This cross-sectional survey has been conducted by using a standardized questionnaire covering socioeconomic factors, health status, health-care utilization, and health-related behaviours. Analysis of the surveys allows a comparison of health problems and behaviours among all provinces and metropolitan areas.

Establishing a health screening programme at the national level has long been one of the core public health policies. As a result of consolidation of governmental programmes as well as participation of for-profit and not-for-profit private sectors, several different programmes are in place. The nationwide screening programme is part of the NHI as “basic package” applied to most adults (16 million in 2009) (Lee and Lee, 2010). As of 2008, the prevalence of screening under the basic programme was 65.3%. The national cancer screening programme was initially designed to provide free screening to the low-income Medical Aid beneficiaries but soon expanded to cover the insured under the NHI scheme. Currently this programme aims to screen for the five most prevalent cancers in the country: stomach, liver, colorectum, breast, and cervix uteri.

In addition to NHI or Medical Aid-based screening, programmes for the “transitional period”, infant and child, Medical Aid beneficiaries, and other types of cancers are implemented in a separate and fragmented manner. Diverse voluntary programmes are also managed by local governments, firms, and schools. Although a set of different programmes cover most of the life course, this approach has been criticized for unsound scientific backing of its effectiveness and efficiency, overdependence on clinical and laboratory tests, and lack of coordination between programmes in particular.

School health and occupational health services are not included in the general public health system. Only informal partnership is available between these separate services. The school health system, under the control of the Ministry of Education, encompasses the provision of basic health-care, screening and prevention, health promotion, and management of school meals and hygiene. One of the characteristics of the school health system has been a strong focus on health screening and examination. In 2005, the School Health Act was revised to specify a health screening system, and schools are required to document and report the results. The current health examination system includes assessment of physical development, health survey, health examination, and assessment of physical capability (Shin, 2013). The revised 2005 School Health Act also requires oral health examination for elementary students, a mental health programme, and education on health-related behaviours.

In terms of occupational disease burden, work-related musculoskeletal disorders have recently become prominent while traditional diseases such as chemical intoxication, noise-induced hearing loss, and pneumoconiosis declined steeply to the mid-1990s (Kim, 2008). The Industrial Safety and Health Act mandates employers' responsibility in providing occupational health services including periodic occupational health examinations, control of the workplace environment and health-care services. These health services are mainly provided by private practitioners, mostly independent from employers. Regular medical examinations should be provided at the employers' expense for workers potentially exposed to listed work hazards.

5.2 Patient pathways

Health-care facilities are classified into two or four tiers according to two different legal frameworks, namely the Health-care Law and the NHI Law. The Health-care Law defines four different health-care facilities based on the number of beds and degree of specialization: clinics (0–30 beds); small hospitals (31–100 beds); general hospitals (100+ beds); and “specialized” general hospitals. However, in the regulated patient referral system of the NHI, only the two-tier arrangement is mandated. All patients are allowed to utilize any health-care provider for the first consultation except for specialized general hospitals (there were 43 such hospitals nationwide as of January 2014). However, specialized general hospitals are accessible when a patient presents a referral slip issued by the first-contact provider, to be compensated by the NHI (benefits coverage).

The role of primary care in gatekeeping is rather weak, as patients have much freedom in selecting their first-contact provider as well as choosing the referred provider. Although the Government has proposed diverse alternatives to strengthen the role of primary care, mainly based on financial incentives either to the providers or patients (Jeong et al., 2013), no reform has been implemented. Most recently, in 2011 the Ministry of Health and Welfare proposed a voluntary registration of hypertensive and diabetic patients with a primary care provider, with incentives to both provider and patient for continuous care. The proposal was not accepted by the medical association, which had concerns about stricter regulation by the Government. With near-unlimited accessibility of the patients and their preference for higher-tech medical care, patients are increasingly clustering to specialized general hospitals, a few of the biggest hospitals nationwide in particular. This bipolar distribution of health-care provision, between clinics and the biggest specialized hospitals, degrades the role and function of small- and medium-sized hospitals. Clinics and these hospitals are actually in competition with each other (for less severe patients) rather than cooperating on patient care.

5.3 Primary care

In terms of providers, primary care is provided almost entirely by a physician-equivalent workforce: doctors of medicine, dentists, and doctors of Korean (traditional) medicine. In addition, midwives and community nurse practitioners in some remote and rural areas are playing a role in providing primary care. The private sector occupies the bulk of service provision. In the public sector, public health centres, subcentres and posts provide primary care.

If defined by the type of physicians providing the service, primary care can be regarded as care provided by family physicians, general internists, general pediatricians, and general surgeons. However, formal primary care training including these specialties is not available. Instead, training in family (medicine) practice is performed within the legal and professional framework, as a specialty equivalent to the others.

A significant proportion of clinic-based doctors provide de facto primary care even if they were trained to provide specialized care in the hospital settings— a trained cardiac surgeon, for example, might perform general practitioner duties. To make the situation of primary care even worse, many clinic-based practices are upgrading their technology to compete with hospital-based providers. As a result of mismatching of workforce, primary care is constantly criticized in terms of quality and efficiency.

Another factor affecting primary care is the fee-for-service reimbursement system. This conventional payment system, in combination with the providers' dissatisfaction with the NHI fee schedule, increases the volume and intensity of patient care. As pointed out by the OECD (2012), lack of, or weak, incentives for preventive care are accentuating the curative services orientation in primary care. The basic payment method, while not confined to primary care, has been one of the major sources of patients' negative assessment of the primary care they receive, particularly with respect to quality and cost.

Given that patients are able to choose any primary care provider (including a clinic-based specialist) without restriction and to select hospitals and specialists freely when they are referred, the patient-doctor relationship at the primary care level is often short-term and "doctor shopping" is frequently observed. In terms of scope of primary care services, there is heavy concentration on curative services. Although some primary care providers are involved in health screening programmes, voluntary or NHI-based, other roles in health promotion or public health are minimal.

The Government attempted to introduce a primary care gatekeeping scheme in 1996, but this failed due to the resistance of medical professionals, lack of public consensus, insufficient political commitment, and weak evidence for effectiveness (Sung et al., 2013). Recently, the Government has proposed a new programme to encourage and incentivize patients with chronic conditions (such as hypertension and diabetes) to register with a primary care provider. As of 2014, this programme is still not implemented and Government continues to negotiate with medical providers.

A remarkable feature of ambulatory care is its heavy dependence on hospitals. Even tertiary and specialized hospitals are providing a huge amount of ambulatory care, and sometimes they are in the competition with primary care providers and community hospitals. Some office-based clinics are strengthening their capacity to provide more specialized care.

