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Charalambos Economou

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Health Systems in Transition

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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 reform and policy initiatives in progress or under development in a specific country. Each profile is produced by country experts in collaboration with the Observatory's staff. In order to facilitate comparisons between countries, the profiles are based on a template, which is revised periodically. The template provides detailed guidelines and specific questions, definitions and examples needed to compile a profile.

HiT profiles seek to provide relevant information to support policy-makers and analysts in the development of health systems in Europe. 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 in 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 are based on a number of different sources,

including the World Health Organization (WHO) Regional Office for Europe's European Health for All database, national statistical offices, Eurostat, the Organisation for Economic Co-operation and Development (OECD) Health Data, the International Monetary Fund (IMF), the World Bank, and any other relevant sources considered useful by the authors. Data collection methods and definitions sometimes vary, but typically are consistent within each separate series.

A standardized profile has certain disadvantages because the financing and delivery of health care differ across countries. However, it also offers advantages, because it raises similar issues and questions. The HiT profiles can be used to inform policy-makers about experiences in other countries that may be relevant to their own national situation. They can also be used to inform comparative analysis of health systems. This series is an ongoing initiative and material is updated at regular intervals.

Comments and suggestions for the further development and improvement of the HiT series are most welcome and can be sent to info@obs.euro.who.int.

HiT profiles and HiT summaries are available on the Observatory's web site at <http://www.healthobservatory.eu>.

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The current series of HiT profiles has been prepared by the staff of the European Observatory on Health Systems and Policies. The European Observatory on Health Systems and Policies is a partnership between the WHO Regional Office for Europe, the Governments of Belgium, Finland, Ireland, the Netherlands, Norway, Slovenia, Spain, Sweden and the Veneto Region of Italy, the European Commission, the European Investment Bank, the World Bank, UNCAM (French National Union of Health Insurance Funds), the London School of Economics and Political Science, and the London School of Hygiene & Tropical Medicine.

The Observatory team working on the HiT profiles is led by Josep Figueras, Director, and Elias Mossialos, Co-Director, and by the heads of the research hubs, Martin McKee, Richard Saltman and Reinhard Busse. Technical coordination is led by the European Observatory on Health Systems and Policies.

The production and copy-editing process was coordinated by Jonathan North, with the support of Sophie Richmond (copy-editor), Pat Hinsley (typesetter) and Aki Hedigan (proofreader). Administrative and production support for preparing the HiT on Greece was provided by Caroline White.

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List of abbreviations

AEI	Higher education institute (university)
ATEI	Higher technical education institute
CDT	Cost of daily treatment
CT	Computerized tomography
DAI	Digital Access Index
DALY	Disability-adjusted life years
DEA	Data envelopment analysis
DEPANOM	Public Company for Hospital Buildings
DRG	Diagnosis-related group
DSL	Digital subscriber line
DYPE	Health Region Administration
ECHI	European Community Health Indicators
EIAA	National Institution for the Rehabilitation of Disabled People
EINAP	Association of Hospital Doctors of Athens and Piraeus
EKAS	Social Solidarity Benefit for low-income pensioners
EKAV	National Centre for Emergency Care
EKEDI	National Centre for Diabetes Mellitus
EKEPSYE	Hellenic Centre for Mental Health and Research
EKEVYL	Research Centre for Biological Materials
EKKE	National Centre for Social Research
ELEPAP	Hellenic Society for the Protection and Rehabilitation of Disabled Children
ELOT	Hellenic Organization for Standardization
EMU	Economic and Monetary Union
EOF	National Drug Organization
EOM	National Transplant Organization
EPY	Central Committee of Health Supplies
ESCG	Economic and Social Council of Greece
ESDY	National School of Public Health
ESY	National health system
ESYD	Hellenic Accreditation System

ESYDY	National Public Health Council
EU	European Union
EU15	European Union Member States before May 2004
EU25	European Union Member States before January 2007
EU27	European Union Member States after January 2007
GDP	Gross domestic product
GGET	General Secretariat for Research and Technology
GP	General practitioner
HALE	Healthy life expectancy
HIV/AIDS	Human immunodeficiency virus/Acquired immunodeficiency syndrome
HMO	Health maintenance organization
ICT	Information and communication technology
ICU	Intensive care unit
IFET	Institute of Medicinal Research and Technology
IKA	Social Insurance Organization
IMF	International Monetary Fund
INBIT	Institute for Bio-Medical Technology
IOBE	Foundation for Economic and Industrial Research
ISA	Medical Association of Athens
ISDN	Integrated services digital network
IT	Information technology
IYP	Institute of Child Health
KAACYAMEA	Centre of Recovery, Rehabilitation and Social Support for People with Disabilities
KAAMEA	Centre of Rehabilitation of People with Disabilities
KAAP	Centre for the Rehabilitation of Children with Disabilities
KAFKA	Centre for Recovery, and Physical and Social Rehabilitation
KAPI	Open care centre for the elderly
KEDY	Central Laboratory for Public Health
KEELPNO	Centre for the Control and Prevention of Diseases
KEKYKAMEA	Centre for Social Support and Training of People with Disabilities
KEPE	Centre for Planning and Economic Research
KEPEP	Centre for child care
KESY	Central Health Council
KESYYPE	Central Council of Health Regions
KIFI	Daily care centre for the elderly
MAGR	Mean average growth rate
MRI	Magnetic resonance imaging
NAT	Sailors and merchant seamen's fund
NATO	North Atlantic Treaty Organization
NGO	Nongovernmental organization
NPDD	Public Law Entity

NPID	Private Law Entity
NRI	Networked Readiness Index
NSSG	National Statistical Service of Greece
OAEF	Social Insurance Organization for Self-employed Professionals
ODIPY	Organization for the Management of Health Care Financial Resources
OECD	Organisation for Economic Co-operation and Development
OENGE	Confederation of Hospital Doctors Unions
OGA	Agricultural Insurance Organization
OIKOS NAUTOU	Mariners' Health Fund
OKANA	Organization Against Drugs
OPAD	Civil Servants Health Insurance Fund
OSCE	Organization for Security and Co-operation in Europe
OTC	Over-the-counter
OTE	Hellenic Telecommunications Organization
PASOK	Pan-Hellenic Socialist Movement
PEDY	Regional laboratory for public health
PeSY	Regional health authority
PeSYP	Regional Health and Welfare Authority
PHI	Private health insurance
PIS	Pan-Hellenic Medical Association
POEDIN	Pan-Hellenic Federation of Professionals in Public Hospitals
POSEYPIKA	Pan-Hellenic Federation of IKA Doctors
PPO	Preferred providers organization
PPP	Purchasing power parity
PPPs	Public–private partnerships
PRM	Physical and rehabilitation medicine
PYLL	Potential years of life lost
SEYYP	Body of Inspectors for Health and Welfare Services
SOTY	Health Sector Coordination Body
SYPE	Council of the Health Region
SYPeSYP	Coordinating Council of Regional Health and Welfare Authorities
SYSEDYPY	Coordination Council for Unified Action in Health Services
TAP-OTE DEH	Social insurance fund for the personnel of the OTE and the Public Electricity Company
TEVE	Social insurance fund for Craftsmen and Tradesmen
TSAY	Social insurance fund for doctors, dentists, pharmacists and veterinarians
TYPET	Health insurance fund for the personnel of the National Bank of Greece
VAT	Value added tax
WHO	World Health Organization

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Abstract

The HiT profiles are country-based reports that provide a detailed description of a health system and of policy initiatives in progress or under development. HiTs examine different 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.

The health status of the Greek population has strongly improved over the last few decades and seems to compare relatively favourably with other OECD and European Union (EU) countries. The health system is a mixture of public integrated, public contract and public reimbursement models, comprising elements from both the public and private sectors and incorporating principles of different organizational patterns. Access to services is based on citizenship as well as on occupational status. The system is financed by the state budget, social insurance contributions and private payments. The largest share of health expenditure constitutes private expenditure, mainly in the form of out-of-pocket payments, which is also the element contributing most to the overall increase in health expenditure. The delivery of health care services is based on both public and private providers. The presence of private providers is more obvious in primary care, especially in diagnostic technologies, private physicians' practices and pharmaceuticals.

Despite success in improving the health of the population, the Greek health care system faces serious structural problems concerning the organization, financing and delivery of services. It suffers from the absence of cost-containment measures and defined criteria for funding, resulting in sickness funds experiencing economic constraints and budget deficits. The high percentage of private expenditure goes against the principle of fair financing and equity in access to health care services. Efficiency is in question due to the lack

of incentives to improve performance in the public sector. Mechanisms for needs assessment and priority-setting are underdeveloped and, as a consequence, the regional distribution of health resources is unequal. Centralization of the system is coupled with a lack of planning and coordination, and limited managerial and administrative capacity. In addition, the oversupply of physicians, the absence of a referral system, and irrational pricing and reimbursement policies are factors encouraging under-the-table payments and the black economy. These shortcomings result in low satisfaction with the health care system expressed by citizens.

The landmark in the development of the Greek health care system was the creation of the national health system (ESY) in 1983. This report describes the development of the ESY at the structural level and generally, the process of implementing reforms. The strategic targets of health reform initiatives have been to structure a unified health care sector along the lines of the original ESY proposal and to cope with current inefficiencies. However, the three reforms attempted in the 1990s were never fully implemented, while the ambitious reform project of the period 2000–2004, which provided for the regionalization of the system, new management structures, prospective reimbursement, new employment conditions for hospital doctors, modernization of public health services and reorganization of primary health care, was abolished after the elections of 2004 and a change in government. While the new strategy, launched in 2005 with the stated aims of securing the financial viability of the health care system in the short term and its sustainability in the long term, addressed specific weaknesses, it has been rather controversial: the introduction of a centralized administrative public procurement system, the development of public–private partnerships (PPPs) for the construction of public hospitals and the reform of pharmaceutical care have been accompanied by the abolition of professional hospital management and its replacement by political administration. The dominance of clientelism and party thinking instead of consensus-building has resulted in a health policy that lacks continuity and the ability to bring about change.

Executive summary

Introduction

Greece is a parliamentary democracy located at the southern end of the Balkan peninsula and consists of a large mainland, the Peloponnesian peninsula, and more than 3000 islands. The population of the country in 2008 was 11.2 million. In the near future, Greece will have to cope with demographic challenges, including an ageing population, diminishing natural population growth and migration.

Over recent years the economy of the country had recorded high growth rates, driven by buoyant private consumption and dynamic investment activity. However, the country faced serious problems with high inflation and unemployment rates, a continuing decline in the international price competitiveness of the economy, a widening of the current account deficit, high public debt, per capita gross domestic product (GDP) lagging behind the EU15 average, and an income inequality and poverty rate that remain higher than the EU27 average. In 2010, the Greek economy entered a deep structural and multi-faceted crisis, the main features of which are a large fiscal deficit, huge public debt, shrinking GDP, growing unemployment and the continuous erosion of the country's competitive position. As part of the conditions of a financial support package from the EU and IMF the country has adopted strict austerity measures aimed at reducing the fiscal deficit and restoring market confidence in the future of the economy.

The health status of the population compares relatively favourably with other OECD and EU countries, with women living on average 82.5 years and men 77.8 years. The main causes of death are diseases of the circulatory system, malignant neoplasms and cerebrovascular diseases.

Organization and provision of care

The Greek health care system comprises elements from both the public and private sectors. In the public sector, although a national health service-type system was established in 1983, it coexists with a social health insurance model. The social insurance system consists of a large number of funds and a wide variety of schemes, all of which are under the jurisdiction of the Ministry of Employment and Social Protection (formerly the Ministry of Labour and Social Security). Each insurance institution is subject to different legislation and, in many cases, there are also differences in contribution rates, coverage, benefits and the conditions for granting these benefits, resulting in inequalities in access to and financing of services. The Ministry of Health and Social Solidarity (previously known as the Ministry of Health and Welfare) is responsible for the planning and regulation of the ESY, with some responsibilities delegated to regional health authorities. However, government regulatory interventions are extensive and every aspect of funding and health care provision is subject to the control of the health ministry. The private sector includes profit-making hospitals, diagnostic centres and independent practices. A large part of the private sector enters into contracts with the insurance funds, providing mainly primary care.

Health is consolidated in the Greek Constitution as a social right. There are two main principles of entitlement. One is entitlement on the basis of citizenship in the case of outpatient services provided by the ESY. The other is entitlement on the basis of occupational status and insurance contributions for services which are provided and/or financed by insurance funds, including urban polyclinics owned by insurance funds, inpatient care provided by ESY hospitals, and private providers contracted by insurance funds. There is also entitlement to services and free access to ESY health centres and hospitals for the poor.

Financing

Health care expenditure has increased substantially in per capita US\$ purchasing power parity (PPP) and as a share of GDP. The proportion of total health expenditure has risen from 6.6% in 1990 to 9.6% of GDP in 2007, which is above the average of OECD and EU27 countries. In terms of health spending per capita, Greece ranks below the OECD average, with US\$ 2727 in 2007 (adjusted for PPP). In addition, Greece has one of the largest shares of private

health expenditure given that it constitutes 39.7% of total health expenditure. This figure depicts, to a lesser extent, formal cost-sharing arrangements, which are considered low, and, to a greater degree, direct and informal payments. The high level of official and unofficial private spending on health is a factor which negates the principle of equity. In addition, widespread tax evasion, the high proportion of indirect taxation and social security contribution evasion make public funding of the health sector highly regressive, disproportionately burdening lower socioeconomic groups.

Over the past 27 years a continual increase in health expenditure, in both absolute and relative terms, has been observed, although at different rates. The mean average growth rate (MAGR) of total health expenditure in constant prices for the period 2000–2007 was higher than in the periods 1980–1989 and 1990–1999, reaching 7.2%. Moreover, during 1980–2007, the MAGR of total health expenditure was almost double the MAGR of GDP, with the growth of both public and private expenditure contributing almost equally to the overall growth of health expenditure.

The methods of paying providers in the Greek health care sector do not generate incentives to improve efficiency and quality. ESY health care units operate on a fixed budget based on historical patterns, which covers operational costs and capital investments, and are reimbursed on a retrospective basis for services delivered to the insured population. The absence of real incentives for hospitals to stay within their budgets, delays in reimbursement by social insurance funds, and low statutory fees for hospital services, in comparison to actual per diem costs, result in public hospitals facing deficits that are addressed periodically by state subsidies derived from taxation revenues. Doctors working in public hospitals and health centres are full-time employees not allowed to engage in private practice and are paid a salary. Doctors contracted in ambulatory settings are paid on a fee-for-service basis. The fact that doctors' payments are not related to their performance and that there are no monitoring mechanisms is an incentive to minimize the effort devoted to institutional practice and to spend time in private practice, whether permitted or not.

Coverage for pharmaceutical care is universal and all prescription-only medicines are reimbursed by social insurance according to a recovery price. Patients participate in the cost of pharmaceuticals with a co-payment rate which varies depending on the severity of the disease and income. Prices of all medicinal products are government-controlled and are based on the average

of the three lowest prices among EU countries plus Switzerland. Despite price regulation, pharmaceutical expenditure increased considerably due to the absence of measures to control consumption volumes.

Physical and human resources

Despite the rapid growth of the private sector during the last decade, public hospitals are used more than private hospitals and there has been a tendency to increase their productivity. The average length of hospital stay for acute care and the number of acute care beds have declined, while bed occupancy and hospital discharges have risen. However, there is considerable space for improvement. With the aim of achieving better facilities management and maintenance of infrastructure, in 2007 the government approved PPPs for new hospitals. On the other hand, there has been a significant growth in the number of private diagnostic centres, resulting in an uncontrolled supply of expensive biomedical technology. The attempt during 2001–2004 to formulate and implement the “Health and Welfare Map”, as an instrument for allocating health resources and controlling capital investment, was not completed.

The health sector labour force has increased from 2.6% of the total workforce at the beginning of the 1980s to 4% in 2004. Compared to other OECD and EU countries, the numbers of physicians and dentists in Greece appears to be extremely high. In addition, while the ratio of specialists per 1000 inhabitants is very high, the ratio of GPs is one of the lowest. Furthermore, although the ratio of nurses to inhabitants has increased at a moderate rate, Greece has one of the lowest densities in this professional group. Despite the oversupply of doctors, Greek hospitals face significant shortages. The problem is even more pressing with regard to nursing personnel. The freeze on hiring personnel due to economic constraints has resulted in a large number of intensive care units being shut down and many ESY hospital clinics functioning below their operational capacity. The result is the emergence of long waiting lists. Considering the allocation of physicians, dentists and nurses in the different geographical regions of the country, there appear to be great inequalities. These inequalities, coupled with unequal regional allocation of beds, contribute to inequalities of access to services.