5.4 Specialized ambulatory care/inpatient care

Although a significant number of specialists practice as de facto primary care physicians in the community, many practice from their offices, as single operators and unaffiliated with hospitals. Hospitals have a closed system and are rarely open to clinic-based practitioners. In office-based

practice, highly specialized practice often cannot be offered because it demands specialist facilities and equipment as well as workforce. Instead, simpler and less-specialized care has proliferated. Examples of clinic-based specialized care include management of thyroid tumours, hemorrhoidectomy, cataract extraction, radiographic examination using CT scanners or MRI units, and cosmetic surgery.

Most inpatient care is provided by hospitals. Among hospitals, the role of the bigger hospitals, usually university-based specialized hospitals, is becoming more significant. In terms of the total NHI payments to the 43 specialized general hospitals, the “Big 5” (the five biggest hospitals in the country) represent about one third of receipts (NHIS, 2014).

In addition to specialized general hospitals, the government accredits single-specialty hospitals as “special hospitals”. These include disease-specific hospitals (such as joint problems and cerebrovascular diseases), specialty-specific hospitals (such as ophthalmology, rehabilitation, and obstetrics), and Korean traditional medicine hospitals. Currently, 99 hospitals are accredited and designated as special hospitals.

The long-term care hospital was initially introduced in 1994 to provide inpatient care not covered by acute care hospitals or LTC facilities. The main focus of the LTC hospital is to treat chronic illness and care for patients at a post-acute stage, including dementia and disabilities. The LTC hospital is financed by the NHI, in contrast to LTC facilities, which are reimbursed by LTC insurance.

As is the case for primary care, the basic reimbursement method to hospitals has been fee-for-services (except for LTC hospitals, paid based on modified per diem). While the limitations of this system have been recognized by the Government and the NHIS, case-based payment (using a DRG-based payment system) is applied to only seven diseases. With the drive for payment reform and concerns about cost inflation, inpatient care is under pressure to become more economically efficient. However, the average length of hospital stays (16.4 days in 2011) is still high compared to other countries (OECD, 2013a).

All hospitals are not-for-profit legal entities. However, hospitals not belonging to the legal entity of a corporate body (i.e. hospitals owned by an individual) actually behave like for-profit entities, similar to individually-owned clinics. It has long been debated whether for-profit (corporatized) hospitals should be permitted.

Improving the quality of hospital service is one of the main thrusts of current health-care policy. Accreditation has been a critical measure to assure the quality of hospital services. The Republic of Korea has a longstanding voluntary hospital accreditation programme, but recently the Government has launched a new accreditation programme with a more comprehensive and systematic process. A new organization, the Korean Institute for Health-care Accreditation, was established in 2010, and accreditations have been undertaken for hospitals, LTC hospitals, and psychiatric hospitals. However, accreditation is still not linked to financial incentives to motivate hospitals to voluntarily seek accreditation.

Another approach in ensuring the quality of hospital services has been quality assessment by HIRA. Notably, this assessment has been linked to a pay-for-performance scheme for tertiary hospitals (OECD, 2012). The programme initially targeted two areas of relatively poor performance: managing acute myocardial infarction and the proportion of caesarean deliveries. Tentative evaluation of the programme revealed that performance and outcomes in managing myocardial infarction have improved over the three years since the programme was introduced. Caesarean section rates have also decreased. Another finding was that the variance in hospitals' performance had decreased and the lowest performing group had improved most strongly.

5.5 Emergency care

In 1995, the Emergency Medical System (EMS) law was enacted, and a national pre-hospital care system has been consolidated. The pre-hospital system comprises two main components: patient transport and the provision of supportive care. The "119 Rescue" team, under the National Emergency Management Agency, is responsible for pre-hospital care, while the "1339 Service" Emergency Medical Information Centre controlled by the Ministry of Health and Welfare coordinates communication between ambulances, emergency medical facilities and hospitals. The fire department receives all emergency 119 calls and allocates them to an ambulance, a firefighter squad, or emergency medical technician (EMT) services (119 Rescue team) (Hwang et al., 2007). Most ambulances are dispatched with two EMTs but they function as Basic Life Support crews with limited physician support, protocols, and medications. The 1339 Service manages hospital information such as availability of beds, doctors, and facilities among hospitals, ambulances, and fire departments.

Emergency care is provided by emergency departments in a mix of private and public hospitals. The emergency care system is separated from the general health-care system and mainly composed of regional and local referral centres. As of 2013, there are 21 emergency medical regions, with one emergency department located in each region. One local emergency department is designated for every million people in metropolitan areas and every 500 000 people in other cities. In addition, the government is planning to establish 10 regional trauma centers.

This regionalization strategy aims to provide appropriate, timely, effective, and efficient emergency care in every region. However, the current function of the EMS needs to be improved to cope with challenges such as shortages of resources in rural or remote areas, crowded emergency departments in metropolitan areas, and non-customized and mismatched levels of emergency department (Youn, 2012).

5.6 Pharmaceutical care

Pharmaceutical production has long been dependent on domestic manufacturers. According to the Ministry of Food and Drug Safety, 647 manufacturers (all private entities) were producing pharmaceuticals in 2012 (MFDS, 2013). It is estimated that about 80% of pharmaceutical supply is domestically sourced. As many as 21150 pharmacies and 2351 wholesalers are engaged in the distribution of medicines.

Pharmaceutical care is divided between prescription and OTC drugs. In principle, all therapeutic prescription drugs except injections are to be prescribed by a doctor and dispensed by a pharmacist. OTC drugs are mainly dispensed and provided by a pharmacist at a pharmacy, although doctors can prescribe non-prescription drugs listed in the NHI formulary. Prescription drugs represent more than 83% of production (MFDS, 2013).

In relation to the NHI benefits package, not all prescription drugs are included, nor are all non-prescription drugs excluded, from the formulary. The NHI formulary is determined by the Ministry of Health and Welfare. The cost-sharing formula applied to the pharmaceutical benefit depends on the level of provider in the referral system. For example, the co-payment is 30% of the total cost of the prescription by a primary care doctor and 50% by a specialized general hospital.

The pricing of pharmaceuticals in the NHI formulary has been continuously debated with regard to the optimal level. Given that 21.2%

of total health expenditure is used on pharmaceuticals (as of 2011), it affects NHI's financial sustainability (OECD, 2013c). The average annual growth in per capita pharmaceutical expenditure from 2000 to 2009 was 9.8%. Patients are also concerned because they have to share the cost of medicines according to the generic NHI cost-sharing formula. As reform measures, the Government has recently introduced new rules on the pricing of pharmaceuticals, such as NHI formulary (positive listing) based on cost-effectiveness considerations, negotiation of the price of "original" medicines between the NHI insurer and drug companies, and further discounting of the price of generic medicines including patent-expired original medicines.