Challenges and reforms

The beginning of the new century saw a number of concurrent challenges: maintaining appropriate control of public spending given the precarious state of public finances, improving the quality and technical efficiency in the production of health care, and achieving a more efficient allocation of resources and a more equal distribution of costs and benefits across the population. These challenges placed the health care system at the centre of political debate and a number of reform initiatives were inaugurated. Legislation passed between 2001 and 2004 adopted a raft of measures, including: the establishment of regional health authorities; new hospital management structures with the establishment of general hospital directors; prospective reimbursement of public hospitals with the gradual introduction of global and departmental budgets and the preparation of business plans; afternoon outpatient hospital clinics where doctors would offer care to private patients on a fee-for-service basis; new employment relations for hospital doctors according to which newly employed public hospital doctors would have the right to obtain permanent tenure after two consecutive, successful five-year contracts; new procedures for the supplies of health units; the establishment of an inspection body to regulate and monitor health care and welfare services in order to improve quality and effectiveness; the optional establishment of primary health care networks and family doctors by social insurance organizations; the transformation of social insurance polyclinics into urban health centres; and the establishment of new services for home care, post-hospital care and rehabilitation.

Most of the above measures were abolished after the 2004 elections and a change in government. Professional hospital management was replaced by the previous pattern of political administration, and provisions concerning prospective reimbursement of hospitals and the reorganization of primary health care were never implemented. Furthermore, the abolition in 2006 of the positive list for pharmaceuticals and the adoption of a recovery price for their reimbursement by the state and social insurance funds do not seem to have had the desired effects on expenditure given that they are not complemented by incentives to change doctors' prescribing behaviour.

The most significant of the problems regarding health policy in Greece is the gap between declared objectives, enactment and implementation of legislation. Certain health care reforms have been partially or never implemented, while some others were short-lived because of subsequent changes of government, which stopped the implementation process. Path dependency, influenced by clientelism, political particularism, conflict between political parties and

economic interests, resistance by the medical status quo, absence of consensus, low administrative capacities and a weak civil society explain the inability to bring about change.

A comprehensive and universal health care system has not yet been established, with several quite differently organized and regulated subsystems operating due to the failure to propose and implement a coherent set of reforms with sufficient public and political support. The health system still functions within an outmoded organizational culture dominated by clinical medicine and hospital services, without the support of an adequate planning unit or adequate, accessible information on health status, utilization of health services or health costs; and without being progressive and proactive in addressing the health needs of the population through actions in public health and primary health care. Future reforms aimed at structurally unifying the health sector are necessary and need to focus on high-priority areas, including: restructuring of primary health care, pooling of financial resources, changing the payment system of providers, introducing new managerial and administrative methods, adopting cost-effective and monitoring mechanisms, and developing policies for better allocation of resources.

1. Introduction

1.1 Geography and sociodemography

Greece is located in south-eastern Europe, on the southern end of the Balkan peninsula and covers an area of 131 957 km². The country consists of a large mainland; the Peloponnesian peninsula, which is connected to the mainland by the Isthmus of Corinth and the newly constructed Rio-Antirrio cable bridge; and more than 3000 islands, out of which 169 are inhabited, including Crete, Rhodes, Corfu and the Ionian, Dodecanese and Cycladic groups. It has about 15 000 km of coastline (Aegean Sea, Ionian Sea and Mediterranean Sea) and a land boundary with Albania, Bulgaria, the former Yugoslav Republic of Macedonia to the north and Turkey to the east, totalling 1180 km (Fig. 1.1).

About 80% of the country is mountainous or hilly. The Pindus chain of mountains lies across the centre of the country running north-west to south-west, with a maximum elevation of 2637 m. Most of the country's biggest rivers, including the Aliakmonas, Pinios, Acheloos, Kalamas and Arahthos rivers, have their source in the Pindus range. The majority of the country's lakes, among which are Small and Large Prespa Lakes, and Lake Volvi and Lake Vegoritis, are located in northern Greece, mainly in the region of Macedonia.

Greece's climate is Mediterranean, with mild and rainy winters, relatively hot, dry summers and, generally, extended periods of sunshine throughout most of the year. However, topographical influences (great mountain chains) on air, deriving from moisture sources such as the central Mediterranean Sea, result in climate subtypes varying from region to region. For example, the islands have smaller temperature differences during the day than the mainland; western Greece has more rain than the eastern part; northern Greece has a colder climate than the rest of the country; the Ionian Islands and southern Crete have very small differences between winter and summer temperatures; while the Aegean Islands have less rainfall and experience strong winds in summertime.

Fig. 1.1

Map of Greece



Source: United Nations 2008.

According to estimates from the National Statistical Service of Greece (NSSG), the population of the country in 2008 was approximately 11.2 million (Table 1.1). In absolute figures, this represents a 27.8% increase since 1970, an 11.4% increase since the early 1990s and a 2.5% increase since the last census in 2001. Population density is 84.5 per km², yet the population is unevenly distributed, with far more people living in the mainland, particularly the area of greater Athens. More specifically, 61.4% of the population lives in urban areas and 34.3% in the area of greater Athens.

The age distribution of the population has changed substantially since 1970. A shift among the age groups has occurred, revealing a decrease in the 0–14-year-old age group of 10.3% and an increase in the 65 years and over age group of 7.6%. In addition, the proportion of very old people (over 80) increased to 3.9%. As a consequence, in 2008 the Greek population aged 65 and over corresponded to 27.7% of the working age population. This figure was the third highest in the EU27 after Italy (30.4%) and Germany (30.0) (EC 2010).

Table 1.1

Population/demographic indicators, 1970–2008

	1970	1980	1990	2000	2008
Total population (000s)	8 793	9 642	10 089	10 917	11 237
Female population – % total population	51.2	50.9	50.7	50.5	50.5
Fertility – children per woman aged 15–49	2.39	2.21	1.39	1.27	1.51
Birth – crude rate per 1 000 population	16.5	15.3	10.1	9.5	10.5
Death – crude rate per 1 000 population	8.4	9.0	9.3	9.6	9.6
Age dependency ratio – pop. 0–14 and 65+/pop. 15–64	55.5	56.1	49.2	47.0	49.0
Old age dependency ratio – pop. 65+/pop. 15–64	17.2	20.6	20.4	24.2	27.7
Population: 0–14 years – % total population	24.6	22.8	19.0	15.3	14.3
Population: 15–64 years – % total population	64.3	64.0	67.0	68.0	67.0
Population: 65 and over – % total population	11.1	13.1	14.0	16.7	18.7
Population: 80 and over – % total population	2.0	2.3	3.0	3.1	3.9
Life expectancy at birth – years	72.0	74.5	77.1	78.0	80.1
Urban population – % of total	53.2	58.1	58.8	60.1	61.4 ^a
Population density – people per km ²	66.5	73.8	77.0	82.7	84.5
Population growth – annual %	0.56	1.28	0.45	0.59	0.22
Literacy rate – % in population aged 15+	86.5	91.1	94.9	97.2	97.1

Sources: OECD 2009; WHO Regional Office for Europe 2010; United Nations 2010; NSSG 2010.

Note: ^a data for year 2005.

The predominant factors that have an important impact on the ageing of the Greek population are the continuous fall in fertility rates and extended longevity in adults. Between 1970 and 2008 fertility dropped below replacement level, from 2.39 to 1.51 children per woman aged 15–49 years. On the other hand, the total gain in life expectancy is around 8.1 years. Furthermore, the crude birth rate has fallen from 16.5 to 10.5 births per 1000 population, indicating the near equalization of the number of births with the number of deaths. The increase in the crude death rate, which in 2008 was 9.6 deaths per 1000 population, can be attributed mainly to the number of deaths among the increasing number of the very elderly. As a result of these trends, a gradual slowing down of population growth over the last three decades has been observed.

Based on NSSG population projections, it is expected that the Greek population will increase by 240 000 inhabitants until the year 2020, after which the population will start to decline gradually as net migration will no longer outweigh natural decline. The 2001 census had a total of 762 191 registrants who are normally resident and without Greek citizenship, constituting approximately 7% of the total population. The majority of this group are Albanians (56%) and mainly of working age (80%). However, according to Migration Policy Institute estimates the immigrant population in 2004 stood at around 1.15 million or

10.4% of the total population. Given the lack of sufficient and reliable data, it is difficult to provide the number of legal immigrants in Greece. It could be argued that about 61% are legal, considering that, by October 2004, some 700 000 residence permits had been issued (Migration Policy Institute 2004).

From the above analysis it is obvious that three related demographic challenges are confronting Greece. The first is the ageing of the population and the second is population decline in the near future. The third challenge is that natural population growth is diminishing and migration is the main engine of slow population growth. These developments raise serious questions about the Greek health care system. For example, access to health care services and the prevalence of communicable diseases are two issues related to illegal immigrants. Ageing makes necessary changes in the type of health services delivered and stronger coordination between health care and social services, considering the augmented needs of long-term rehabilitative and nursing care. Ageing may also increase pressure for more spending on health due to the increase in long-term chronic degenerative diseases. As a priority, new financing resources will need to be found, given the decreasing labour force and, therefore, shrinking health and social security revenues.

1.2 Economic context

Over recent years, Greece had recorded high growth rates driven by buoyant private consumption and dynamic investment activity. The increase in domestic demand and in production capacity as a result of investment and structural reforms was the primary contributor to the high GDP growth rates (4.1%) during the decade 1997–2006. Investment, which increased substantially in the run-up to the 2004 Olympic Games, and the large inflow of resources from the EU's Structural Funds boosted domestic demand and improved public infrastructure and total productivity. In addition to continued high growth rates, significant positive developments were observed in the unemployment rate which dropped to 8.8% in 2006.

However, as shown by the data presented in Table 1.2, the Greek economy still faces serious challenges. Inflation, which was 3.2% in 2006, has remained higher than average in the euro area and reached 4.2% in 2008. This has eroded incomes and led to a continuing decline in the international price competitiveness of the economy, thereby contributing to a widening of the current account deficit to 12.1% of GDP in 2006 and 14.5% in 2008, from the already high level of 8.1% of GDP in 2005 and 7.4% of GDP on average in the

five years between 2001 and 2005. Despite the progress achieved in terms of real convergence, per capita GDP in Greece (in purchasing power standards) continued to lag behind the EU15 average. Public debt remains exceptionally high and the unemployment rate, although it has dropped significantly, remains high, especially among young people and women. Furthermore, the increase in employment has been relatively moderate in recent years, despite accelerated economic growth. During the period 2000–2005 employment recorded an average annual increase of about 1.3%, leading to an employment rate of 61% in 2006 for those in the 15–64 age group.

Table 1.2

Macroeconomic indicators, 2006 and 2008 or latest available year

Indicator	2006	2008
Nominal GDP (billion €)	214.0	243.0
Real GDP (billion €)	175.8	182.0 ^c
GDP, PPP (current market prices, billion €)	303.6	269.0
GDP per capita (€)	17 600	21 300
GDP average annual growth rate (%) (last 10 years)	4.1	3.9
Gross value added in industry (% of GDP)	20.8	19.7
Gross value added in agriculture (% of GDP)	3.3	3.3
Gross value added in services (% of GDP)	75.9	77.0
General government deficit (% of GDP)	-2.6	-13.6 ^c
Consolidated debt of general government (% of GDP)	104.6	115.1 ^c
Current account balance (% of GDP)	-12.1	-14.5
Labour force (total)	4 880 000	4 927 000 ^d
Unemployment, total (% of labour force)	8.8	11.7 ^d
Real effective exchange rate on the basis of relative consumer prices	1.0	1.5 ^c
US\$/€ exchange rate (annual average, euro area and ERM II countries)	1.26	1.39 ^c
Inflation rate	3.2	4.2
At risk of poverty rate before social transfers (%) ^e	23.0 ^a	23.3 ^c
At risk of poverty after social transfers (%) ^f	20.0 ^a	20.1 ^c
Income inequality ^g	5.8 ^a	5.9
Gini coefficient	32.6 ^b	–

Sources: Bank of Greece 2007; Ministry of Economy and Finance 2007; OECD 2008a; Eurostat 2010a; Eurostat 2010b.

Notes: ^a data for year 2005; ^b data for year 2004; ^c data for year 2009; ^d data for year 2010, first quarter; ^e percentage of people with an equivalized disposable income, before social transfers, below the risk-of-poverty threshold, which is set at 60% of the national median equivalized disposable income; ^f at risk of poverty after social transfers; ^g the top (highest income) 20% of the population received 5.8 times as much of Greece's total income as the bottom (poorest) 20% of the population; ERM II: Exchange Rate Mechanism.

Another negative development is that income inequality and the poverty rate in Greece remain higher than the EU average and have not changed significantly in the last decade. Social transfers and social protection measures are inadequate and ineffective since they reduce the risk of poverty by only

3 percentage points. There is strong evidence that these problems are associated with structural weaknesses in the product and labour markets as well as in the education and taxation systems.

In 2010, the Greek economy entered a deep, structural and multi-faceted crisis, the main features of which are a large fiscal deficit, huge public debt and the continuous erosion of the country's competitive position. According to the latest revised data, the deficit in 2009 reached 13.6% of GDP. The public debt increased to 115.1% of GDP, the second highest ratio in the euro area after that of Italy. According to projections based on plausible assumptions, the debt-to-GDP ratio will continue to rise and will tend to stabilize only in 2014, and then again at very high levels (130%). In addition, Greece's gross national savings, public and private combined, were just above 5% of GDP in 2009. The current account deficit reached 14.6% of GDP in 2008 and, after a temporary decrease to 11.2% in 2009, began to increase again in the first two months of 2010. The real economy has been in recession since 2009, as GDP contracted by 2% last year, mainly on account of a sharp drop in investment, but also because of falls in private consumption and exports. In its latest *Report on monetary policy*, released in March 2010, the Bank of Greece (2010b) estimated that GDP would decline by around 2% in the current year (i.e. 2010). The recession spread across all sectors of activity in 2009, negatively impacted on employment, and caused an increase in the rate of unemployment. Total employment declined by 1.1%, the number of employees fell by 1.6% and the unemployment rate climbed to 9.5%. A further drop in employment is projected for 2010, while the rate of unemployment will come close to 11% (Bank of Greece 2010a). In order to address the problem, the Greek government announced measures aimed to reduce the fiscal deficit and restore market confidence in the future of the economy. It requested from the EU and the IMF the activation of a support mechanism, adopted a strict income policy, increased direct and indirect taxes and announced the adoption of measures enhancing flexibility in the labour market, the cutting of expenses and the merger or elimination of public sector entities that are not productive.

1.3 Political context

Greece's political system is a parliamentary democracy established by the 1975 Constitution (as amended in 1986, 2001 and 2008), which marked the end of a seven-year military dictatorship regime (1967–1974). The president of the republic is the head of state and is elected by the 300-member Parliament for

a maximum of two five-year terms. The president approves new laws passed by the Parliament and formally appoints the government on the basis of the election results. Since the 1986 constitutional revision, the president's powers are limited and, as a consequence, direct and active involvement in policy-making is minimal.

Executive power rests primarily with the government, headed by the Prime Minister and constitutionally controlled by the Parliament. The Prime Minister chooses the ministers and proposes them to the president of the republic for appointment. Normally, at the beginning of its term, the government presents its policy programme to the newly elected Parliament in order to gain a "confidence" vote. The Prime Minister is responsible for setting the policy guidelines, as well as overseeing and coordinating their implementation. Ministers run their respective ministries independently, but within this framework, in close cooperation with the Prime Minister. Since the restoration of democracy the party system has been dominated by the liberal-conservative New Democracy and the socialist Pan-Hellenic Socialist Movement (PASOK).

The Parliament is elected every four years by universal direct suffrage. All Greek citizens over the age of 18 are required to vote. The Parliament undertakes legislative tasks, enacting legislation that applies to the whole of the country. Judicial power is vested in the Greek courts, among which are the Supreme Court (*Areios Pagos*), the highest court that rules on civil and criminal cases, and the Council of State (*Symvoulia tis Epikratias*), which determines whether state laws and actions are in compliance with the Constitution.

The administrative system comprises 13 regions (*peripheries*), which are subdivided into 3 super-prefectures (*hypernomarchies*) and 54 prefectures (*nomarchies*). Prefectures are further divided into approximately 1033 municipalities. There is also an autonomous special administrative unit, Mount Athos ("Holy Mountain"), under the command of the Church of Greece. Each region is governed by a regional council headed by a secretary general who is appointed by the government. Prefectures are run by directly elected organs, namely the prefectural council led by the prefect. Three areas, the first including Athens and Piraeus, the second including Drama, Kavala and Xanthi, and the third including Phodope and Evros, have an additional administrative division placed between regions and prefectures (super-prefectures) and are headed by an elected super-prefect. Municipalities form the first tier of local government and they have their own organs and boroughs, members of which are elected through universal ballot.

In 1981 Greece joined the EU and, since 1 January 2001, has been a Member of the Economic and Monetary Union (EMU). Greece is also a member of international organizations such as the Council of Europe, the North Atlantic Treaty Organization (NATO), the United Nations, the IMF, the Organization for Security and Co-operation in Europe (OSCE) and the OECD.

1.4 Health status

During the last 38 years, the Greek population has gained 6.3 years in life expectancy, with women showing slightly more gain than men (6.5 years and 6.2 years respectively). In 2007, Greece ranked 15th for life expectancy among OECD countries and was registered above the OECD average (OECD 2009). A person born in Greece in 2008 can expect to live 80.1 years on average. Women continue to have higher life expectancy than men, with 82.5 years compared to 77.8 years for men (Table 1.3).

Table 1.3
Mortality and health indicators, 1970–2008

	1970	1980	1990	2000	2008
Life expectancy at birth, females (years)	76.0	77.6	79.6	80.9	82.5
Life expectancy at birth, males (years)	71.6	73.1	74.8	75.6	77.8
Life expectancy at birth, total (years)	73.8	75.4	77.2	78.2	80.1
Crude mortality rate (per 1 000)	8.4	9.0	9.3	9.6	9.6
Mortality rate, adult, female (per 1 000 female adults 15–60 years)	–	–	56.0	48.0	46.0 ^a
Mortality rate, adult, male (per 1 000 male adults 15–60 years)	–	–	117.0	116.0	111.0 ^a
Mortality rate, adult, total (per 1 000 adults 15–60 years)	–	–	86.0	82.0	79.0 ^a
Infant mortality (deaths/1 000 live births)	29.6	17.9	9.7	5.4	2.7
Probability of dying before age 5 years (per 1 000 live births)	33.4	20.3	10.9	6.2	3.4
Potential years of life lost (PYLL)	7 704	5 810	4 461	3 694	3 299 ^a

Sources: OECD 2009; WHO Regional Office for Europe 2010; WHO 2009.

Note: ^a data for year 2007.

Premature mortality, measured in terms of potential years of life lost (PYLL), is an alternative measure that attributes health outcome to the health system. PYLL is a summary measure of premature mortality providing an explicit way of weighting deaths occurring before the age of 70, which are, a priori, preventable. In Greece, premature mortality was reduced by 43.2% during the period 1980–2007 (from 5810 to 3299 PYLL per 100 000 population). A major factor contributing to this decrease has been the downward trend in infant mortality (see also Table 1.8). In addition, the probability of dying before the

age of 5 years has been substantially reduced. These data reflect the fact that the establishment of the ESY probably had a positive effect on health outcomes. As a consequence of this progress, Greece is ranked ninth among OECD countries (OECD 2007a). An interesting feature is that about 28% of PYLL can be attributed to external causes, 24.5% to malignant neoplasms and 19.8% to diseases of the circulatory system (OECD 2009). These figures indicate that the preventive public health policies must focus on the driving, drinking, eating and smoking habits of the population (see also Table 1.6).

Table 1.4 shows the main causes of death of the Greek population. Since the beginning of the 1990s, diseases of the circulatory system have been the leading causes of death. In 2008, 43.5% of total deaths in Greece were due to cardiovascular diseases. Among the OECD countries, Greece has the fifth highest standardized mortality ratio for diseases of the circulatory system after Slovakia (485.4), Hungary (476.2), Czech Republic (396.4) and Poland (363.0) (OECD 2009). The second major cause of death is cancer. Malignant neoplasms account for 26.4% of mortality. On the other hand, tuberculosis cases have dropped significantly and have stabilized at a low level. Deaths from accidents have also been decreasing steadily although they remain the primary source of premature mortality.

Table 1.4

Main causes of death (standardized mortality rates/100 000 population), 1990–2008

Cause	1990	1995	2000	2005	2008
All causes	739.87	719.01	704.65	641.96	595.53
Infectious and parasitic diseases	4.63	4.62	3.45	4.51	5.79
Tuberculosis	1.25	0.77	0.60	0.54	0.45
Malignant neoplasms	158.85	163.74	163.34	160.49	157.18
Trachea/bronchus/lung cancers	39.31	39.15	39.40	38.29	38.65
Malignant neoplasms – female breast	21.26	22.74	21.63	21.70	21.67
Mental and behavioural disorders	6.63	9.40	9.92	8.30	8.69
Diseases of the circulatory system	370.84	353.84	338.38	293.57	258.83
Ischaemic heart diseases	95.59	91.71	87.45	78.78	67.28
Acute myocardial infarction	63.60	64.00	58.10	49.00	47.00 ^a
Cerebrovascular diseases	134.41	128.01	118.99	99.11	81.18
Diseases of the respiratory system	39.35	39.78	51.84	48.37	53.45
Diseases of the digestive system	17.89	18.29	17.69	15.46	14.56
External causes	40.37	39.23	36.77	33.70	29.64
Transport accidents	21.30	21.46	18.99	16.45	14.09

Sources: WHO Regional Office for Europe 2010; OECD 2009.

Note: ^a data for year 2007.

According to WHO estimates for the year 2002, on average Greeks can expect to be healthy for about 90% of their total years of life, placing them 17th among the other OECD populations (OECD 2007a). Women lose 8 years to illness (the difference between life expectancy and healthy life expectancy (HALE), see Tables 1.3 and 1.5) and men lose 6.5 years to illness. Nevertheless, the longer life expectancy for Greek women compared with men gives them almost four more years of healthy life than men (72.9 healthy years compared to 69.1 healthy years) (WHO Regional Office for Europe 2006; WHO 2007).

Table 1.5

HALE by gender, 1999–2002

Countries	1999			2000			2001			2002		
	Total	Male	Female	Total	Male	Female	Total	Male	Female	Total	Male	Female
Cyprus	–	–	–	–	–	–	–	–	–	67.6	66.7	68.5
France	73.1	69.3	76.9	71.1	68.9	73.4	71.3	69.0	73.5	72.0	69.3	74.7
Greece	72.6	70.5	74.6	70.4	69.0	71.8	70.4	69.0	71.9	71.0	69.1	72.9
Italy	72.7	70.0	75.4	70.9	69.1	72.8	71.0	69.2	72.9	72.7	70.7	74.7
Malta	70.5	68.4	72.5	69.2	67.6	70.8	69.2	67.6	70.9	71.0	69.7	72.3
Portugal	69.3	65.9	72.7	66.8	64.3	69.4	66.8	64.3	69.4	69.2	66.7	71.7
Slovenia	68.4	64.9	71.9	67.5	64.9	70.1	67.7	65.1	70.3	69.5	66.6	72.3
Spain	72.8	69.8	75.7	70.7	68.5	72.9	70.9	68.7	73.0	72.6	69.9	75.3
EU27	70.4	–	–	68.7	–	–	68.9	–	–	70.3	–	–
EU15	71.8	–	–	70.2	–	–	70.4	–	–	71.7	–	–

Source: WHO Regional Office for Europe 2010.

The promotion of healthy habits around alcohol, food and tobacco consumption is a good indicator to assess the impact of preventive policies in controlling diseases effectively (Table 1.6). Among OECD countries for which there are available data, Greece records the highest tobacco consumption; it ranked fifth in terms of calorie intake per capita after the United States, Portugal, Ireland and Italy; and is 17th in terms of annual alcohol consumption (OECD 2007a). Although the dietary habits of a large part of the Greek population resemble the Mediterranean diet, which is characterized by a high intake of cereals, vegetables, fruits and olive oil, and low intake of meat, poultry and saturated fatty acids (and according to studies it is associated with fewer deaths due to coronary heart disease and cancer; Trichopoulou et al. 2003), there is a significant fraction of the population (younger age groups) adopting the Western-type diet or a diet with a high consumption of sweets (Costacou et al. 2003). The negative health implications of the ever increasing trend of

abandoning the Mediterranean diet over the last 20 years, combined with high tobacco consumption, are obvious in the mortality pattern of the population analysed in Table 1.4.

Table 1.6

Factors affecting health status, 1990–2005

Factors	1990	1995	2000	2003	2004	2005
HIV incidence per 100 000	2.2	3.1	4.5	3.96	4.04	5.1
Diabetes prevalence (%)	0.17	–	0.15	0.14	0.15	–
% of people aged 20 years and above with diabetes	–	–	10.3	–	–	–
Heart disease – DALYs lost/1 000 population	–	–	–	7.0	–	–
Stroke – DALYs lost/1 000 population	–	–	–	6.0	–	–
Total fat intake – grams/capita/day	138.8	148.2	147.5	144.9	–	–
Total calorie intake – calories/capita/day	3 536	3 589	3 735	3 666	–	–
Total protein intake – grams/capita/day	111.6	115.9	125.6	117.2	–	–
% of total energy available from fat	35.3	37.2	35.5	35.6	–	–
% of total energy available from protein	12.7	12.9	13.5	12.8	–	–
Alcohol consumption – litres/capita (15+)	10.6	10.5	9.5	9.0	–	–
Pure alcohol consumption – litres/capita	8.63	8.74	7.98	7.68	–	–
Tobacco consumption – % of population who are daily smokers	38.5	–	35.0	–	38.6	–
Overweight or obese population – % total population, BMI>25kg/m ²	–	–	–	57.1	–	–
People injured due to work-related accidents per 100 000	287.3	213.8	156.4	–	–	–
Deaths due to work-related accidents per 100 000	2.08	1.94	0.83	–	–	–

Sources: OECD 2009; WHO Regional Office for Europe 2010; WHO 2010.
Note: BMI:Body mass index.

The second major component of a national prevention strategy is immunization coverage. In Greece, immunization coverage has risen substantially in the past 25 years. According to WHO/UNICEF estimates, in the early 1980s, national immunization coverage for the first dose of the diphtheria, tetanus toxoid and pertussis vaccine (DTP1) was 89% (1980), and for the third dose (DTP3) it was 72% (1980). The rate for the first dose of the measles vaccine (MCV) was 75% (1984). In 2006 the corresponding rates were 96%, 88% and 88% (WHO 2008). As can be seen from the data in Table 1.7, Greece compares favourably in an international comparison. For example, 99.2% of children in Greece are immunized for diphtheria, tetanus, pertussis (DTP3) and 98.9% for measles. This fact highlights the importance of providing proper information to parents and to society in general about the significance of early initiation and completion of the recommended immunization schedule proposed by the National Immunization Programme.

Table 1.7

Levels of immunization, latest available year

Category	%	Year
Infants vaccinated against		
– tuberculosis	90.6	2008
– diphtheria	99.2	2008
– tetanus	99.2	2008
– pertussis	99.2	2008
– poliomyelitis	99.1	2008
– invasive disease due to haemophilus influenza type b	83.0	2008
– hepatitis B	95.3	2008
– mumps	88.6	2001
– rubella	88.6	2001
Children vaccinated against measles	98.9	2008

Source: WHO Regional Office for Europe 2010.

The reduction of infant mortality is a significant factor that contributed to gains in life expectancy in Greece. Between 1980 and 2008, infant mortality fell from 17.94 to 2.65 deaths per 1000 live births. A similar trend is observed in relation to perinatal, neonatal and postneonatal mortality. Perinatal mortality was reduced from 19.73 to 4.4 deaths per 1000 total births, neonatal mortality dropped from 13.85 to 1.79 deaths per 1000 live births and postneonatal mortality has fallen from 4.09 to 0.86 deaths per 1000 live births. Data presented in Table 1.8 support the substantial improvement in maternal, infant, neonatal, postneonatal and perinatal mortality in Greece during the period 1980–2008. They also support the fact that, in the above indicators, Greece's record is better than those of more developed countries, including Austria, Canada, Denmark, Netherlands, the United Kingdom, the United States and Switzerland (OECD 2007a).

Table 1.8

Maternal and child health indicators, 1980–2008

Indicators	1980	1985	1990	1995	2000	2005	2008
Infant deaths per 1 000 live births	17.94	14.14	9.71	8.15	5.43	3.80	2.65
Neonatal deaths per 1 000 live births	13.85	10.55	6.51	5.78	3.88	2.64	1.79
Postneonatal deaths per 1 000 live births	4.09	3.59	3.20	2.36	1.55	1.16	0.86
Perinatal deaths per 1 000 births	19.73	15.54	11.72	10.33	7.88	5.66	4.40
Maternal deaths per 100 000 live births	17.55	6.87	0.98	0	0	0	1.79 ^a

Source: WHO Regional Office for Europe 2010.
 Note: ^a data for year 2007.

The health status of the population should also be assessed in relation to the extent of inequalities between different socioeconomic groups. This is impossible in Greece due to the lack of data. As Mackenbach and Bakker (2003) observe in their analysis of European experiences in tackling socioeconomic inequalities in health, Greece is a country that finds itself still at a stage that precedes measurement of health inequalities. Independent reports recommending policy action, national research programmes, and reports by government advisory committees or government policy documents that focus on reducing health inequalities are non-existent. Among the rare literature on health inequalities in Greece is a study conducted in 2001 under the auspices of WHO. This study showed that in Greece self-assessment of health status is correlated with socioeconomic characteristics such as income and education. The higher the income and the educational attainment of an individual, the higher she/he assesses the status of her/his health (Kyriopoulos, Gregory & Economou 2003). Another study reviewing educational and income inequalities in morbidity among the elderly of 11 European countries found that Greece has among the largest absolute and relative inequalities in relation to self-assessed health, resulting in diminished daily activities due to a physical or mental problem, and long-term disability for those at the lower end of the scale (Huisman, Kunst & Mackenbach 2003).

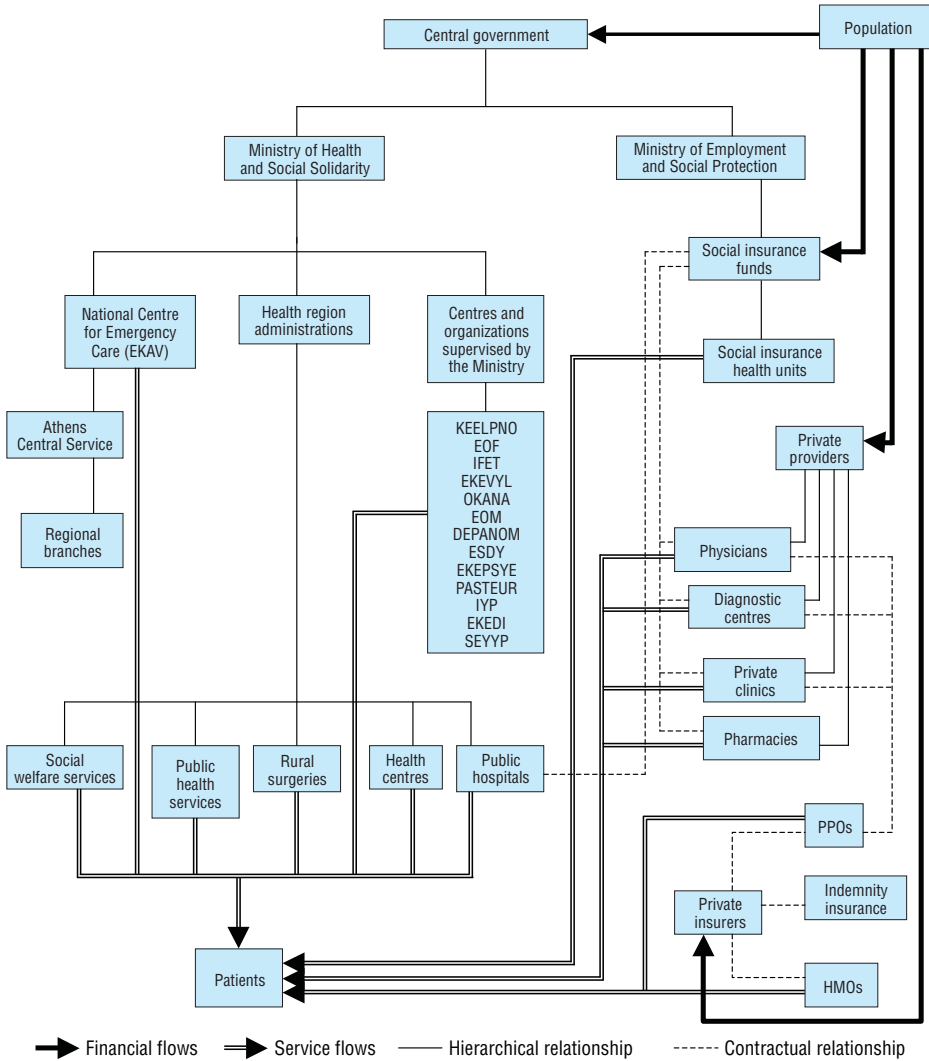
2. Organizational structure

2.1 Overview of the health system

Following the OECD classification (OECD 1992), it could be argued that the Greek health care system is a mixture of the public integrated, public contract and public reimbursement systems, incorporating principles of different organizational patterns. The existence of different subsystems and organizational models, combined with a lack of mechanisms for coordination, results in fragmentation and overlaps in care, and creates significant difficulties in the management of the system as well as in the planning and implementation of national health policy.