The NHIS is monitoring the prescription and utilization of pharmaceuticals, focusing on quality and cost. The prescribing behaviours of providers are regularly assessed by HIRA, including antibiotics for acute respiratory infection, injections, number of drugs for a prescription, high-cost pharmaceuticals, and the cost of outpatient pharmaceutical care. From a safety perspective, nationwide drug utilization review is in place. Comparison with the OECD average shows the consumption of pharmaceuticals, in terms of volume and quantity of drugs consumed, varies by category. Consumption of antidepressants and anticholesterols is lower than the OECD average, but use of antibiotics and antidiabetics is much higher than the average (OECD, 2011).

5.7 Rehabilitation

In the Republic of Korea, most rehabilitation services are integrated into the general health-care system. Specialized general hospitals are required to provide rehabilitation services. In addition, six hospitals for rehabilitation (mostly private) function as single-specialty hospitals. The National Rehabilitation Center, under the supervision of the Ministry of Health and Welfare, plays a key role in research and development on rehabilitation practice as well as policy. Its main roles include developing and disseminating practice guidelines, and developing assessment tools and rehabilitative care delivery systems and programmes.

The community-based rehabilitation programme was introduced in 2000, initially as a pilot at public health centres. The programme has been incrementally expanded to cover most public health centres. The main goals of the programme are to provide rehabilitation and health promotion services to patients at home. Prevention of NCDs and injuries is another target.

5.8 Long-term care

Long-term care insurance should be regarded as a backbone in the supply and provision of LTC. Eligibility is assessed by the local NHIS office and the Assessment Committee (organized and managed by NHIS offices) based on the activities of daily living (ADL) of applicants. With approval, every recipient makes a contract with agencies individually. The LTC providers submit their service plan based on the contract with the recipient, and care is mainly provided in kind. The basic schemes of care are set by national guidelines, defining the maximum amount of benefits for each category.

Residential care or nursing home care is provided by LTC facilities, licensed nursing homes, retirement homes, and licensed residential establishments. Home care or community care includes ADL-supporting care at home, portable bath service, nursing care at home, and day care services. Cash benefits are only provided to those in remote areas or islands where no regular support is available. Cash benefits amount to less than benefits in kind. Quality assurance is focusing on the qualifications of LTC workers and staffing levels in institutions. Those who want to become care workers must complete a 240-hour training course and pass the national qualification exam. Providers are obliged to meet the minimum staff-patient ratio.

5.9 Palliative care

Palliative care has long been dependent on the voluntary activities of religious or social advocacy groups, but the Government initiated palliative care with the launch of the second-phase national cancer control programme in 2005. The Government mandates that all palliative care centres have separate palliative care wards, a proper level of workforce, and appropriate facilities and equipment.

Currently cancer patients are the primary recipients of palliative care because this is formally required by the Cancer Control Act. It was estimated that approximately 8–10% of all patients with terminal cancer receive palliative care from those services (Baek et al., 2011). As of 2014, there are approximately 112 hospice programmes (KSHPC, 2012), and the Government has designated 44 of them as palliative care centres with a total of 725 beds. The designated palliative care centres should meet standards for facilities and care workers. As provision of palliative care is rapidly increasing, there is considerable variation in the process and

outcome of services such as average length of stay, subsequent place of care, and change in average pain score (Choi, 2012).

5.10 Mental health

The number of psychiatrists and psychiatric beds per 10 000 people in 2012 was 3.5 and 13.8 respectively (Ito and Suzuki, 2012). While most acute psychiatric care is provided by private clinics and hospitals, LTC and most mental health services are heavily influenced by government policy even though only a small proportion of psychiatric beds and professional workforce are in the public sector. The public sector plays a central role through the financing mechanism, particularly via the Medical Aid Programme.

One of the major issues in mental health has been the prolonged duration of admission. Psychiatric hospitals have played a key role in providing long-term inpatient care, mostly financed by Medical Aid. In 2011, the median duration of psychiatric hospital stays was 160 days, 271 days in private psychiatric hospitals, and over seven years in asylums (Lee and Park, 2014). As a result of criticism and social pressure from both health and human rights aspects, national mental health policy has focused on developing community mental health services over two decades.

The mental health system consists of three levels: central government level, provincial and metropolitan city government level, and city/county/district level. With the leadership of the Ministry of Health and Welfare, the Central Mental Health Evaluation Committee and the Central Mental Health Supporting Committee are responsible for assessing mental health service needs, designing and evaluating mental health services, and developing guidelines on service provision. Also at the province/metropolitan city level are Regional Mental Health Centres and Evaluation Committee and Supporting Committees. Following the guidelines developed by the committees, psychiatric hospitals and mental health centres (including social rehabilitation centres, alcohol rehabilitation centres, outpatient clinics, and long-term care centres) provide services (Kahng and Kim, 2010). As of 2012, 50.0% of the provincial/metropolitan city governments and 56.5% of the district governments have community mental health centres (Lee and Kim, 2013). The centres focus mainly on case management for patients with persistent and severe mental illness. More recently, diverse services reflecting community needs are required such as counselling on internet addiction.

Public education and awareness campaigns on mental health are not well established. With increased concern about suicide prevention, several campaigns have been attempted mainly at the local level, but they have not been well planned, based on sound evidence or coordinated with other stakeholders such as NGOs and religious groups.

5.11 Oral health

The private sector, comprised mainly of dental clinics and hospitals, provides most personal dental care services. In terms of financing, the NHI benefits package includes tooth extraction, sealants, dentures for the elderly, plaque removal, and dental implants (partially). In addition, denture services have been provided free of charge for the elderly under the poverty line since 2002.

The public sector is planning and implementing oral health service programmes, focusing on health promotion and prevention. Following the National Health Plan 2020, the Government is emphasizing the following programmes: promoting adequate oral hygiene among children and adolescents; water fluoridation; providing preventive services to vulnerable populations; subsidizing dentures for the elderly and the disabled; oral health education; and national oral health examination.

5.12 Complementary and alternative medicine (CAM)

Korean traditional medicine (KTM), known as “Korean medicine”, has the same legal and institutional recognition as Western medicine. With an established legal and qualification system, KTM has maintained an independent and competitive position alongside Western medicine. In contrast, other CAM practices (such as chiropractic, yoga, and meditation) are not considered part of KTM.

Most KTM care is provided by KTM doctors running their own clinics (12 440 in 2012) (MOHW, 2013c), individually or in small groups of two or three. While KTM doctors can train in any of eight specialties (including internal medicine, paediatrics, gynecology, and acupuncture/moxibustion), most clinic-based doctors provide general practice. KTM hospitals (199 in 2012) provide specialized inpatient care. Some long-term care hospitals (and the KTM doctors they employ) also provide KTM care for inpatients and outpatients.

Regarding financing and reimbursement to providers, the NHI has covered KTM care to a limited extent, including acupuncture, moxibustion, cupping, and herbal preparations. Herbal extracts are mostly insured, but decoctions of raw herbs are not. The proportion of reimbursement for KTM treatments is about 4% of total NHI expenses (Park et al., 2012).