The Greek health care system, as outlined in Fig. 2.1, comprises elements from both the public and private sectors. In relation to the public sector, elements of the Bismarck and the Beveridge models coexist. Before the establishment of the ESY in 1983, the provision of health care in Greece followed the Bismarck model of compulsory social health insurance. Social insurance funds continue to play a significant role in the provision and financing of health care, especially ambulatory services, and follow two patterns. The first includes funds which have their own medical facilities and cover all the primary health care needs of their insured population. Under this arrangement medical professionals are paid a salary. The second pattern of provision concerns funds which do not own any medical facilities directly but enter into contracts with medical practitioners who are compensated via a defined fee-for-service on a retrospective basis. The level of compensation is subject to approval by the Ministries of Health and Social Solidarity, of Finance and Economics, and of Employment and Social Protection. A variation of this pattern occurs where insured people choose whatever professional they wish to consult and pay the current price on the medical market for the service received; they are then reimbursed a prescribed amount from their sickness fund. This amount is also determined by the three ministries mentioned.

Fig. 2.1
Overview of the Greek health care system



The social insurance system in Greece comprises a large number of funds and a wide variety of schemes under the jurisdiction of the Ministry of Employment and Social Protection (formerly the Ministry of Labour and Social Protection), and assignment to one of them depends on the occupation of the insured. There are about 30 different social insurance organizations which provide coverage against the risk of illness. Most of them are administered as public entities and operate under state control. Each insurance institution is subject to different

legislation and, in many cases, there are also differences in contribution rates, coverage, benefits and the conditions for granting these benefits, resulting in inequalities in access to and financing of services.¹ According to the provisions of the social insurance law passed in July 2010 (Law 3863/2010), the social insurance funds will need to be merged into only three funds.²

The ESY is financed by the state budget via direct and indirect tax revenues and provides for emergency pre-hospital, primary and inpatient health care through rural surgeries, health centres and public hospitals, which are reimbursed on a per diem basis. Doctors working in public hospitals and health centres are full-time employees who are not allowed to engage in private practice and are paid a salary.

The private sector includes profit-making hospitals, diagnostic centres and independent practices, financed mainly from out-of-pocket payments and, to a lesser extent, by private health insurance. Besides indemnity insurance for health professionals, the latter can take either the form of preferred provider networks or integrated insurers and providers' schemes. A large part of the private sector, as mentioned above, contracts with social health insurance/sickness funds to provide mainly primary care, and is financed on a fee-for-service basis according to predetermined agreed prices.

2.2 Historical background

Following Greek independence in 1830 and until the end of the 19th century, no more than 10% of the active Greek population had coverage for health care by any type of statutory body. The government's main measures were limited to the introduction of a number of vaccination programmes, regulations and sanitary decrees for the prevention of the outbreak and spread of infectious diseases, as well as the establishment of prefecture medical officers and the High Health Council (*Iatrosynedrio*) (Table 2.1). *Iatrosynedrio* was established in 1834 to organize public health and administer medical examinations, issuing licences only to those who succeeded in passing them. The organization of medical and hospital services did not constitute a primary concern for the state.

¹ At this point, it must be clarified that social insurance funds in Greece are mixed funds for pensions, health and welfare. There are no autonomous health insurance funds but only health branches of the social insurance organizations. Wherever in this report we use the terms "social health insurance organizations", "sickness funds" and/or "social health insurance funds", we refer to health branches.

² Although the law does not specify a time frame for the merger, the government's intention is to complete its provisions by 1 January 2018.

All responsibility for the provision of medical services, in rural areas in particular, was concentrated in the hands of “practical” doctors, who lacked any formal training and scientific knowledge. In urban centres, some old and abandoned military buildings functioned as hospitals, operating under miserable conditions. The situation began to improve gradually towards the end of the 19th century, when some new hospital buildings were built, mainly funded by donations from wealthy Greeks and charity organizations. In addition, during the same period, social insurance funds for seamen, miners, civil servants and military personnel were established.

In 1917 the Ministry of Hygiene and Social Welfare was established (Law 748/1917). The level of care provided at that time was rudimentary compared to that in other European countries. Municipalities and communities controlled the few existing municipal and communal hospitals, while some large hospital institutions were controlled by the state at national level. Some private hospitals were also in existence. Furthermore, measures for health and safety at work (Law 3934/1911 and Law 551/1915), the foundation of mutual societies (Law 281/1914) and the obligatory insurance of employees (Law 2868/1922) were introduced, but these enjoyed limited success. In 1929, the health department of the League of Nations, after a request from the Greek government, submitted a plan for the sanitary reorganization of the country (which was never implemented) based on the introduction of a central health council, rural and urban health centres, and metropolitan health services. The first serious governmental action intended to increase coverage of the population involved the establishment of the Social Insurance Organization (IKA) in 1934. This organization was to provide health and pension coverage to blue- and white-collar workers in urban areas and in industries employing more than 70 workers, and resulted in coverage of approximately one-third of the population. In 1937, Law 965 set the preconditions for a common framework regarding the organization and operation of public hospitals and the creation of public primary health care services. In 1941 temporary public hospitals were established to serve war needs, and remained thereafter.

The next major step followed in 1953 with legislation intended to establish a national health service. The aim was to decentralize health care competences to “regional health councils” and through them to “district health councils”. Regional health councils would provide expert opinions on health care needs, based on such criteria as population and morbidity, and would provide the necessary equipment and buildings. The legislation also proposed the development of a system for the geographical distribution of hospital beds, and of primary care services, especially in rural areas, with the establishment of health centres.

Table 2.1

Historical background and reform trends in the health care system, 1833–1997

Year	Reform
1833	Establishment in each prefecture of a public health medical officer
1834	Establishment of High Health Council (<i>Iatrosynedrio</i>)
1911	Law 3934: health and safety at work and working hours
1914	Law 281: establishment of mutual societies
1915	Law 551: protection against accidents at work
1917	Law 748: establishment of the Ministry of Hygiene and Social Welfare
1922	Law 2868: obligatory social insurance for employees
1929	League of Nations plan: collaboration with the Greek government to reorganize sanitary system (not implemented)
1934	Law 6298: establishment of Social Insurance Organization (IKA)
1937	Law 965: organization of public hospitals and sanitary institutions
1941	Law 2769: establishment of temporary public hospitals during the Second World War (which remained in operation after the war)
1953	Legislative Edict 2592/1953: organization of medical assistance
1961	Law 4169: Establishment of Agricultural Insurance Organization (OGA)
1968	Patras Plan: social policy planning
1979	KEPE report on health: development programme 1976–1980
1980	Doxiades Plan: health protection measures
1983	Law 1397: establishment of the ESY
1992	Law 2071: modernization and organization of the health system
1994	Law 2194: re-establishment of the ESY and other provisions
1995	Kremastinos Plan
1996	Peponis and Papadelis Plan
1997	Law 2519: development and modernization of the ESY

This legislation was considered the most significant and complete legislative intervention undertaken in the country since the creation of the Hellenic state, adopting, for the first time, the perception of a needs-based approach to the health care system. However, the law was never implemented and in practice the opportunity for reform was lost.

The 1950s and 1960s were characterized by the continual growth and expansion of the social insurance sector and social security benefits. A number of financial institutions such as banks established their own insurance funds, financed mainly out of employer contributions. Social health insurance schemes were also established for public sector employees and self-employed professionals. Farmers and their families, who at that time comprised more than 50% of the Greek population, were for the first time covered for medical assistance in 1961 when the Agricultural Insurance Organization (OGA) was founded. In addition, a network of rural medical stations was established, staffed mainly by a doctor (a graduate of a medical school doing one year of obligatory service), a nurse and a midwife. With the exception of the IKA,

which developed its own health care infrastructure for its insured population mainly in urban areas, all insurance funds contracted health care services from private specialist physicians in the case of primary health care services, and from public or private hospitals in the case of secondary care. Thus, the private sector expanded rapidly during this period due to the growth in numbers of physicians in solo private practice, as well as the erection of many small-scale private hospitals. The state, on the other hand, only developed a few public hospitals in large cities, while continuing to subsidize a number of hospitals run on a charitable basis.

The dictatorship of 1967–1974 tended to consolidate this pattern of health care services, although it was during this period that the first attempts to organize a comprehensive health care system emerged. In 1968, a plan for health care reform (the Patras Plan) was presented by the ministry of health, providing for the formation of a package of health services common for all insurance funds; the introduction of an agency that would be the sole source of funding; the expansion of the public sector in the provision of services through the establishment of new public hospitals; the geographical redistribution of services in order to reduce regional inequalities; the full-time and exclusive employment of hospital doctors; and the introduction of a family doctor system.

Following the restoration of democracy in 1974, political and social pressures, as well as the growing number of problems in the health care system, intensified the need for health care reform, making this an issue of high priority for the new government. In 1976, a working party from the Centre for Planning and Economic Research (KEPE) prepared a study on the health care system, indicating the main problems and proposing measures for their solution. According to this study, the main problems included the lack of harmonization of finance and coverage; the geographical inequalities in the provision of services, especially between rural and urban areas; the large gaps in the provision of services in rural areas; the absence of capital development in public hospitals; the lack of coordination between the health ministry and other governmental bodies; and the existence of methods of payment that encouraged inefficient and unethical practices, creating conditions for the development of an underground economy in the health sector. The working party proposed the unification of the services of the three major insurance schemes (IKA, OGA and TEVE (Social Insurance Fund for Craftsmen and Tradesmen)), as well as any others who wanted to join, the creation of a unified fund and the introduction of a family doctor system. However, due to political and medical opposition, the proposals were never passed into legislation.

In 1980, a team of experts in the health ministry worked out a plan for the reorganization of the health care system, known as the Doxiades Plan. The plan anticipated the creation of a planning agency for the coordination of health care provision, the development of a network of rural health centres staffed mainly by family doctors and the nationalization of hospitals. When the plan was presented to Parliament, it faced strong opposition both by physicians and members of Parliament, and was rejected without any discussion. It was considered very “advanced” for its time, and was consequently contested by the Pan-Hellenic Physicians Association and many members of Parliament of the governing party, who argued that the bill was promoting socialized medicine and, therefore, was counter to the liberal principles and philosophy of their party.

With the rise of the socialist party (PASOK), which came to power in 1981, the political and social conditions for a radical change were very favourable. The then active Association of Hospital Doctors of Athens and Piraeus (EINAP) demanded a comprehensive national health care system, expressing the wishes of the majority of the public. Law 1397/83, which founded the ESY, was the last stop on a long and difficult road, but also marked the beginning of a new attempt to organize a public health care system in Greece. This HiT report will look extensively at the progress made in the implementation of reforms (with regard to the structure, organization, provision and financing of health services) that followed the creation of the ESY. The rest of this section provides only a summary of the developments and limitations in structuring the ESY system over its 30 years of operation.

Law 1397/83 can be characterized as the most important legislative reform ever attempted in the Greek health care system. According to its provisions, there was to be universal coverage and equal access to health services, and the state was to be fully responsible for the provision of services to the population. Primary health care was to be developed based on rural and urban centres staffed by general practitioners (GPs) and governed by a referral system. Secondary health care services were to be provided mainly through public facilities. Establishment of new private hospitals was to be prohibited, while those already in existence were either to close or be sold to the public sector. A Central Health Council (KESY) was to be established, which would play an advisory role to the health ministry on health policy and research issues. Health councils were to be established at regional level, with planning and administrative responsibilities. ESY doctors and other staff would be fully and exclusively employed by the national health system, and would be paid by salary.

However, significant portions of the law were never or only partially implemented. For example, urban health centres were never established, resulting in a fragmented primary care delivery system. Moreover, the unification of health insurance funds and the provision to create a special account at the ministry of health (the first stage for a unified fund), in which all the social insurance funds would deposit the funds required to provide medical care to the insured, with services to be provided through ESY, never took place. Private hospitals were shut down or sold to the public sector but the private health sector remained a crucial agent through the establishment and expansion of private diagnostic centres. The principle of social participation was not implemented and regional health councils never became operational. Decentralization in the planning process never materialized and a referral system was never implemented. The emphasis was placed exclusively on the supply side and the provision of health care services, trying to improve the country's health infrastructure, to expand and strengthen the public sector in the provision of health care and to limit privately provided services. The financing side of the health sector, funding sources, resource allocation mechanisms and remuneration methods were totally ignored.

Following the introduction of Law 1397/1983, there was an increase in and upgrading of infrastructure (buildings and medical equipment) and staffing, as well as improvements in quality and access to health care, especially in rural areas. During the 1980s more than 180 health centres in rural areas, three new regional university hospitals (Patra, Ioannina and Irakleio) and a number of prefectural hospitals were built, and many others were renovated or extended. However, in significant areas such as the financing of the system, its management and administration, the control of expenditure and the development of primary health care services in urban centres, the situation remained generally unchanged. As a consequence, in the early 1990s, the health care sector faced a number of serious weaknesses. The absence of cost-containment measures and defined criteria for funding resulted in the sickness funds experiencing economic constraints and budget deficits. The high percentage of private expenditures went against the principle of fair financing and equity in access to health care services. Efficiency was in question due to the lack of incentives to improve performance in the public sector. Mechanisms for needs assessment and priority-setting were underdeveloped and, as a consequence, the regional distribution of health resources was unequal. Centralization of the system was coupled with lack of planning and coordination, and limited managerial and administrative capacity. In addition, the oversupply of physicians, the absence

of a referral system and irrational pricing and reimbursement policies were factors encouraging under-the-table payments and the black economy (Sissouras, Karokis & Mossialos 1994; Liaropoulos 1998).

During the same period, the notion of statism, which was predominant in the 1980s, was gradually receding and new proposals were opened up to public discussion, planning and legislation; these included proposals for more freedom of choice for patients, cooperation between the public and the private sectors in providing health care services, decentralized and effective administration, safeguarding patients' rights, ensuring the quality of health care services, control of health care expenditure and the introduction of internal quasi-markets. All key reforms undertaken during the 1990s were related to, and attempted to address, these issues, though not through a comprehensive and concrete policy plan. Almost all reform attempts were exhausted in studies and legislative bills that were never voted upon, or laws that were never or only partly implemented, or remained within a static implementation process.

More specifically, it was suggested that the demand and supply sides of services be separated and that managed competition between providers, especially of hospital services, be introduced. On the demand side, the establishment of a unified sickness fund in which the main social insurance funds would transfer their funds for health care was recommended. The common fund would play the role of a purchaser, operating as an oligopsony or monopsony, setting priorities, defining the quantity, quality and prices of services and negotiating contracts with providers. On the supply side, public and private hospitals would compete for contracts with the common fund, and be reimbursed by a prospective financing method such as a global budget or via diagnosis-related groups (DRGs). With regard to primary health care, the establishment either of a family doctor system on a capitation basis, similar to the English model, or a coordinated network of primary health care facilities like the French model, were suggested.

The focus of government health care policy in the early 1990s was also on fiscal issues due to macroeconomic constraints and the adoption of cost-sharing arrangements. The aim was to replace state responsibility with social security and the private sector in the delivery and financing of health services. According to the reform introduced in 1992 by the new conservative government (Law 2071/1992), physicians employed in public hospitals had the right to choose full- or part-time employment within the ESY, at the same time allowing some private practice. Public hospitals were free to hire private consultants. Social insurance funds were free to contract with any public

or private provider. Restrictions on the entry of new private, profit-making hospitals were abolished and private institutions were given the right to provide emergency pre-hospital care. Incentives to contract with private insurance were given. Other measures introduced included: the creation of hospital chief executive posts, new planning and management techniques; and financial accountability and audit systems. Emphasis was given to consumer freedom of choice of doctor, dentist and hospital, and the protection of patients' rights to hospitalization. Co-payment rates for drugs, per diem hospital reimbursement and insurance contributions were increased. Furthermore, fees were introduced for visits to outpatient hospital departments as well as for inpatient admissions. Tax deductions for private insurance premiums were also adopted.

A change of government impeded and revoked most of the above provisions. In fact, a new law was passed (Law 2194/1994) according to which many articles of Law 2071/1992 were abolished. The initial principles of the ESY, foreseen in its founding legislation (Law 1397/1983), were reintroduced and hospital physicians became full-time employees of the national health service. However, the new law did not abolish rights granted to private clinics, hospitals and diagnostic centres and it also retained all financial arrangements introduced by the previous conservative government, regarding cost-sharing, social insurance funds contracts with private providers and higher hospital reimbursement rates. The articles concerning free patient choice, patient' rights and hospital chief executive officers also remained in place.