6 Principal health reforms

Chapter summary

In the early 2000s, the Republic of Korea introduced two major reforms: merger of insurance societies into a single insurer system and the separation of medicine prescribing and dispensing. The two reforms benefitted from the paradigm change in health policy-making. Progressive civic groups actively participated in the policy process and supported the reforms whereas physicians went on strike against the pharmaceutical reform.

Responding to the rapid ageing of the population, a new social insurance for long-term care (LTC) was introduced, principally for the elderly. Coordination between health insurance and LTC insurance, and between healthcare and social care, still needs to be improved.

As the level of OOP payments remains high in spite of the universal coverage of population, the extension of benefits coverage has been of high priority. The Government has reduced cost-sharing for catastrophic cases and introduced a ceiling on cumulative OOP payments for insured services. However, providers tend to promote uninsured services to increase profits, resulting in financial burden on patients.

To contain the cost of pharmaceuticals, the positive listing of medicines based on economic evaluation was implemented. The Government also introduced price negotiations for new originator medicines between the insurer and pharmaceutical manufacturers as well as further cuts in the price of generic medicines. More policy measures are required to influence the prescribing behaviour of physicians, .

For financial sustainability, reform of the payment system for providers is needed, and prospective case-based payment, which currently applies to only seven disease categories, should be extended. The premium base for contributions needs to be expanded by charging against all types of income rather than wage income only.

6.1. Analysis of recent reforms

6.1.1 *Health reform in the early 2000s*

Merger of health insurance societies into a single payer system

Before the health-care financing reform of 2000, the Republic of Korea's national health insurance system consisted of more than 350 quasi-public insurance societies. There were three types of health insurance scheme that were subject to strict regulation by the Ministry of Health and Welfare: (i) health insurance societies for employees and their dependents, numbering more than 100; (ii) a single health insurance society for civil servants, teachers, and their dependents, and (iii) more than 200 health insurance societies for the self-employed. There was no competition among health insurance societies to attract the insured, and the insured were assigned to insurance societies based on workplace (for employees) or residential area (for the self-employed) (Kwon, 2009a).

By merging all health insurance societies into a single payer, health-care financing reform in 2000 aimed to increase the efficiency of risk pooling, improve equity in contribution, and minimize administrative costs (Kwon, 2003a). Before the merger, differences in the contribution rates across insurance societies, in spite of identical statutory benefits, raised concerns about equity in health insurance contributions. Members of insurance societies in poor or rural areas had to pay a greater proportion of their income or capacity to pay than those in wealthy areas. The Government introduced a risk-pooling/sharing mechanism among insurance societies, based on population structure and catastrophic medical expenses. Insurance societies with a higher proportion of the elderly and greater burden of catastrophic expenditure were cross-subsidized by others. But many insurance societies for the self-employed in poor or rural areas continued to suffer fiscal insolvency because they faced systematic problems of higher demand for health-care by the elderly with limited capacity to pay contributions.

The single payer/multiple payers debate had continued since the launch of health insurance in the Republic of Korea. The National Assembly passed legislation to merge all insurance funds in the early 1990s, but the President vetoed the law. The Government was worried that a single payer system could increase the government (budget) responsibility for financing (compared with the contribution paid by the insured). But the new Government with a progressive president opened a window of opportunity for major policy reform in 2000 (Kwon and Reich, 2005).

Progressive civic groups actively participated in the policy process and supported the reform, maintaining that the merger would improve equity through a nationwide contribution formula and also save administrative costs for the health insurance system.

Separation of drug prescribing and dispensing

Before the pharmaceutical reform of 2000, physicians and pharmacists both prescribed and dispensed medicines. This system provided strong financial incentives for physicians and pharmacists to dispense more drugs and to select those with greater profit margins (Kwon, 2003b). Because fees for medical services were strictly regulated, dispensing drugs was a sought-after source of profit for doctors as they purchased drugs at prices that were much lower than the cost reimbursed by health insurance. Perverse financial incentives for physicians and pharmacists contributed to the high proportion of pharmaceutical expenditure in total health expenditure.

Physicians wanted to retain the dispensing of drugs because it was a major source of their income, and pharmacists favoured the status quo as they wanted to keep the right to prescribe. Lobbying by physicians and pharmacists had been influential and effectively blocked reform for a long time. With the active support of civic groups, a progressive Government succeeded in adopting the policy of separating prescribing from dispensing in 2000 (Kwon and Reich, 2005).

However, the pharmaceutical reform faced a series of nationwide strikes by physicians, leading to watering down of some elements of the reform package (Kwon, 2003b). For example, brand-name prescription was implemented due to physicians' opposition to generic prescription. Doctors also succeeded in pushing the Government to increase their fees to compensate for foregone medicines-related revenues as a result of pharmaceutical reform. The dramatic increase in physician fees, as much as 40%, contributed to a fiscal crisis in the national health insurance system when its accumulated financial reserve was exhausted in 2001 (Kwon, 2007).

The bargaining power of physicians increased as they were able to use a threat of strikes in the negotiations with the Government. In 1997, the Government began the pilot programme of a Diagnosis Related Group-based prospective payment system (DRG) for five disease categories for voluntarily participating providers (Kwon, 2003c). The Government

planned to extend the DRG payment system to all health-care providers in 2000, alongside the financing and pharmaceutical reforms. After doctors' strikes against the pharmaceutical reform, the Government had to give up on nationwide implementation of the DRG-based payment system.

6.1.2 Introduction of long-term care insurance for the elderly

In July 2008, the Republic of Korea introduced social insurance for long-term care. Along with an increased life expectancy and a rapid decline in fertility, the family structure has also changed. The proportion of the elderly living with their adult children has decreased, and with an increase in labour participation, women have been less able and willing to play the role of informal caregiver to the elderly (Kwon, 2008).

Government reluctance to extend the tax-based public assistance programme for LTC to the poor elderly contributed to the rather early adoption (when the proportion of the elderly was still less than 10% of the population) of a universal LTC financing scheme. LTC insurance, separate from health insurance, has a potential benefit in "de-medicalizing" LTC by reducing the role of medical care, as physicians would tend to play a dominant role if health insurance provided LTC coverage.

LTC insurance had multiple policy goals. From a social welfare perspective, it aims to ease the financial burden of the elderly. It can also decrease the financial burden on the health insurance system by reducing social admissions to acute care hospitals. The Ministry of Health and Welfare has tried to persuade the Ministry of Finance and Economy of the potential of LTC insurance to create jobs, such as LTC workers, by extending social services.

LTC insurance covers long-term care for the elderly aged 65 or above, but it is limited to age-related LTC in the case of those under 65 (e.g. dementia or cerebrovascular disease). As a result, the probability of younger people accessing LTC insurance benefits is low as the benefits are limited only to age-related LTC needs. This is a political compromise, because the Government wants to make the younger pay contributions (for financial sustainability reasons) by making them eligible for the benefits in principle. In contrast, German LTC insurance covers all types of long-term care, while in Japan those under 40 are not covered and those aged 40 to 64 are eligible for age-related LTC only (Campbell, Ikegami and Kwon, 2009).

6.1.3 Expansion of health insurance benefit coverage

In spite of universal coverage, high OOP payment is a continuing concern (see Chapter 3). Following President Kim Dae-Jung's active expansion of various welfare programmes, President Roh Moo-Hyun (2003–2008), also from a progressive political party, implemented a series of policies to expand health insurance benefit coverage.

The ceiling on cumulative OOP payment, set at about \$3000 per person for any six-month period, was introduced in 2004, and this was reduced to about \$2000 in 2007. For the financial protection of the poor, however, the ceiling needed to be differentiated to patients' ability to pay. In 2009, differential ceilings were implemented based on (relative) income: \$4000 for those in the top 20% of the income range, \$3000 for those between the 20th and the 50th percentile, and \$2000 for those below the 50th percentile. The ceiling on cumulative OOP payment has been effective in reducing the financial burden on patients, but its impact is still limited because it applies only to co-payments for insured (covered) services, and not to OOP payments for uninsured services.

The coinsurance rate for patients with catastrophic diseases, mainly cancer patients, was reduced from 20% to 10% in 2005, then further reduced to 5% in 2009. Exemption from co-payment for inpatient care for children aged six or younger was implemented in 2006, although in 2008 the infant coinsurance rate was reimposed at 10%. Health insurance began to provide coverage for meals with a 20% co-payment rate in 2006, but it was raised to 50% in 2008. Although coinsurance rates for meals and children's inpatient care increased slightly from 2006 to 2008, the current co-payment rates are still lower than those in the pre-2006 era, which were 100% for meals and 20% for inpatient care.

However, the expansion of benefit coverage has not reduced the share of OOP expenditure in total health expenditure as rapidly as expected. Health-care is provided predominantly by the private sector. As central government regulates the price of insured services, private providers tend to increase the provision of non-covered services, for which they can set their own prices and avoid the government fee scheduling. Demand inducement and the rapid increase in the provision of uninsured services have contributed to the slow increase in the public share of total health-care expenditure.

6.1.4 *Pharmaceutical cost containment*

The Government introduced two major policy measures to contain pharmaceutical expenditure in May 2006: price negotiation and positive listing (Kwon, 2009b). Previously, the reimbursement price of a new drug was based on external reference pricing, which was set as the average price across drugs in seven reference countries (United States, United Kingdom, Germany, France, Italy, Switzerland, and Japan). More specifically, the price of innovative new drugs was set as the average of manufacturing prices (65% of the list price) of those countries plus a value-added tax and the distributors' margin. This pricing mechanism was criticized because it tended to result in high prices as it depended on the list price, rather than the actual transaction price, in high-income countries. Considering that the Republic of Korea is a rather early adopter of new medicines, it was often the case that same/similar medicines were available in only a limited number of countries, where the price was very high. The NHIS was also criticized for not playing an active purchaser role in pharmaceuticals. There was also a concern that the price of generic medicines was too high compared with other OECD countries (Kim et al., 2010)

Facing rapidly increasing pharmaceutical expenditure, the Government decided to change the pricing rules for new medicines (Kwon, 2009b). Instead of external reference pricing, the NHIS as a purchaser now bargains with pharmaceutical manufacturers over prices. In the price negotiation, the NHIS considers the size of the market, the substitutability of drugs, the budget impact on health insurance, and other factors. Furthermore, the NHIS takes into account the quantity (volume) of drugs to be consumed. If the actual sales volume is greater than forecast (the estimate that the pharmaceutical manufacturer submitted at the time of listing), the drug's price will be cut. Linkage of price and volume in price-setting makes the manufacturer share the financial consequences of potential over-utilization of medicines, but there is still no risk for physicians, who actually play a key role in pharmaceutical expenditure. Through price negotiation, the NHIS is expected to use its bargaining power as a single payer to obtain better prices for pharmaceuticals.

In the new pricing scheme, when a patent expires and a generic medicine becomes available, the price of the originator brand-name drug is discounted to 80% of the previous price. The price of the first generic medicine is set at 85% of the price of the original brand-name medicine (or 68% of the price of the originator before the entrance of a generic

drug). The price of the second to fifth generic medicines is set at 85% of the price of the first generic one. In 2012, the Government further reduced the price of medicines. In the first year of patent expiration, there is a 30% reduction in the price of originator medicines, 85% of which is set as the price of generic medicines. In the second year, there is an additional 10% reduction in the price of generic medicines.

In the past, health insurance reimbursement for pharmaceuticals was based on negative listing, which resulted in too many drugs being listed for reimbursement (Kwon, 2009b). As of January 2006, 21 740 drugs (5411 molecules) were listed for reimbursement. To contain pharmaceutical expenditure, the Government decided to introduce the positive listing of drugs for health insurance coverage. Now the listing criteria formally include economic evaluations or cost-effectiveness analysis, submitted by pharmaceutical manufacturers to HIRA.

6.2 Directions for future reform

In addition to policy to address inequities in health-care utilization and outcomes, the Republic of Korea also needs to improve equity in financing and payment for health-care. For the health-care system to remain financially sustainable, policy measures to increase revenue and contain costs should be implemented. Contributions based on wage income are not equitable, because wage income does not truly represent the ability to pay of the insured. Wage-based contributions can also distort labour force participation. Therefore, the base for health insurance contributions should be expanded to include all types of income including financial income.

Health-care providers play a key role in decision-making and expenditure. The provider payment system is crucial for quality of care and the financial sustainability of the health-care system. Prospective case-based payment, which currently applies to only seven disease categories, should be extended. Case-based payment has its limitations, such as the distortion of diagnosis coding and the substitution of outpatient for inpatient care. Therefore a macro-level spending cap should also be considered to control both the price and the quantity of the health-care.

The LTC insurance system faces many challenges, such as finding a balance between institutional care and home-based (community-based) care and ensuring quality of care. There is an excess supply of LTC providers albeit with a variation across localities (there is a shortage in

rural areas, for example), which results in supplier-induced demand and wasteful competition. The size of most LTC residential facilities is too small and these facilities fail to benefit from the economies of scale. Coordination between health insurance and LTC insurance is a key to the continuum of care and to reducing unnecessary LTC admissions. For example, coordination failure between LTC hospitals (covered by health insurance) and LTC facilities (covered by LTC insurance) is a big challenge. Benefit coverage and provider payment of LTC insurance needs to be coordinated with that of health insurance.