The main problems affecting the functioning of the national health system persisted. These included inefficient use of resources, low levels of service quality, an increased importance given to hospitals and the commensurate underdevelopment of primary health care, bureaucratization, regional disparities of services supply and a lack of motivational incentives for health care personnel. In 1994, the government established various committees composed of international and national experts to examine the shortcomings of the Greek health care system and to make proposals for reform, with an emphasis on organizational structure and management of the system, unification of sickness funds and the establishment of a GPs network. An intense social dialogue began, with proposals, disagreements and disputes characterizing the agenda. The outcome was the submission of two reform plans (the Kremastinos Plan, and the Peponis and Papadelis Plan) and finally the enactment of Law 2519/1997. In relation to primary health care, the establishment of GPs, primary health care networks based on the French model and payment of doctors on a capitation basis were foreseen. The general manager, responsible for the operation of a hospital, was to be the new tier of hospital management. Global departmental

budgets and DRGs, establishment of rehabilitation units, promotion of home care, allowing afternoon outpatient services on a private basis, abolishing life-time tenure of all newly appointed ESY hospital doctors and increased salaries for hospital doctors were the new arrangements in the areas of hospital financing and care. Unification of the social health insurance funds and negotiations on zero-based pricing for private insurance companies were the main elements of health care financing. The ESY Management Executive in the ministry of health and the Council for Coordination and Concerted Action in Health Services, whose aim is to coordinate the organization of the ESY and social insurance funds, were created. The country was to be divided into health regions and regional directors were to be appointed. Public health would be strengthened with the establishment of one central and thirteen regional laboratories, a network consisting of public health doctors and other scientists, an agency for quality and accreditation of health services, and a system of school doctors. With regard to drug policy, the reduction of the profit margin on drugs based on actual price costings and the introduction of a positive list and a hospital list were the main provisions. Last but not least, patients' rights were to be enforced by the fortification of the rights of hospital patients and their expansion to cover primary health care patients too.

Once again, the political will to implement these reform measures was absent. Political particularism, fiscal constraints and administrative weaknesses posed significant barriers, resulting in the partial implementation or the total abolition of the attempted reforms (Tragakes & Polyzos 1998). The innovative provisions of the legislation – including coordination and concerted action in health services, unification of health insurance funds, changes in management and financing of hospitals, as well as primary health care and regionalization of the system – did not materialize. As a consequence, regionalization, management, financing and primary care continued to be the unresolved problems of the Greek health system. The reforms introduced in the 2000s in order to confront these problems are discussed in detail in Chapter 7.

2.3 Organizational overview

2.3.1 The role of the Ministry of Health and Social Solidarity

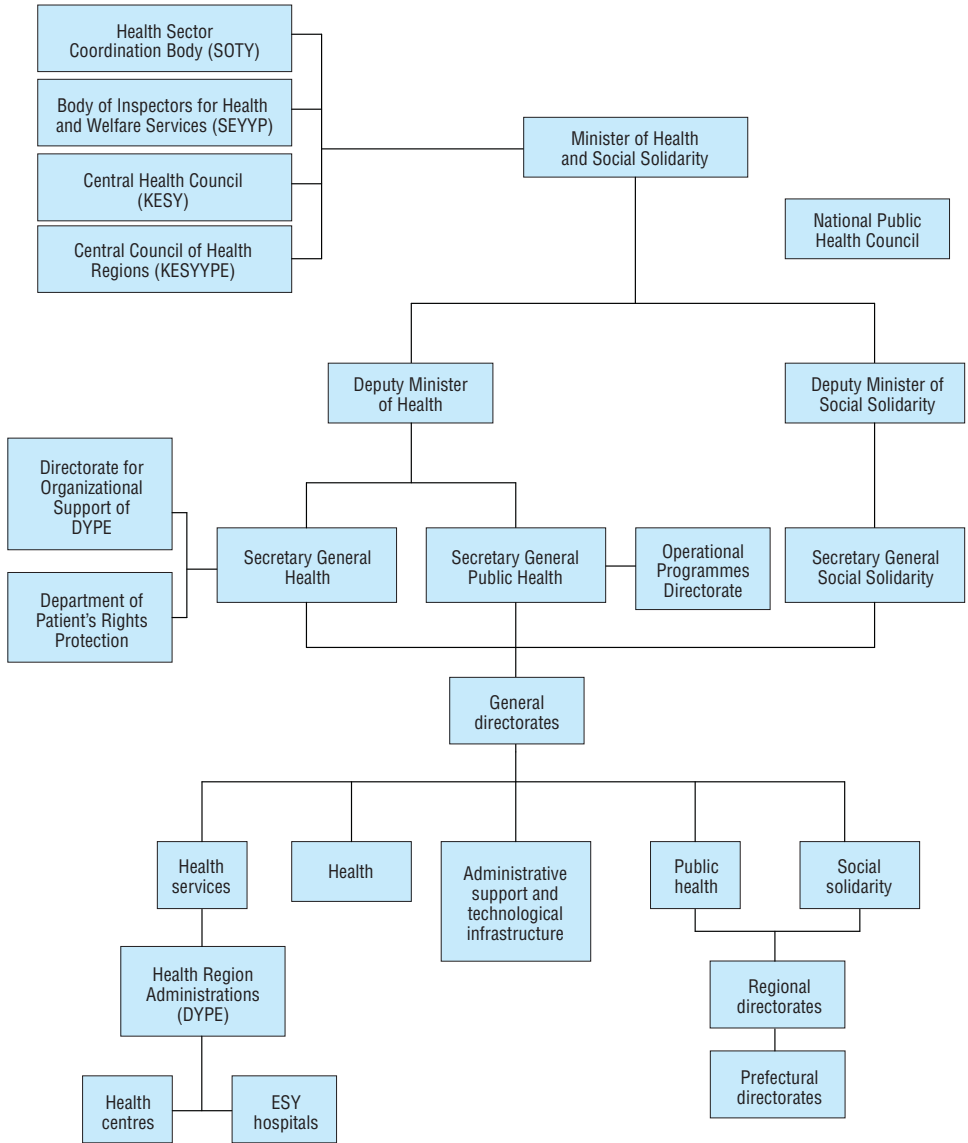
The government, through the Ministry of Health and Social Solidarity, is responsible for ensuring the general objectives and fundamental principles of the ESY, such as free and equitable access to quality health services for every

citizen. For this reason, the Ministry makes decisions on health policy issues and the overall planning and implementation of the national health strategy. The Ministry sets priorities at a national level, defines the extent of funding for proposed activities and allocates relevant resources, proposes changes in the legislative framework and undertakes the implementation of the laws and of any reform. It is also responsible for health care professionals and coordinates the hiring of new health care personnel, subject to approval by the Ministerial Cabinet. Until 2001, the Ministry was responsible for the planning and regulation of the ESY at a central, regional and local level. With the establishment of the Regional Health and Welfare Authorities (PeSYPs), which later were renamed Health Region Administrations (DYPEs), some of these responsibilities were transferred to them. Nevertheless, the core function of the Ministry is still the regulation, planning and management of the ESY and the regulation of the private sector, while social health insurance remains under the authority of the Ministry of Employment and Social Protection.

The Ministry is headed by the Minister, together with two Deputy Ministers and three General Secretaries, all of whom are directly appointed by the Prime Minister (see Fig. 2.2). In the Ministry there are five General Directorates:

- the *Directorate General for Health Services*, which includes the directorates for primary health care, development of health care units, mental health and ESY personnel;
- the *Directorate General for Health*, which includes the directorates for health and welfare professions, health promotion and health protection of civil servants;
- the *Directorate General for Administrative Support and Technological Infrastructure*, with the directorates for education and research, quality of services and informatics, finance, procurement, international relations and technical services;
- the *Directorate General for Public Health*, including the directorates for public health, environmental health, medicines and pharmacies, coordination of regional and prefectural services, oral health, and the departments for drugs and the “Health and Welfare Map”; and
- the *Directorate General for Social Solidarity*, including the directorates for family protection, vulnerable groups, the disabled and the department for welfare services personnel.

Fig. 2.2
 Organization of the Ministry of Health and Social Solidarity



In addition, various bodies participate in the governance and regulation of the public health care system.

- The *Central Health Council* (KESY) plays a predominantly advisory role to the Ministry on a wide range of health-related issues regarding planning, regulation and operation of the ESY, but also on issues concerning health professionals and their postgraduate training leading to specialties.
- The *National Public Health Council* (ESYDY) is an independent authority responsible for the scientific supervision and coordination of public health organizations.
- The *Central Council of Health Regions* (KESYYPE) coordinates the policies of the DYPEs and maintains their cooperation with the Ministry.
- The *Health Sector Coordination Body* (SOTY) coordinates the institutions responsible for responding to emergency situations and disasters that are hazardous for public health.
- The *Body of Inspectors for Health and Welfare Services* (SEYYP) is responsible for conducting performance audits on public and private health and welfare services in order to improve quality, productivity and effectiveness.

The Ministry also oversees a number of organizations and institutions including (see Fig. 2.1):

- the *Centre for the Control and Prevention of Diseases* (KEELPNO) responsible for the control of all communicable diseases and HIV/AIDS;
- the *National Drug Organization* (EOF) responsible for the evaluation and market authorization of pharmaceuticals;
- the *Institute of Medicinal Research and Technology* (IFET) responsible for the statistical analysis of the pharmaceutical market and the distribution of pharmaceutical products;
- the *Research Centre for Biological Materials* (EKEVYL) responsible for certification, quality control and research on medical devices;
- the *Organization Against Drugs* (OKANA) responsible for the planning and implementation of policies for combating drug addiction;
- the *National Transplant Organization* (EOM) responsible for managing and ensuring the correct utilization of transplants;

- the *National School of Public Health* (ESDY) responsible for the postgraduate training of health professionals;
- the *Public Company for Hospital Buildings* (DEPANOM) responsible for infrastructure issues;
- the *Hellenic Centre for Mental Health and Research* (EKEPSYE) responsible for research, prevention and provision of open mental care;
- the *Hellenic Pasteur Institute* responsible for the study of infectious, autoimmune and neuro-degenerative diseases, the understanding of pathogenesis and the development of new therapeutic strategies;
- the *Institute of Child Health* (IYP) responsible for research, educational and preventive activities relating to children;
- the *National Centre for Diabetes Mellitus* (EKEDI) responsible for the monitoring and the coordination of research, prevention and treatment of diabetes mellitus.

2.3.2 The role of other ministries

Apart from the Ministry of Health and Social Solidarity, a number of other ministries have responsibilities, which are linked in one way or another to the public health care system. More specifically:

- The *Ministry of Employment and Social Protection* can be considered the second pillar of the health care system since it is responsible for the majority of the insurance funds and their health branches. Despite the fact that the latter are considered self-governing organizations, in reality they are dependent on the state budget in order to cover their deficits and, additionally, their Governors are usually politically appointed by the government. The range of services provided, the doctors to whom access is permitted and the contribution rates are determined by the Ministry of Employment and Social Protection and the Ministry of Finance and Economics. Insurance funds are the main purchasers of ESY health care services and the main “customer” for the private sector. In particular, for public hospitals, insurance funds constitute the only “reservoir of clientele” and, at the same time, a significant source of funding. In this sense, issues such as the content and range of health insurance that is provided by any insurance fund and the policies that are implemented with regard to the coverage of the health needs of its beneficiaries are all beyond (outside of) the responsibilities of the Ministry of Health and

Social Solidarity. In fact, these serious health care issues are addressed according to the priorities of the government at any given point in time and the extent of political pressure exerted by different occupational groups.

- The *Ministry of National Defence* is related to the public health care sector, since it owns and runs 14 military hospitals (1912 beds), 10 of which have less than 100 beds. These hospitals, and their personnel, enjoy a special status, as they operate outside the ESY. The Ministry of National Defence has rejected the many attempts that have taken place since 1983 to integrate these hospitals into the ESY. Even the attempt to integrate these hospitals into the emergency department rotation days, until recently, had not been successful. However, the Ministry of National Defence has announced that the military hospitals will now provide services to civilians and will participate in the emergency rotation system.
- The *Ministry of National Education and Religious Affairs* is responsible for undergraduate training of health care professionals and for awarding academic degrees such as Masters' and PhD degrees. In association with the Ministry of Health and Social Solidarity, it defines the professional rights of health professionals. Finally, the Ministry owns two small teaching hospitals, which operate outside the ESY, under the authority of the National Kapodistrian University of Athens.
- The *Ministry of Development* is the authority responsible for the pricing of medicinal products and has a predominant role in procurement procedures. The Ministry of Development, taking into consideration the requests of the DYPEs and the public hospitals, compiles an annual unified procurement programme and calls for tenders.
- The *Ministry of Finance and Economics* prepares and controls the national budget and consequently decides on the amount of money allocated to the health care system. It is also responsible for the financing of the Civil Servants Health Insurance Fund (OPAD) and for covering any deficits in the health insurance funds.
- The *Ministry of Mercantile Marine, the Aegean and Island Policy* is responsible for the Mariners' Health Fund (OIKOS NAUTOU).

2.3.3 The role of social insurance funds

It is obvious that the role of social insurance funds is very important, especially with regard to the coverage, financing and provision of health care services. However, their role and influence is not equally significant in the planning and regulation of the ESY, despite the fact that any development in the ESY has

a direct impact on them. For example, an increase in ESY prices, especially for hospital care, overburdens the insurance funds' budgets. On the other hand, any significant change in the social insurance field regarding coverage, contributions, provision and contracting has an impact on ESY financing. No statutory link exists between these two aspects and there is no active institutional body to coordinate actions on common issues and problems. Such a body – the Coordination Council for Unified Action in Health Services (SYSEDYPY) – was provided for in Law 2519/1997 to coordinate ESY and insurance fund policies. However, this body³ never became operational. Furthermore, despite the efforts exerted over the last 20 years for the gradual merging of all IKA polyclinics with the ESY and the creation of a single Unified Fund, the situation remains unchanged and the problems continue to exist.

Approximately 30 social health insurance funds provide coverage to about 97% of the Greek population. IKA is the largest fund, covering 50% of the population, namely employees and workers in the private sector. The second largest fund is OGA, covering 20% of the population involved in agriculture. The Social Insurance Organization for Self-employed Professionals (OAEE) is the fund for merchants, manufacturers, owners of small businesses, and taxi and lorry owners and drivers (13% of the population). In addition, the OPAD covers public sector employees (12% of the population). Together, these four funds cover 95% of the country's population (Ministry of Health and Welfare 2003). Funding is via employer and employee contributions.

Social insurance funds provide their own health care benefits packages. The range of services provided by the funds expanded during the 1980s. Since 1982, OGA has covered pharmaceutical care; the availability of primary health care services has improved through the development of around 200 health centres in semi-urban and rural areas; and OAEE has expanded its benefits to cover primary health services. Since the early 1970s the number of funds has been reduced by almost half, with many small funds covering specific occupational groups merging with IKA, which provides a more comprehensive range of benefits. Nevertheless, there are still significant differences in the scope of insurance coverage. For instance, the benefits that OPAD provides to its beneficiaries exceed those of IKA, OAEE benefits are more limited than IKA's benefits and OGA benefits rank last. Great differences also exist among insurance funds with regard to freedom of choice of primary care providers, including private providers and the right to direct access to specialists.

³ SYSEDYPY was to have representatives from the two responsible ministries (Ministry of Health, and Ministry of Labour and Social Affairs), KESY and three out of the four largest social insurance funds (IKA, OPAD and OGA).

2.3.4 The role of regional and local governments

The role of regional and local governments in health care planning, organization and provision is very limited. Despite the positive steps in this direction over the last few years, the country does not have any long-standing experience in decentralized administration. Regional and local governments play a secondary role, since they do not have enough power or economic resources to implement extended policies at the regional level.

In the health care sector, regional and prefectural authorities are only administratively responsible for issues such as: (a) the distribution of health budgets to ESY hospitals as determined by the health ministry and the Ministry of Finance and Economics; (b) the approval of new health personnel; (c) the provision of health booklets for the poor and needy, (d) the licensure and the monitoring of the private sector (doctors' and dentists' surgeries, laboratories, hospitals, diagnostic centres, etc.), which must be in accordance with the legislative framework set by the Ministry of Health and Social Solidarity; and (e) certain tasks pertinent to environmental and public health.

At the level of service provision, municipalities are responsible for running all public infant and child centres, the open care centres for the elderly (KAPIs) and for implementing certain welfare programmes such as "Home Assistance". Finally, some large municipalities run a small number of health care centres, especially in the greater area of Attica.

In June 2010, the new socialist government that came to power enacted Law 3852/2010 to establish a new architecture for municipalities and regions (known as the "Kallikratis" Plan). With the Kallikratis Plan, 13 regions have been created in place of 76 prefectures and the 1034 municipalities will be reduced to less than 370. Concerning health care, the Kallikratis Plan provides for the competences of DYPEs (see sections 2.4, 7.1) to be transferred to municipalities. In particular, with a presidential edict that will be issued in two years' time at the latest, responsibility for primary health care units (health centres), the implementation of public health programmes, as well as immunization and school health, will come under the jurisdiction of local authorities.

2.3.5 The role of the private sector

The private sector plays an important role in the provision of health services, although it does not have any direct involvement in the planning, financing and regulation of the public system. It is mainly financed through social insurance funds, which enter into contracts with the private sector to provide services that meet the health care needs of their beneficiaries.