Pharmaceutical spending is determined not only by prices but also by the volume of drugs and the mix of originator and generic medicines. Therefore, pricing policy alone has a limited effect on pharmaceutical cost containment. The quantity of pharmaceuticals consumed is determined to a great extent by prescribing physicians, so without regulating physicians' prescribing behaviour, pharmaceutical cost containment cannot succeed. A provider payment system and financial incentives for physicians to increase the prescription of less costly but equally effective generic medicines are essential. A budget cap on pharmaceutical expenditure is needed, and the Government should make doctors and the pharmaceutical industry share responsibility when pharmaceutical expenditure exceeds the cap. Policy-makers also need to increase the price difference between originator brand-name drugs and generic drugs by further reducing the price of generics.

Health-care reform faces opposition from vested interests. As in 2000, when physicians went on nationwide strikes against pharmaceutical reform, groups with vested interests influence not only the reform process from policy adoption to implementation but also final reform outcomes (Kwon and Reich, 2005). Political strategy and the Government's capacity to manage these vested interests will be crucial for the success of health-care reforms that aim to improve the efficiency and equity of the health-care system. It will be also important to build a transparent policy process for greater trust in Government and health policy.

7 Assessment of the health system

Chapter summary

The Government emphasizes the sustainability of the health system as an objective, including efficiency improvement and coping with new health risks. Financial protection and equity has been improved but is still challenging. The proportion of households with high health OOP payments had steadily decreased until 2000, but then the trend reversed. Equity in financing varies across different sources, such as tax, the NHI contribution, and OOP payment.

User satisfaction is modest. In a 2011 Ministry of Health and Welfare survey, 63.9% of the respondents reported being “satisfied” with overall health system performance. Public dissatisfaction was highest on accessibility and cost of health-care. In terms of socioeconomic status, health-care utilization is relatively equitable, but the poor still face barriers in accessing primary care and receiving uninterrupted care.

From 2000–2011, the life expectancy of females increased by 4.9 years (6.2%), from 79.6 to 84.5. The infant mortality rate decreased from 5.9 per 1000 in 2000 to 3.2 in 2010. The rate of regular smoking among those 15 years or older declined slightly from 24.0% in 2006 to 23.2% in 2011. In contrast, the rate of overweight and obesity is relatively low compared with other high-income countries. The amenable mortality indicator is at the middle range of performance among the OECD countries.

Outcomes of health services are mixed. Even though the vaccination rates in absolute terms are relatively high, it was found that full completion rates leave room for improvement. The quality of acute care has also improved significantly. However, in spite of the rapid increase in health investment, “it is not evident that the system is delivering proportionately higher quality care”.

Inequalities in health outcomes are evident in both men and women from birth to death between different socioeconomic strata. Regional health inequalities are observed between Seoul and other areas as well as between rural and urban areas. Between genders, a substantial female

excess in ill-health (measured by self-reported health and chronic diseases) was reported.

Personal health expenditure represents 89.1% of total, with limited role of public health. At the health system level, no formal mechanism for setting priorities and resource allocation is available. From the perspective of technical efficiency, the number of annual outpatient visits per active medical doctor is much higher than in other OECD countries, and the number of inpatient discharges per active medical doctor is a little higher than the OECD average. However, the length of stay is much longer than other OECD countries and pharmaceutical expenditure has been higher than in other high-income countries.

7.1 Stated objectives of the health system

Although there are no clearly stated long-term objectives, the implicit goals of the health system reflected on the Health-Care Basic Law, first enacted in 2000, are:

- to assure the dignity and value of the lives of every citizen;
- to optimize the institutional and environmental conditions for healthy living of all citizens;
- to harmonize equity and efficiency in health-care;
- (eventually) to enhance quality of life.

Along with these objectives, the Government has established specific goals annually. These objectives have reflected the socioeconomic environment as well as health and health-care changes. More recently, sluggish economic growth and a sharp increase in the elderly population are the most relevant factors in setting short-term and mid-term health system goals.

According to the Ministry of Health and Welfare in 2012, the overarching objective of the health system is to develop a “sustainable” health system (MOHW, 2013a). Specifically, the goals are:

- to strengthen the health system in coping with NCDs;
- to facilitate health reform focusing on NHI financing;
- to improve the provision of essential health-care by consolidating the NHI benefits and increasing investment in the public sector;
- to support the development of the health industry, focusing on cutting-edge medical technologies.

The objective of sustainability is not a new one, as was also stated in the previous year (MOHW, 2012). Goals vary across years but have consistent features. In 2011, the Government aimed to cope with rapidly increasing health expenditure and newly emerging health risks. Health system improvement was targeted to relieve the oversupply of health-care as well as overutilization. Health risks included emerging communicable diseases and environmental health problems in addition to conventional ones. It should be also noted that supporting the development of the health-care industry has been continuously emphasized.

7.2 Financial protection and equity in financing

7.2.1 Financial protection

The proportion of households with high OOP payments on health (measured by “catastrophic” expenditure) had been steadily decreasing until 2000, but the trend then reversed (Kim and Yang, 2009). In 2005, the proportion of households spending more than 40% of their capacity to pay was 2.15%. According to an analysis using the Korea Welfare Panel Study (Choi et al., 2011), the 2005-2007 period saw OOP payments as a share of the ability to pay decreasing. Incidences of catastrophic expenditure in 2007 were 14.6%, 5.9% and 2.8% at the threshold of 10%, 20% and 30%, respectively. These rates decreased from 2005, while those of low-income households with patients suffering serious conditions increased significantly. The size of unmet need indirectly reflects financial protection and affordability of health-care. Based on the Korea Health Panel analysis, 19.6% of male and 23.1% of female respondents reported their medical needs were not met during 2009 (Jung and Huh, 2012). The incidence of unmet need was higher in populations such as those aged older than 80 years; the lowest and highest income quintile; people with disabilities; and those of lower educational attainment.

7.2.2 Equity in financing

Equity in financing varied across different sources, such as tax, the NHI contribution, and OOP payment. Until recently, it has been generally shown that health financing generated through tax tends to be progressive, while the NHI contribution is regressive, although to a varied degree depending on the study (Kim et al., 2014). Choi et al. (2012) shows that during the period from 2006 to 2010, overall equity in financing decreased.

7.3 User experience and equity of access

7.3.1 User experience

In a 2011 Ministry of Health and Welfare survey (MOHW, 2011), 63.9% of respondents reported being “satisfied” with overall health system performance. Public dissatisfaction was highest on accessibility and cost of health-care: unmet need for critical illness due to cost; economic vulnerability due to catastrophic health expenditure; availability of objective and comparative health-care quality measures; access to emergency medical care and intensive care; and limited or delayed coverage of some high-cost pharmaceuticals and procedures in the NHI benefit package. The main determinants of their dissatisfaction were indicated as NHI benefit coverage and quality of health-care. In contrast, less attention was paid to factors such as geographical accessibility to health-care providers, amenity of health-care facilities, waiting times for surgical intervention and inpatient care, and OOP payment for common and frequent health conditions.

According to the 2012 Social Survey, services provided by the public health centres earned the highest level of satisfaction (64.3%) of any provider, public or private (KNSO, 2012). For general hospitals, 53.0% of respondents were satisfied and 13.3% were dissatisfied. Pharmacies were assessed as satisfactory by only 28.3% of respondents. Causes of dissatisfaction were the high cost of health-care (27.6%), poor outcomes (19.4%), long waiting lists (17.7%), and poor responsiveness of providers (11.5%).

Ensuring the confidentiality of personal health information has been one of the major public concerns. As the NHI has developed a universal information system to encompass every detail of all providers’ practices (including examinations and laboratory tests) and health-care utilization with individual identification of all citizens, various legal, administrative, and technical regulations are applied. Personal health information is protected by the Personal Information Protection Act enacted in 2012, in addition to the preexisting Law of Information Protection of the Government and Public Institutions.

7.3.2 Equity of access

The unequal geographical distribution of health-care providers is most stark for primary care physicians and obstetricians (Cho, 2013). In the metropolitan cities, there is an average of 188 medical doctors per

100 000 people, while in small and medium cities and rural areas the numbers are 99 and 76, respectively. As a result, residents in rural areas show higher rates of unmet need, longer travel times in access to health-care, and difficulties in using emergency medical care.

In terms of socioeconomic status, most of the available analyses show health-care utilization is equitable or pro-poor. However, adjusted for health need, there is pro-rich disparity (Cho, 2013; Kim et al., 2008; Kim et al., 2013). For the elderly, income-related inequalities are observed to favour the better-off for both outpatient and inpatient care utilization (Kim et al., 2011). Moreover, the poor still face barriers in accessing primary care and receiving uninterrupted care (Kim et al., 2013).

Inequality in the utilization of preventive services does not differ markedly from health-care (Cho, 2013). A higher rate of hepatitis B vaccination is associated with higher income, educational attainment, and occupational status. Participation in cancer screening programmes also shows a pro-rich tendency.

7.4 Health outcomes, health services outcomes and quality of care

7.4.1 Population health

During 2000–2011, the life expectancy of females has increased by 4.9 years (6.2%), from 79.6 to 84.5 (Kim et al., 2012). For males, the increase in life expectancy was 5.4 years, from 72.3 to 77.7. According to the World Health Statistics, health-adjusted life expectancy at birth as of 2007 was 71, while the life expectancy was 79.4 years (WHO, 2009). The infant mortality rate decreased from 5.9 (per 1000 live births) in 2000 to 3.2 in 2010 (Kim et al., 2012).

The rate of regular smoking among those 15 years or older was little changed from 24.0% in 2006 to 23.2% in 2011 (OECD, 2013a). Although the Republic of Korea has launched many anti-smoking initiatives including smoking bans, advertising and sales restrictions, and an increase in tobacco tax, the smoking rate is still high, particularly among men (41.6%). In contrast, the rate of overweight and obesity is relatively low (30.7% in 2011), compared with other high-income countries.

“Amenable mortality” refers to death from causes avoidable by access to timely and effective health-care. According to an OECD analysis, this indicator shows 86 (by the Nolte and McKee’s list) and 82 (by Tobias and

Yeh's list) for the Republic of Korea as of 2007, standing at the middle range of performance among OECD countries (Gay et al., 2011).

The Republic of Korea has relatively good cancer outcomes with rather long survival and generally low mortality. As of 2011, the five-year relative survival estimate is 85.2% for breast cancer (OECD average 84.2%), 76.8% for cervical cancer (OECD average of 66.0%), and 72.8% for colorectal cancer (OECD average of 60.7%) (OECD, 2013a).

7.4.2 Quality of care

One of major indicators of preventive care quality is child immunization. According to a national survey in 2012, the rate of full completion of essential child vaccinations (BCG, hepatitis B, diphtheria-tetanus-pertussis, polio, MMR, varicella, and Japanese encephalitis) for 1-year-olds is 97.3%, and for 3-year-olds is 80.5% (Lee et al., 2013). Even though the vaccination rates in absolute terms are relatively high, it was assessed that full completion rates have room for improvement.

In the curative service sector, quality of acute care has steadily improved. For example, the case-fatality rates of acute myocardial infarction (AMI) and stroke are comparable to other high-income countries (OECD/WHO, 2012). The in-hospital case-fatality rate within 30 days of admission for AMI was 8.9%, ranking alongside New Zealand and Australia. For ischemic and hemorrhagic strokes, the lowest or near-lowest case-fatality rates were seen. They reflect the fact that the processes of care, such as effective medical intervention, meet the standards of care in these conditions.

However, in spite of the rapid increase in the health investment recently, it is argued that "it is not evident that the system is delivering proportionately higher quality care" (OECD, 2012). The country was revealed to have the highest rates of potentially avoidable hospital admissions for the common respiratory conditions of asthma and chronic obstructive pulmonary disease. At the same time, admissions to hospitals due to high blood pressure, a potentially manageable condition, have increased steadily in recent years. The rate of the post-admission mortality (within 30 days of admission) for acute myocardial infarction is the highest among OECD countries.

7.4.3 Equity of outcomes

As in any other country, health outcome inequalities are evident in both men and women from birth to death among different socioeconomic strata. For some health indicators, such as suicide, absolute and relative inequalities have become significantly worse than in the past (Jung-Choi and Kim, 2013).

Large regional health inequalities are observed, and the smaller the population size of an administrative unit, the worse the health status (measured as mortality) (Yoon, 2010). Health status is unequal between Seoul and other areas as well as between rural and urban areas in general. In addition, health status is strongly correlated with regional socioeconomic status.

Between genders, a substantial female excess in ill-health (measured by self-reported health and chronic diseases) was reported (Chun et al., 2008). Among the elderly, the disparity was even more dramatic. The group-specific age-adjusted prevalence of ill-health was inversely related to socioeconomic status. Determinants contributing most to the gender gap were employment status, education, and depression.

7.5 Health system efficiency

7.5.1 Allocative efficiency

According to the national health accounts 2014 (MOHW, 2014), national health expenditure functionally consists of: inpatient care 32.4%; outpatient care 31.0%; pharmaceutical and other medical non-durables 19.8%; prevention and public health services 2.9%; and health administration and health insurance 4.6%. As a result, personal expenditure accounts for the majority of total health expenditure.

At the health system level, a formal mechanism for setting priorities and resource allocation based on cost-effectiveness is not available. However, within the structure of the NHI, there is an increasing drive toward economic evaluation of the pharmaceuticals and procedures to be reimbursed. At the policy-making level, the resource allocation between different sectors remains historical and incremental, and is not driven by consideration of cost-effectiveness.