The 1983 reform of the system brought most of the private secondary health care facilities into the ESY. In the period 1983–1992 the establishment of new private hospitals was prohibited and efforts were made to absorb at least a portion of private hospitals into the public sector. While most of the small clinics were closed down, some of them, as well as private hospitals with luxury facilities, survived by signing contracts with private insurance companies and, more recently, also with the social insurance funds. These are mainly general and maternity hospitals. In 1992, the restriction on the establishment of private hospitals was removed. Since 1985, there has been a significant growth in the establishment of private diagnostic centres by doctors and other health care professionals. In addition, a significant portion of specialist care is offered by physicians in private practice, who are either contracted by various social insurance funds or paid directly by the patient on a private basis. Rehabilitation services (physiotherapists etc.) and services for the elderly (geriatric homes) are predominantly offered by the private sector.

2.3.6 The role of private health insurance

Private health insurance in Greece plays a relatively minor role in the overall health system, since it offers coverage to no more than 12% of the population (Economou 2008). It primarily takes the form of supplementary, profit-making schemes providing cover for faster access, better quality of services and increased consumer choice. Some of the determinants of the underdevelopment of private health insurance in Greece revolve around economic, social and cultural factors, including: disposable income (economic austerity and downward pressure on household income); conditions in the labour market (high rates of unemployment); demographic situation (ageing); family structures (strong family relationships as a means of human capital investment and reproduction); social perceptions about illness and health (health as a public good); social insurance coverage (theoretically free and full); as well as endogenous factors which stem from the market policies of private insurance companies (low organizational capacity accompanied by capital shortages, resulting in low productivity and high management costs, cream skimming

and absence of insurance products that match consumer requirements). Another reason may be a reluctance to pay a third party. When people are accustomed to paying their doctor or hospital directly, the transfer of money to a third party may be considered an unnecessary erosion of the patient–doctor relationship (Mossialos & Thomson 2004). Furthermore, the policies of private health insurance companies tend to be selective, targeting young, healthy and wealthy people (Liaropoulos 1995). Since 1998, private schemes for managed health care have been established, providing an integrated package of outpatient and inpatient services. They are based on either the health management organization staff model or the PPO model.⁴

Insurers do not cover dental care, plastic surgery, alternative medicine and ophthalmologic services. Pre-existing conditions and chronic illnesses such as diabetes are excluded from cover and insurers are not required to offer a standardized benefit package. Premiums' rating for individual contracts is based on individual risk rating, while group contracts are based on community rating. The variables used for risk rating are age, sex, profession and an individual's medical history. Potential subscribers are required to provide information about their family and personal disease history. They are also required to undergo medical examinations and X-ray tests. Private health insurers are able to reject applications, to exclude pre-existing conditions or to set age limits. Health insurance contracts expire when the insured reach the age of 65, after which people become ineligible to purchase private health insurance.

2.3.7 The role of user groups and consumers associations

User groups and consumer associations are very weak in Greece, since they usually represent the narrow interests of a particular group of patients. The very large population groups of health beneficiaries or patients are not represented by any powerful organization. Instead, there exist many very small disease-specific, self-help groups, such as those for renal disease, cancer and thalassaemia. Even these groups lack any institutional role in health care planning and regulation. However, under specific circumstances, these groups may be asked by the ministry of health to submit their own proposals. The two most influential user groups are the Association of Disabled People and the Confederation of

⁴ Under the staff model the health management organization hires its own medical staff. Doctors practise in health management organization-owned or managed medical clinics and are paid a salary. In contrast, the PPO is a managed care organization of medical doctors, hospitals and other health care providers who have contracts with an insurer or a third-party administrator to provide health care at reduced rates to the insurer's or administrator's enrollees.

Pensioners. Yet both focus their attention and their concerted actions towards obtaining higher pensions and benefits rather than better conditions in health care provision and coverage.

2.3.8 The role of voluntary organizations and nongovernmental organizations

Voluntary organizations and nongovernmental organizations (NGOs) produce significant work in the health and welfare sectors, assisting specific population groups such as the disabled, refugees, Roma people and abused women and children. Some of these organizations are very active, managing to attract a substantial amount of funds and donations. NGOs such as Doctors of the World, UNICEF, Médecins Sans Frontières, the Hellenic Society for the Protection and Rehabilitation of Disabled Children (ELEPAP), the Red Cross, the Child's Smile and Praksis are very influential among society, political parties and the government. They usually allocate their resources to primary and preventive health and welfare services programmes, as well as to financing health and welfare units, hostels or hospital departments for special groups of patients (people with disabilities, children with cancer or people with neuromuscular diseases). This category of volunteers also includes the numerous blood donor organizations that facilitate the blood needs of the country. NGOs that are active in the areas of health and welfare services must be accredited and enrolled in the relevant NGOs registry kept by the Ministry of Health and Social Solidarity, as a prerequisite for any financing from the Ministry or for participating in the implementation of programmes that are financed by national or EU resources. However, their participation in the planning and regulation process is limited.

2.3.9 The role of professional associations and unions

There are numerous physicians' organizations with either a scientific or strictly professional interest. There are more than 50 medical scientific organizations, usually one for each specialty, sub-specialty, or even for a specific disease such as diabetes mellitus or cancer. Professional groups include many small and larger professional associations for doctors, dentists, pharmacists, owners of private hospitals and so on. Some of them, such as the Pan-Hellenic Federation of IKA Doctors (POSEYPIKA), the EINAP and the Confederation of Hospital Doctors Unions (OENGE) are massive and can exercise enough pressure through strike action to secure and promote their own interests. Some others that are politically influential, such as the Pan-Hellenic Medical Association (PIS) and the Medical Association of Athens (ISA), have a statutory role as advisers to the ministry of health. They also participate in the KESY. Past

experience reveals that they always try to protect and promote their own interests rather than to improve the effectiveness of the health care system through large-scale reforms.

Apart from doctors, dentists and pharmacists, other health professionals such as nurses, social workers, midwives and physiotherapists have their own unions and organizations, and pressure groups. The Pan-Hellenic Federation of Professionals in Public Hospitals (POEDIN) represents all health professionals, except doctors, working in ESY hospitals. Nurses are represented by the National Association of Nurses of Greece.

2.3.10 The role of the Church of Greece

The Church of Greece has undertaken a noteworthy role, especially in the welfare sector. Within the scope of its philanthropic work, it owns a significant number of nursing homes, orphanages and hostels, and runs voluntary blood donation programmes (Church of Greece 2001a). This network of welfare services neither have any connection with the corresponding structures of the Ministry of Health and Social Solidarity, nor is any type of supervision or control exercised upon it. It is financed exclusively by donations from practising Christians and income derived from the Church's assets.

The Orthodox Church does not have any responsibility or even influence on the planning, administration and regulation of the ESY. In some cases and for some issues, especially those with bioethical dimensions, the Church takes a public stance and submits proposals. The Bioethics Committee of the Church of Greece was appointed in 1998, with the objective of initiating in-depth study of contemporary bioethical problems from a scientific viewpoint, based on the Orthodox ethos and its theological perception of humanity, society and values, and to give answers that will express the position of the Church to the questions and relevant dilemmas arising from bioethical issues. For example, the Committee submitted proposals for transplants and organ donors that resulted in the Church's official support of the National Transplant Organization's public campaign to promote organ donors (Church of Greece 2001b).

2.4 Decentralization and centralization

The decentralization of the ESY has been a key issue since its inception in 1983 and a growing concern during the past decade. Law 1397/1983 involved the creation of robust regional health authorities and the passing of administrative

power to them. In particular, it transferred planning and executive powers previously vested in the central government to regional health councils. The regional structure it introduced would have played a significant role in determining priorities and proposals for addressing local needs. However, due to a lack of specialized human resources and the lack of a managerial structure, regional health councils never became operational. As a consequence, the health care system remained fully dependent on the central government, even for settling bureaucratic minutiae, forming an additional administrative burden for the health ministry.

The reform acts of 2001 and 2003 (Law 2889/2001 on the Regional Structure of Health Care Services and Law 3106/2003 on the Regional Structure of Welfare Services) initiated an explicit, formal process of structuring PeSYPs and devolved political and operational authority to them. The ministry of health would maintain a strategic planning role at a national level as well as a coordinating role across PeSYPs. According to the provisions of the two Laws, 17 PeSYPs were established, responsible for the coordination of activities and the effective organization, operation and management of all health and welfare units. Each PeSYP was a public law entity, managed by a 10-member board and chaired by a president/general director appointed by the Minister of Health, subject to parliamentary approval. PeSYPs would maintain close cooperation with the ministry of health through a Coordinating Council (SYPeSYP), chaired by the Director-General of Health and attended by all 17 presidents/general directors of the PeSYPs. The Administrative Board of the PeSYP was awarded the responsibilities to:

- coordinate, specify and implement the health and welfare policies in the region;
- prepare the business plan for health and welfare service provision in the region and submit it to the ministry of health for approval;
- prepare and update the “Health and Welfare Map”⁵ of the region and propose actions for its implementation;
- propose the space distribution of the region’s health care facilities to the Minister of Health;
- draft the organizational charts of the hospitals and health units of its region and submit them for approval to the ministry of health;

⁵ The objective was to develop a geographic information system that could be used by the regional health authorities for planning and decision-making. The system was to include information on the supply of health and welfare facilities, as well as demographic, morbidity, mortality and other health-related indicators. However, the “Health and Welfare Map” has not been developed so far.

- propose the establishment of new health and welfare departments and units, the reduction or the merger of existing health units, the transfer of ESY departments, or the establishment or relocation of university clinics from one hospital to another;
- decide on the erection, extension or restructuring of different units, and the transfer of appropriate equipment;
- propose the total annual recruitment programme for new personnel for its central services and its decentralized units;
- decide on the temporary and permanent transfer of personnel (except doctors) within the units under its (administrative) supervision;
- prepare a unified budget for its units;
- approve and control the implementation of the units' budgets;
- monitor the implementation of the unified double-entry accounting system in the health and welfare units;
- supervise procurement procedures of its decentralized units;
- monitor the functioning and evaluate the performance of its units, based on a set of well-defined quantitative and qualitative indicators;
- approve the research and training programmes, following a recommendation by the Scientific Council, of each hospital;
- decide on the establishment and operation of companies owned 100% by the PeSYP, to perform feasibility studies, to construct or maintain building infrastructures and to develop other common support functions; and
- decide on the utilization of the assets of its units.

Based on the above, it is clear that most of the PeSYPs' responsibilities either had the form of proposals to the Minister of Health or presupposed ministerial approval for implementation, indicating that the real decentralization of health care competences was not achieved. Nevertheless, the institution of PeSYPs could be considered a first step towards decentralization in planning, management and regulation of the ESY in a country where there was neither long-standing experience of decentralized administration nor any relevant culture and tradition in regional and local governments.

As will be discussed in Chapter 7, the change in government resulted in the abolition of the previous legislation and the enactment of Law 3329/2005. The PeSYPs were renamed Health Region Administrations (DYPEs) and in 2006 their number was reduced to seven. They are public law entities and

their competences remained the same as those of PeSYPs – that is, covering population needs, the planning and evaluation of health programmes as well as the organization, operation and management of health providers within their catchment area. However, they are managed by a 7-member board instead of a 10-member board, as was the case with PeSYPs, and they are also chaired by a general director appointed by the Minister of Health and Social Solidarity, subject to parliamentary approval. Members of the board are the General Director of the DYPE, three people with significant scientific and social activity appointed by the Minister, a delegate from the region appointed by the general secretary of the administrative region, a delegate from the Greek Medical Association and a delegate from the DYPE employees. Furthermore, a Council of the Health Region (SYPE) has been established in each DYPE, chaired by the general director and with the participation of hospital general managers, a delegate from the administrative region appointed by the general secretary, a delegate from every prefecture of the region appointed by the prefect, and delegates from medical, dentist, pharmacist and nursing associations, university faculties and social partners. The aim of the SYPE is to advise the Minister of Health on issues related to the DYPE. SYPEs maintain close cooperation with the health ministry and coordinate their policies through the Central Council of Health Regions (KESYYPE), chaired by the Minister and attended by the Director General of Health and Social Solidarity and the general directors of the DYPEs.

The criticism that can be levelled at DYPEs is the same as that regarding PeSYPs. However, a significant problem is that the boundaries of administrative regions and health region administrations are not identical. This seriously restricts the possibilities of coordination between the two structures and the development of an integrated health and social policy.

Following Vrangbæk's typology for decentralization in health care (Vrangbæk 2007), it could be argued that the Greek case is an attempt towards vertical deconcentration, referring to the transfer of responsibility and power from a smaller number to a larger number of administrative actors within a formal administrative structure. Nevertheless, taking into account its pre-election statements to abolish the regional management structure of the ESY and to reduce the number of DYPEs from 17 to 7, the government seemed to be leaning towards recentralization of the health system, mainly for economic reasons. According to interviews given in 2006 by the then Minister of Health and Social Solidarity, Dimitrios Avramopoulos, the annual operational cost of the 17 DYPEs was €50 million. With the reduction of their number the cost was expected to be limited to €15 million. In addition, 400 out of the

750 people employed in DYPEs would be removed to hospitals facing a lack of personnel. Third, given that DYPEs constitute an administrative mechanism in the decision-making process, their reduction would impose restraints on bureaucracy by abolishing the numerous boards of directors.⁶

As mentioned in section 2.3.4, the socialist government elected in 2009 has reconsidered these regional structures for health care within the framework of the “Kallikratis” Plan, the new local and regional governance scheme for the country.

2.5 Patient empowerment

2.5.1 Patient information

All institutions of the Ministry of Health and Social Solidarity have their own web site, accessible by all citizens, in Greek as well as in English. The same applies for health insurance organizations. The information available on these web sites mainly covers the range of services provided but not costs or quality. However, research data raise serious reservations about the extent to which citizens are well-informed. According to the results of a survey of 600 patients from six public hospitals, 84.3% of them had no knowledge of the relevant article addressing patients’ rights (see section 2.5.2). Some had heard about it from television debates, radio programmes or newspapers, but had not read it (13.2%) and only very few of them had read the relevant article (2.5%). Overall, 97.5% of patients were not aware of this provision (Merakou et al. 2001).

2.5.2 Patients’ rights

Article 47 of Law 2071/1992 for the modernization and organization of the health system provides for the protection of hospital patients’ rights. More specifically:

- Patients are entitled to access to the most appropriate hospital services for the condition suffered.
- Patients have the right to receive care with due respect for their dignity as human beings. Such care covers not only the practice of medicine and nursing in general, but also the services of allied health personnel, suitable accommodation conditions, appropriate treatment and efficient administrative and technical services.

⁶ See: <http://www.mohaw.gr/gr/theministry/nea/deltia.2006-05-15.7815150240>

- Patients have the right to give or refuse consent to any diagnostic or therapeutic procedure intended to be carried out. If a patient is suffering from total or partial mental incapacity, the exercise of this right shall devolve upon the person legally acting on his or her behalf.
- Patients have the right to request information regarding their personal situation.
- Patients' own interests are determinative and it must be guaranteed that the information provided to them is comprehensive and accurate. The information provided must be such that patients are able to obtain a complete picture of the medical, social and financial parameters of the situation, and to take their own decisions, or participate in any decision-making likely to affect their own lives subsequently.
- Patients or their representatives have the right to be thoroughly informed in advance of any risk likely to arise as the result of unusual or experimental diagnostic or therapeutic procedures performed on them. Such procedures may only be performed with patient's express consent. Consent may be withdrawn by the patient at any time.
- Patients must feel that they are entirely free in deciding whether or not to agree to collaborate for the purposes of research or training. The patient's consent to such participation is a right and may be withdrawn at any time.
- Patients have the right, to the extent that it is genuinely possible, to the protection of their private life. Confidentiality must be guaranteed with regard to the data and content of documents concerning each patient, and also with regard to the file in which any observations or medical finds are recorded.
- Patients have the right to have their religious and ideological convictions respected and acknowledged.
- Patients have the right to present and submit, in an appropriate manner, any complaints and objections and to be fully informed of the effects and outcomes thereof.

Subsequently, Law 2519/1997 on the development and modernization of the ESY extended the above rights to apply them uniformly to all patients seeking primary care as well. Greece has also signed and ratified the Council of Europe's Convention for the Protection of Human Rights and Dignity of the Human Being with regard to the Application of Biology and Medicine (Garanis-Papadatos & Dalla-Vorgia 2003).

A National Bioethics Committee, under the jurisdiction of the Prime Minister, was established in 1998 (Law 2667/1998), as an independent advisory body of experts addressed to public authorities either by its own initiative or upon request. Its mission is to highlight the interaction of life sciences and contemporary social values, and more precisely to:

- (a) investigate the ethical, social and legal aspects that arise from scientific advances in biology, biotechnology, medicine and genetics;
- (b) outline, in collaboration with the respective ministries, proposals of general policy and to provide specific recommendations on related issues;
- (c) collaborate with international organizations and related bodies and represent Greece in international fora; and
- (d) inform the public on issues related to biotechnological advances and the impact of their applications.