7.5.2 Technical efficiency

In assessing technical efficiency, indicators of input can include the number of medical doctors, hospital beds, per capita health expenditure, and health expenditure as a percentage of GDP. Output measures include the number of outpatient visits, number of inpatient discharges, and length of stay.

The number of annual outpatient visits per capita was 13.0 in 2010, much higher than other OECD countries (averaging 7.0) (Kim et al., 2012). The number of inpatient discharges per capita (in 2010) was 14 001.9/100 000 population, a little higher than the OECD average. The length of stay hospital is longer than other OECD countries. In 2010, the average stay was 15.8 days (OECD 8.6 days), an increase from 12.6 days in 1999. Discharges per bed were lower than the OECD average, probably because of a very high bed per capita ratio.

7.6 Transparency and accountability

More transparent policy-making and implementation have been driven by the Government as well as social pressure. Both sociopolitical and technical approaches have been taken to enhance transparency. The National Assembly has strengthened the oversight function with regard to the formulation and implementation of Government health policy. In addition to a proactive role in the legislative process, the annual audits of the National Assembly cover most of the governmental activities related to health policy. Civil society organizations are constantly watching the activities of the National Assembly and sometimes evaluate performance of Assembly members publicly. Another key political structure is the mandate for the participation of civil groups in the formal decision-making process in either a discretionary or advisory role. For example, the Health Insurance Policy Deliberation Committee, a critical policy-making organization for NHI, includes diverse civil society organizations representing the insured, occupying at least one third of the committee positions.

Another focus has been technology. The Government has invested a lot in IT. Remarkable achievements have been seen in the development of electronic data processing for NHI. For example, comprehensive information on every insured person (including employment, payroll, assets of the entire population) and management of all insurance claims (more than 1.4 billion episodes in 2013) are dealt with based on a centralized national information system. Administrative fraud and abuse could be minimized by full utilization of IT.

8 Conclusion

The Republic of Korea has achieved a rapid improvement in health outcomes thanks to economic development and universal health coverage through national health insurance. The country achieved universal coverage of population in 1989, just 12 years after the introduction of social health insurance. It was first implemented among formal sector workers in large firms and incrementally extended to workers in smaller firms and finally to the self-employed. Prior to 2000 there were three separate types of insurance scheme (with more than 350 insurance societies). In 2000, all insurance schemes were merged into a single payer with a uniform contribution schedule and benefits coverage. The single payer system is regarded as more efficient and equitable than the previously fragmented health insurance system.

However, OOP payments at the point of service are higher than in most other OECD countries. Although NHI provides some protection mechanisms, such as exemption from co-payments for the poor, reduced co-payments for catastrophic illness like cancer, and a ceiling on cumulative OOP payment depending on income, high OOP payments have remained a key policy issue. The heavy financial burden results from provider behaviour rather than the benefits coverage itself. Healthcare is provided predominantly by private health-care providers, who are reimbursed by the fee-for-service payment system. Profit-seeking by private providers has led to the rapid diffusion of new services and technologies not yet included in the benefit package. Private providers induce demand for these new, but sometimes not cost-effective, services because they are not subject to NHI fee regulation and hence offer higher profits to them.

Health-care providers in the private sector flourished along with the expansion of national health insurance. The referral system does not function well in the private sector-dominated delivery system, and patients prefer tertiary care hospitals. Now the Republic of Korea has an oversupply of hospital beds. Although the private delivery system has advantages in terms of productivity and responsiveness to consumer

needs, it suffers from the problem of demand inducement and cost inflation. Tension between private providers and the Government (and the NHI system) has been substantial, and health-care providers have been a stumbling block to health-care reforms such as the prospective payment system. Government may need to expand the role of public hospitals, which currently account for only about 10% of all hospitals. A more realistic policy option may be to increase the role of public financing or to reduce the level of households' direct payments for health-care by raising health insurance contributions and expanding benefit coverage. Related to the private sector, there is increasing interest and debate over the role of the health-care industry, including pharmaceuticals and biomedical innovations, and conflict or coordination between industrial policy and health policy will be an important policy issue.

The NHI contribution of the self-employed based on their capacity to pay follows the principle of solidarity in the social health insurance system, but its estimation based on both income and property has been controversial. Population ageing and a flexible labour market with diversified forms of employment or income will also be a challenge for revenue collection through social health insurance, which depends significantly on formal sector labour. Other sources of revenue generation for health-care seem inevitable in the future, such as an earmarked consumption tax and a surcharge on income (e.g. interest income) other than payroll.

The Republic of Korea achieved rapid economic growth in the 1970s and 1980s along with decreasing inequity. However, inequity has been increasing since the 1990s, which has had a big impact on health-care system and population health outcomes. Policy to reduce the inequality in health-care and health outcomes should be a priority for the Government. Very rapid ageing of population is a key challenge to health-care system, too. Long-term care insurance improves access for the elderly to long-term care. However, avoidable admissions to hospitals are still nontrivial, and coordination between hospitals and long-term care facilities is a crucial issue. Strengthening of primary health-care and gatekeeping can also contribute to the continuum of care and health promotion to meet the needs of the aged population.

9 Appendices

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9.2 Health systems in transition methodology and production process

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Authors draw on multiple data sources for the compilation of HiT reports, ranging from national statistics, national and regional policy documents to published literature. Data are drawn from information collected by national statistical bureaux and health ministries. Furthermore, international data sources may be incorporated, such as the World Development Indicators of the World Bank.

In addition to the information and data provided by country experts, WHO supplies quantitative data in the form of a set of standard comparative figures for each country, drawing on the Western Pacific Country Health Information Profiles (CHIPs) and the WHO Statistical Information System (WHOSIS). HiT report authors are encouraged to discuss the data in the text in detail, including the standard figures prepared by the Observatory staff, especially if there are concerns about discrepancies between the data available from different sources.

The quality of HiT reports is of real importance since they inform policy-making and meta-analysis. Reports are subject to wide consultation throughout the writing and editing process, which involves multiple iterations. They are then subject to the following.

- A rigorous review process consisting of three stages. Initially, the text of the HiT report is checked, reviewed and approved by the Asia Pacific Observatory Secretariat. It is then sent for review to at least three independent experts, and their comments and amendments are incorporated into the text, and modifications are made accordingly. The text is then submitted to the relevant ministry of health, or appropriate

authority, and policy-makers within those bodies to check for factual errors.

- There are further efforts to ensure quality while the report is finalized that focus on copy-editing and proofreading.
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The Asia Pacific Observatory on Health Systems and Policies (the APO) is a collaborative partnership of interested governments, international agencies, foundations, and researchers that promotes evidence-informed health systems policy regionally and in all countries in the Asia Pacific region. The APO collaboratively identifies priority health system issues across the Asia Pacific region; develops and synthesizes relevant research to support and inform countries' evidence-based policy development; and builds country and regional health systems research and evidence-informed policy capacity.



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