In 2004, the Ombudsman for Health and Social Solidarity was established by Law 3293/2004, to investigate individual administrative actions or omissions or material actions taken by public health services that infringe upon the personal rights of health or violate the legal interests of individuals or legal entities.

2.5.3 Patient choice

In general, patient choice refers to choice of insurer, choice of provider and choice of treatment. In Greece, individuals do not have choice of insurer. Membership of social insurance funds is compulsory for the employed population and is based on occupation. Instead, there is a large degree of choice of provider. Any Greek citizen can receive services at any rural health centre or at the outpatient departments of public hospitals (which provide ambulatory care). Given that a referral system has not been established, patients have the opportunity to choose any public hospital to undergo treatment. The introduction in 2001 of afternoon outpatient clinics in public hospitals, where doctors offer care to private patients on a fee-for-service basis (see Chapter 7), increased the choice of specialists, albeit to those with sufficient income to afford it. In relation to primary health care provided by insurance funds, choice is restricted only to the providers contracted with the particular fund. Theoretically, patients have the opportunity to opt for a second opinion, given that there are no restrictions concerning the choice of hospital. Nevertheless, their choice is conditional on their access to information about costs and quality of services. As already mentioned (see section 2.5.1), access to this information is very limited.

2.5.4 Patients and cross-border health care

In Greece, the demand for cross-border health care is regulated by the sickness funds. In addition, Greece is a member of the EU, and, as a consequence, Greek citizens are entitled to care according to Regulations 1408/71 and 574/72. The main categories of regulated health care foreseen in these two Regulations are:

- pre-authorized care by the insurer according to procedure E112 as replaced by the European Health Insurance Card in 2004; and
- emergency care during a short stay abroad according to procedure E111.

In the case that a Greek citizen unexpectedly needs treatment while travelling in an EU Member State, the European Health Insurance Card ensures that the cost of treatment is covered. In contrast, in the case of planned hospital care, a prior authorization by the insurance organization is required for the expenses to be covered. Authorization cannot be denied when the treatment required by the patient is part of the health care package covered by the insurance organization and when the treatment cannot be provided in Greece within the period that is normally necessary in view of the patient's current state of health and the probable course of the disease.

2.5.5 Complaints procedures

To protect the rights of patients, the following services were introduced in 1997 (Law 2519/1997) within the Ministry of Health and Social Solidarity.

- An Independent Service for the Protection of Patients' Rights, under the jurisdiction of the Secretary General of Health,⁷ which is responsible for monitoring developments with respect to patients' rights, as well as for receiving, classifying and following up on the complaints of all citizens who feel their rights as patients have been violated. These complaints are submitted to the Committee for Regulation of Protection of Patients' Rights.
- A Committee for the Regulation of Protection of Patients' Rights, which is composed of a representative of the Legal State Council and representatives from professional, scientific and social groups, as well as trade unions. The role of the Committee is to keep informed with respect to the compliance of the health services with patients' rights

⁷ The political leadership of a ministry in Greece, apart from the minister, includes secretaries general, who are usually appointed by the minister.

regulations and to follow up on patients' complaints. Once a decision is made by the Committee regarding the accuracy of a complaint, it submits its conclusions to the General Secretary of the Ministry of Health and Social Solidarity, who will ensure that all necessary or corrective actions are taken by the management of the relevant legal entity or provider institution. In the case that there is evidence of a penal infraction, the case is transferred to the relevant prosecuting authority.

Later, Law 2719/1999, on the development and modernization of mental health services, established within public hospitals:

- an Office of Communication with the Citizen, operating under the direct supervision of the chair of the board of directors; and
- a Committee for the Promotion of Patients' Rights, operating within the Office of Communication with the Citizen.

Another institution to which patients may refer complaints if they feel that their basic rights to health have been violated is the Ombudsman for Health and Social Solidarity, established in 2004. The Ombudsman investigates individual administrative deeds, omissions or material actions taken by government departments or public services that violate rights or contest the legitimate interests of natural people or legal entities.

2.5.6 Patient safety and compensation

There are two dimensions of liability for medical errors in Greece: disciplinary and legal. The medical associations, the regional disciplinary councils and the Central Disciplinary Council of the Ministry of Health and Social Solidarity are responsible for disciplinary regulations. Punishment imposed by these bodies ranges from a suspension to final expulsion from the profession. Legal liability refers to the competence of the courts, and if a doctor is found guilty, the sentence may be imprisonment or economic compensation for the patient. Some other specific regulations or initiatives to prevent health care-related harm have not been adopted, despite the fact that medical errors are perceived to be a prominent problem in Greece. According to the results of a Eurobarometer survey (Eurobarometer 2006), 86% of Greek respondents consider medical errors to be an important problem. This percentage is the fourth highest after Italy (97%), Poland (91%) and Lithuania (90%). Concerning hospital patients, 75% of Greek respondents (the highest percentage among EU countries) state that hospital patients should be worried about the possibility of a serious medical error. In addition, 61% of the Greeks polled have often read or heard

about medical errors in Greece. In Greece there is also the least trust in health care professionals among EU countries. Only 24% of Greeks have confidence in medical staff, 25% in doctors and 35% in dentists.

2.5.7 Patient participation

Patients' participation and their influence on purchasing decisions are confined mainly to public consultations concerning national action plans for public health and draft laws for the reorganization of the health care system and the provision of health services. In addition, it occurs in health insurance organizations' governing boards through representatives of the insured and in various advisory boards of the Ministry of Health and Social Solidarity, such as the Central Health Council, in which, among others, representatives of trade unions and local authorities participate.

2.5.8 Physical access

The General Construction Regulation (Law 2831/2000) foresees special provisions regarding disabled people's access to built-up areas, including public buildings. Furthermore, the Operational Programme "Information Society" includes projects to make it easier for disabled people to access services and goods. To facilitate access to communications, the Hellenic Telecommunications Organization (OTE) has developed and applies special services and structures (e.g. technical support for the "Tele-Help at Home" programme, special phone apparatuses). However, besides these general provisions, there are no specific arrangements concerning the accommodation of people with disabilities and the facilities available to them during their hospitalization. Most of the public hospitals do not have wards tailored for the needs of people with disabilities.

3. Financing

The health care system in Greece is financed by a mix of public and private resources. Public statutory financing is based on social insurance and tax. The primary source of revenue for the social insurance funds is the contributions of employees and employers (including state contributions as an employer). The state budget, via direct and indirect tax revenues, is responsible for covering administration expenditures, funding health centres and rural surgeries, providing subsidies to public hospitals and insurance funds, investing in capital stock and funding medical education. The third important source of health care financing is private expenses, taking the form mainly of out-of-pocket payments for services not covered by social insurance, payments for services covered by social insurance but bought outside the system for reasons related to time, cost and quality, co-payments and various payments made unethically for reasons such as bypassing waiting lists or ensuring more attention on the part of the doctor. Private expenses also can take the form of private insurance schemes, which are, however, of limited importance.

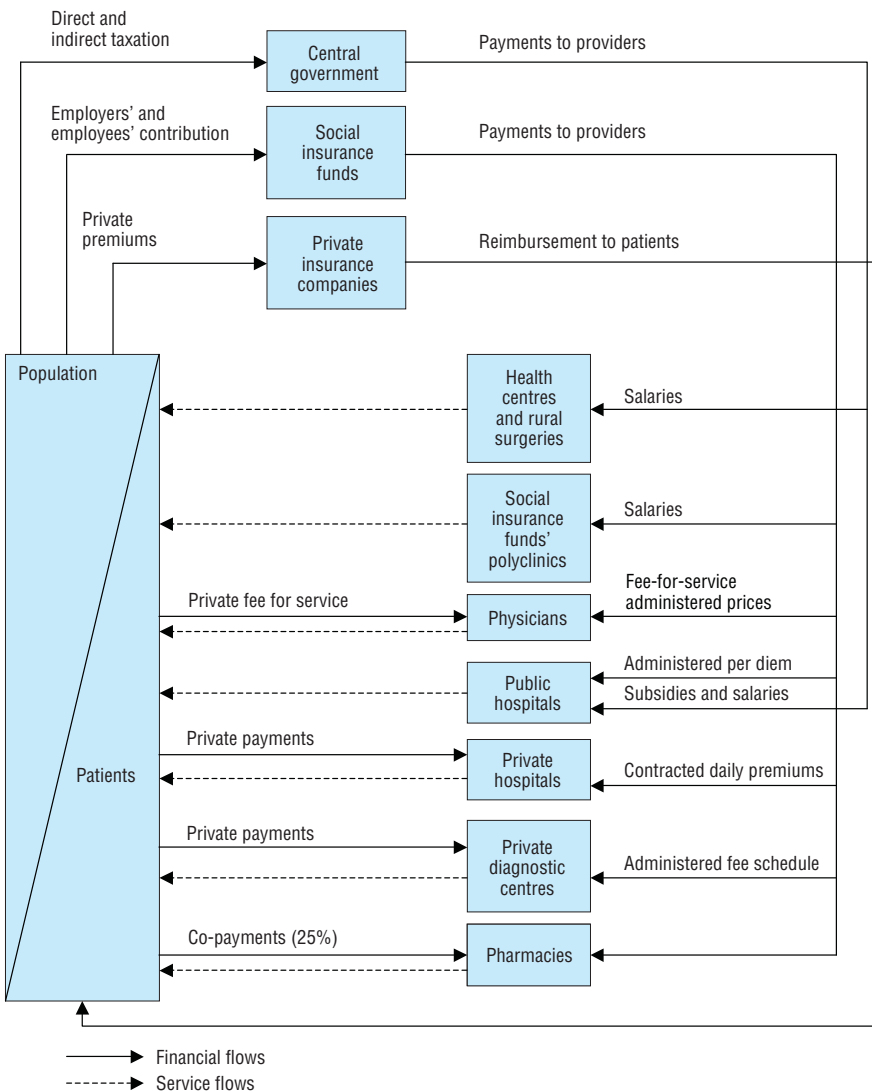
A significant characteristic of the mixed financial resources of the Greek health care system is the very high percentage of private expenses. Out-of-pocket expenditure accounts for 37.6% of total health expenditure and private insurance accounts for 2.1%, calling into question the social character of the health care system. The tax system contributes 29.1% of total health expenditure while health insurance accounts for 31.2%. The problem of high private expenditure by citizens is further aggravated by the fact that the redistributive effect of the tax system is regressive due to evasion practices and the hidden economy. Overall, fairness in health care financing is not achieved, with health expenditure disproportionately burdening the lower socioeconomic strata.

Payments to health care providers are retrospective, including salaries for ESY personnel, fee-for-service payments for providers contracted with public social health insurance funds and per diems for public hospitals. These

methods of provider reimbursement are not related to their performance, resulting in less efficient use of health resources compared to prospective methods of payment.

Fig. 3.1 illustrates the financial and service flows of the Greek health care system, as well as payment methods, and details the various relationships between actors in the system.

Fig. 3.1
Financial and service flows



Source: Sissouras, Karokis & Mossialos 1994.

3.1 Health expenditure

Before analysing health expenditure in Greece, a serious methodological issue must be mentioned. Greece is one of the very few OECD countries that have not adopted the OECD system of health accounts. As a result, the quality and the coverage of the data are very poor. For example, there are no official statistics on the breakdown of public and private aggregate expenditure between the various types of care. In addition, the revisions of GDP result in changes of the shares of total, public and private expenditure as a percentage of GDP (Economou & Giorno 2009). Table 3.1 is indicative of the situation. In 2007, health care spending for 2005 was revised from 10.1% to 9.0% of GDP, as compared with the series available one year earlier. Also, private expenditure dropped from 57.2% of total health expenditure to 37.2%.

Table 3.1

Health care expenditure in Greece, 2000–2006 (before and after revisions)

	2000	2001 ^a	2002 ^a	2003 ^a	2004 ^a	2005 ^a	2006 ^a
Revision of December 2007							
Total health care expenditure (million €)	10 589	12 256	12 996	14 626	15 294	17 803	19 508
Health care expenditure as % of GDP	7.8	8.4	8.2	8.5	8.3	9.0	9.1
Public health care expenditure (million €)	6 444	7 814	8 254	9 182	9 444	11 178	12 018
Public as % of total health care expenditure	60.9	63.8	63.5	62.8	61.8	62.8	61.6
Revision of September 2006							
Total health care expenditure (million €)	14 572	16 519	17 601	19 714	20 504	22 991	n/a
Health care expenditure as % of GDP	9.3	9.8	9.7	10.0	9.6	10.1	n/a
Public health care expenditure (million €)	6 444	7 832	8 274	9 146	9 143	9 851	n/a
Public as % of total health care expenditure	44.2	47.4	47.0	46.4	44.6	42.8	n/a
Prior to revisions							
Total health care expenditure (million €)	11 780	13 429	14 345	15 776	16 399	n/a	n/a
Health care expenditure as % of GDP	9.7	10.2	10.1	10.2	9.8	n/a	n/a
Public health care expenditure (million €)	6 353	7 614	7 942	8 641	8 833	n/a	n/a
Public as % of total health care expenditure	53.9	56.7	55.4	54.8	53.9	n/a	n/a

Source: NSSG 2008.

Notes: ^a provisional data; n/a: not available.

Health care expenditure has increased substantially over the last two decades in per capita US\$ PPP and as a share of GDP. As shown in Table 3.2, the proportion of total health expenditure has risen from 6.6% in 1990 to 9.6% of GDP in 2007. This figure is above the average of 9.0% in OECD countries and ranks Greece among the ten highest health spenders of the OECD group. Greece spends more on health than Scandinavian countries (Finland

spends 8.2% of GDP, Norway 8.9%, Sweden 9.1%), other Mediterranean countries (Italy spends 8.7% and Spain 8.5%), and countries such as Luxembourg (7.3%) and the United Kingdom (8.4%) (Fig. 3.2).

Table 3.2

Trends in health care expenditure, 1990–2007

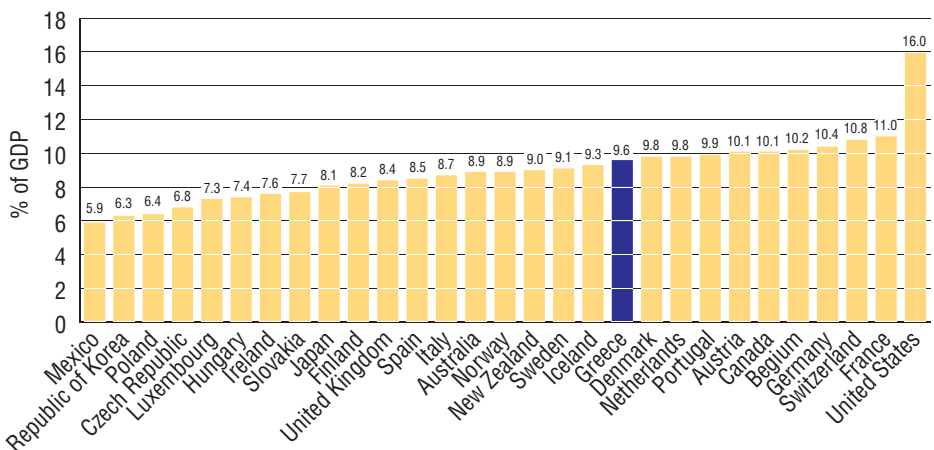
	1990	1995	2000 ^a	2001	2002	2003	2007
Total expenditure on health/capita, US\$ PPP	853	1 263	1 449	1 755	1 965	2 029	2 727
Total expenditure on health % GDP	6.6	8.6	7.9	8.8	9.1	9.0	9.6
Public expenditure on health % total expenditure on health	53.7	52.0	60.0	60.8	58.0	59.8	60.3
Private expenditure on health % total expenditure on health	46.3	48.0	40.0	39.2	42.0	40.2	39.7
General government expenditure on health excluding social security % public expenditure on health	n/a	n/a	54.1	58.7	58.6	56.5	48.2
Social security schemes % public expenditure on health	n/a	n/a	45.9	41.3	41.4	43.5	51.8
Out-of-pocket payments % private expenditure on health	n/a	95.8	94.5	n/a	n/a	n/a	94.8 ^b
Private insurance % private expenditure on health	n/a	4.2	5.5	n/a	n/a	n/a	5.2 ^b
Government health spending % of total government spending	n/a	9.8	8.6	n/a	n/a	n/a	11.6 ^b

Sources: OECD 2009; WHO 2009.

Notes: ^a break in series; ^b data for 2006; n/a: not available.

Fig. 3.2

Total health expenditure in OECD countries, 2007



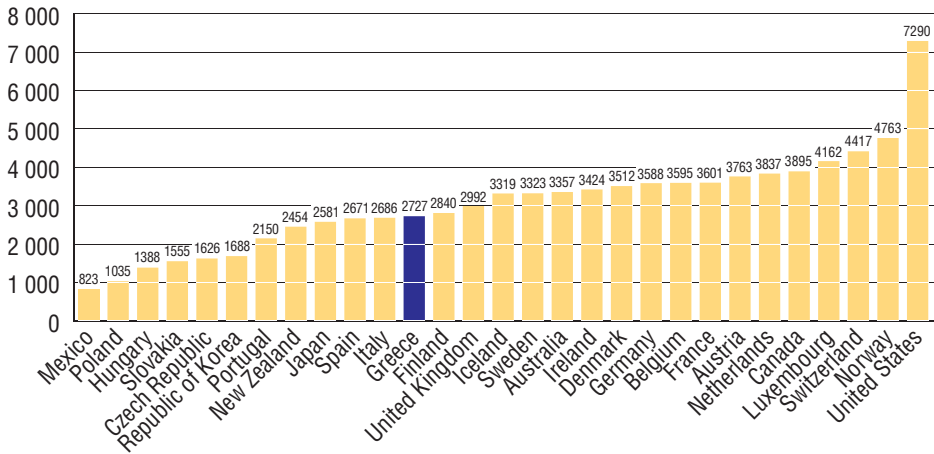
Source: OECD 2009.

Note: Data for Japan, Luxembourg and Portugal refer to 2006.

In terms of health spending per capita, Greece, with US\$ 2727 in 2007 (adjusted for PPP), ranks below the OECD average of US\$ 3071 (Fig. 3.3; OECD 2009).

Fig. 3.3

Per capita health expenditure in OECD countries, 2007 (US\$ PPP)



Source: OECD 2009.

Note: Data for Japan, Luxembourg and Portugal refer to 2006.

Furthermore, it seems that Greece has one of the largest shares of private health expenditure among OECD countries, given that it constitutes 39.7% of total health expenditure. This share ranks Greece as the fifth highest private spender on health after Mexico (54.8%), the United States (54.6%), Republic of Korea (45.1%) and Switzerland (40.7%). The percentage of GDP that Greece allocates for public health expenditure (5.8%) is one of the lowest among OECD countries after Mexico (2.7%), Republic of Korea (3.5%), Poland (4.6%), Slovakia (5.2%) and Hungary (5.2%) (OECD 2009).

Over the past 27 years a continual increase in health expenditure, in both absolute and relative terms, has been observed, although at different rates (Table 3.3). The mean average growth rate (MAGR) of total health expenditure in constant prices for the period 2000–2007 was higher than in the periods 1980–1989 and 1990–1999, reaching 7.2%. Moreover, during 1980–2007, the MAGR of total health expenditure was almost double the MAGR of GDP. Another conclusion from the data presented in Table 3.3 is that the growth of both public and private expenditure contributed almost equally to the overall growth of health expenditure.

Table 3.3

Annual average growth rates (%), 1980–2007

	1980–1989	1990–1999	2000–2007
Total expenditure on health million NCU 2000 GDP price	1.9	5.2	7.2
Public expenditure on health million NCU 2000 GDP price	2.0	5.1	7.3
Private expenditure on health million NCU 2000 GDP price	1.9	5.2	7.1
GDP million NCU 2000 GDP price	0.8	2.1	4.2
Total expenditure on health % GDP	1.2	3.0	2.9
Public expenditure on health % GDP	1.2	2.9	2.9
Private expenditure on health % GDP	1.1	3.1	2.7

Source: OECD 2009.

Note: NCU: national currency unit.

Despite the pressure exerted by the EU on Greece since 2000 to reduce public expenditure, to maintain budget discipline and to avoid excessive deficits in order to fulfil the Maastricht criteria and the provisions of the Stability and Growth Pact, the health care expenditure growth rate continued to rise. This trend is expected to be reversed in the light of the measures taken by the Greek government in 2010 with the aim of confronting the country's huge public sector debts. The reduction of disposable personal incomes due to restraints in wages and the implementation of restrictive income policies by the government, as well as planned health reforms (discussed in Chapter 7), will probably result in cost-containment in the health sector.

Recent data on public health expenditure by medical service are not available (see section 3.1). However, Table 3.4 presents the breakdown of public and private health expenditure over the period 1990–1998. It is obvious that during these years the public system has been hospital-centred, with secondary health care services accounting for over 52% of public spending on health. In contrast, the greatest proportion of private health spending has been allocated to primary and dental care. This is further documented by the *Survey of household budgets*, conducted by the NSSG in 2005. According to the results of the survey, the average monthly amount spent on health care services per household was €128.17, representing 7.15% of total household expenditure (€1792.28). Moreover, 31.1% of household health expenditure was devoted to dental services (€39.91), 23.3% to

physicians' consultations (€29.85), 19.9% to pharmaceutical products (€25.54), 11.3% to paramedical services (€14.43), 10.3% to private hospital services (€13.25) and 4% to public hospital services (€5.19) (NSSG 2005).

Table 3.4

Health expenditure by service programme

	1990	1991	1992	1993	1994	1995	1996	1997	1998
Public	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Primary care	22.2	18.2	19.3	22.9	22.1	22.1	21.8	22.0	22.9
Hospital care	54.9	52.5	54.1	54.5	53.5	53.9	52.1	54.4	55.9
Dental care	1.4	1.3	1.2	1.2	1.2	1.2	1.3	1.3	1.2
Pharmaceutical care	12.3	11.8	14.0	16.3	17.3	17.0	17.5	17.5	15.8
Other	9.2	16.2	11.5	5.1	5.9	5.8	7.4	4.8	4.2
Private	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Primary care	27.3	27.5	27.7	27.9	28.7	28.3	30.0	30.7	31.4
Hospital care	15.3	15.5	15.8	16.2	15.3	14.6	13.9	13.1	12.4
Dental care	34.1	34.2	34.2	34.3	34.3	34.2	34.1	34.1	34.0
Pharmaceutical care	18.0	18.7	16.8	19.4	19.4	20.4	21.8	20.6	15.4
Other	5.4	4.1	5.5	2.2	2.4	1.5	0.2	1.6	6.9

Source: Ministry of Health and Welfare 2003.

3.2 Population coverage and basis for entitlement

Health is consolidated in the Greek Constitution as a social right. Among the principal health-related provisions are the following:

- all people are entitled to protection of their health and genetic identity (Article 5.5);
- the state cares for the health of citizens and adopts special measures for the protection of youth, old age, disability and for the relief of the needy (Article 21.3);
- people with disabilities are entitled to benefit from measures ensuring their self-sufficiency, professional integration and participation in the social, economic, and political life of the country (Article 21.6); and
- everyone has the right to work and the state provides for the social security of workers (Article 22.5).

At the present time there are two main principles of entitlement: one is entitlement on the basis of citizenship in the case of outpatient services provided by the ESY, and the other is entitlement on the basis of occupational status and insurance contributions for services which are provided and/or financed by insurance funds. Entitlement on the basis of citizenship involves two types of provider settings which both belong to the ESY: rural health care centres providing primary health care, and ESY hospital outpatient departments for both ambulatory care and emergency services. According to law, any Greek citizen (as well as any citizen of an EU country) can receive services at any outpatient department of an ESY hospital or at a rural health centre. In practice, any person from any country (excluding illegal immigrants) can receive care in these two provider settings.

Entitlement on the basis of occupational status and insurance contributions applies to all other provider settings. These include urban polyclinics owned by insurance funds, inpatient care provided by ESY hospitals and private providers (whether private practices or diagnostic centres or hospitals) contracted with insurance funds. Coverage for these services is provided only for insurance fund members and their families. Membership in the funds is compulsory, therefore there is no freedom of choice of fund, nor is there any competition among funds. Pensioners continue to be covered by the fund they belonged to while working, and pay in their own contribution. The unemployed belong to an unemployment fund financed by the central government budget, and are covered by IKA services for a period up to 12 months. There is also entitlement to services by virtue of being poor. The needy uninsured and the poor are entitled to free access to health centres and public hospitals. Citizens who fall into this group are means tested to ascertain entitlement and they receive from the prefecture authorities a document indicating their status.

Besides citizenship, occupation and need, ability and willingness to pay is another principle of access to health services in Greece. A person, whether covered by a health insurance fund or not, is free to choose a private health provider that is not contracted with a public third payer if he or she is willing to pay the cost directly. In addition, individuals, depending on their income, can benefit from supplementary private health insurance, where products and contractual arrangements differ according to the subscriber's characteristics. The main programmes offered by private insurance include the coverage of outpatient and hospital expenses, cash benefits, disability income insurance and managed care programmes. Dental care, plastic surgery, ophthalmological services as well as pre-existing conditions are not covered.

Over the past two decades Greece has been transformed in terms of migration – changing from a source country to a destination country. After the rapid political changes of 1989, Greece became the destination of hundreds of thousands of immigrants from eastern and central Europe, the former Soviet Union and developing countries. In this context, the entitlement of migrants to health care was put on the health agenda. Immigrants who are documented and legally resident in Greece are entitled to the same access to health care as Greek citizens. Formal access to the free services of the national health system is dependent on registered employment and regular status. On the other hand, undocumented migrants are entitled only to access hospital emergency services for the treatment of life-threatening conditions and until their health has stabilized. They also have free access to primary health care offered in a small number of local authority settings and to services provided by NGOs. Asylum seekers are also entitled to the same access to health care as Greeks. However, until they succeed in obtaining asylum seeker's status they are only entitled to emergency care, like undocumented migrants.

The establishment of the ESY aimed at comprehensive and universal coverage of the population based on the principle of equity. However, this objective has been achieved only partially due to the fact that there are still significant differences among health insurance organizations regarding the level of coverage (content, procedures and quality) and freedom of choice. Most insurance funds provide coverage for primary, secondary and pharmaceutical care, and in some cases also coverage for spectacles, and diagnostic and laboratory tests. IKA, the largest social health insurance fund, offers the most comprehensive package, which includes almost everything except cosmetic surgery. In addition, most of the funds provide income allowances for lost income due to illness, maternity benefits, spa treatment, and others.

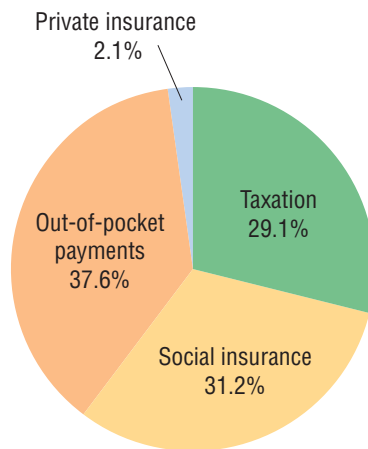
Dental care provides a typical illustration of the wide variations in the range of services provided by social insurance funds. IKA beneficiaries are covered only for fillings, dentures and mobile prostheses provided by dentists in IKA polyclinics. OGA beneficiaries have very limited dental coverage offered by health centres (which are often poorly staffed) and public hospitals. Beneficiaries of some insurance funds visit contracted dentists, paying the necessary co-payments. In cases where the insurance fund offers a free choice of dentist, the beneficiary pays the dentist and is reimbursed by the fund, usually at rates lower than market prices.

3.3 Revenue collection/sources of funds

Taxation, social insurance, out-of-pocket payments and private health insurance are the sources of finance of the Greek health care sector. Private funding, constituted mainly by out-of-pocket payments, records the largest share of revenues, while the shares of taxation and social health insurance are almost equal. Fig. 3.4 shows the relative contribution of each source in 2006.

Fig. 3.4

Total expenditure on health (%) by source of revenue, 2006



Source: WHO 2009.

3.3.1 Taxation

The 1983 health care reform sought to change the mix of health care financing through the establishment of a tax-financed national health service. The increase in public health spending in the 1980s and early 1990s was financed almost entirely out of taxes. As a result, during the mid-1990s, 75% of public financing came from tax revenues. This reflected large government subsidies that aimed to keep the prices of services as low as possible, in order to alleviate pressures on social security fund budgets and to discourage the private hospital sector. However, the balance between taxation and social security contributions changed in the mid-1990s, since official hospital per diem charges almost doubled and therefore social insurance financing increased. Nowadays, taxation constitutes only 29.1% of total health expenditure and 48.2% of public health expenditure.

Tax revenues in Greece are derived from direct taxes, mainly on income, and indirect taxes on goods and services. A feature of the Greek tax system is that indirect taxes represent approximately 60% of total tax revenue. Thus, the reliance on indirect taxes, which are regressive, undermines horizontal and vertical equity (Bronchi 2001).

3.3.2 Social insurance

In 2007 revenues from social health insurance accounted for 31.2% of total health expenditure. The main source of finance for the social insurance funds is compulsory contributions by employers and employees, the level of which vary among insurance organizations. For example, the contribution rate for medical care in IKA is 7.65% of gross salary (2.55% for employees and 5.10% for employers). Sickness benefits under OGA are financed through the contributions of the insured, who pay up to 1.5% of the rates that correspond to seven insurance classes they can choose from⁸ and 1.5% contributed by the state. In the case of OPAD, civil servants' contributions are 2.55% of their gross income, with the state budget subsidizing the expenses that exceed total contribution revenues. The insured in OAEE are entitled to choose among 14 insurance classes and for health insurance pay a monthly amount ranging from €48.54 to €163.35, depending on their insurance class.

3.3.3 Out-of-pocket payments

Out-of-pocket payments represent a high percentage of health expenditure in Greece, accounting for more than half of total health expenditure. The figure depicts formal cost-sharing arrangements, direct payments and informal payments, with the latter two representing the highest proportion of out-of-pocket payments among EU countries. The considerable household expenditure on health can be explained by the large difference between the official reimbursement rates and the actual fees paid to providers. User charges for ESY services, on the other hand, are considered to be low. The only significant source of income from user charges is certainly derived from user charges on pharmaceuticals, for which co-payments vary from 0 to 25%, depending on the severity, the chronic nature of the disease and the patients' income. The most common cost-sharing arrangements are structured as follows.

⁸ Self-employed individuals working in agricultural activities may choose between one of the seven insurance classes of the fund, based on the amounts calculated as their pension and health insurance contributions.

- *Co-payments in public hospital outpatient departments.* A charge of €3 is levied in regular outpatient clinics of ESY hospitals for a physician visit. This amount, paid directly by the user, is reimbursed by some social security funds (only in case of emergencies). In all other cases, this fixed amount constitutes a user charge. It should be noted that OGA members (agricultural workers mostly) and the economically non-active population are exempted from the above payment.
- *Direct payments in public hospitals.* Although there are no user charges for hospital treatment in the public sector, there are some out-of-pocket payments in public hospitals, which include: hospital charges for medical care (e.g. an extra charge for hospitalization in rooms with luxurious hotel facilities which are not reimbursed by the health insurance fund), payments for some pharmaceuticals, direct payments and co-payments for other health care services (e.g. laboratory or diagnostic tests).
- *Afternoon outpatient visits.* On 1 January 2002, the government introduced private practice for ESY hospital doctors, establishing afternoon outpatient clinics in public hospitals. Doctors are paid on a fee-for-service basis, with flat rates ranging from €25 for doctors in rural hospitals to €90 for medical professors in university-affiliated hospitals. In most cases, these services are direct payments that are non-reimbursable by social insurance. The rationale for the introduction of afternoon private visits in public hospitals was to avoid informal payments and tax evasion, as well as to enhance patient choice, at the cost, however, of increasing inequalities in access.
- *Pharmaceuticals.* The rate of co-insurance for a drug prescription is almost uniform for all insurance funds at 25%, with the exception of medicines for cancer, diabetes mellitus, psychosis, epilepsy, haemophilia, nanism, renal insufficiency, multiple sclerosis, paraplegia, quadriplegia, and immune system deficiency, for which there is no co-insurance. A co-insurance rate of 10% applies to medicines for the beneficiaries of EKAS (a benefit for low-income pensioners) and the following diseases: Parkinson's disease, insipidus diabetes, chronic pulmonary cardiac disease, collagens, osteoporosis, myopathy, incystic disease, coronary heart disease, tuberculosis and asthma.
- *Visits to primary care physicians and diagnostic centres.* All visits to physicians and diagnostic centres contracted by a social insurance fund are free of charge for the patient. However, due to structural and financial problems, patients are often forced to seek primary care at both public and private services. Some insurance funds allow for their insured to

visit a non-contracted physician, to pay the physician directly according to the market prices and afterwards to receive from the sickness fund a fixed amount of €20, which is much lower than the market price (which on average exceeds €50). Co-insurance rates for diagnostic and laboratory tests range from 0 to 30%, depending on the insurance fund's benefit package and the legal status of the diagnostic centre.

- *Dental care.* Cost-sharing has been increasing markedly for dental treatments, and many services (such as dental prosthetics) have been removed from the reimbursement list. Co-insurance rates range from 0 to 40%, and orthodontic care for children (up to 13–14 years old) is covered by only a few sickness funds. The lack of full coverage, either by the social insurance funds or by private insurance, makes dental care the predominant field for direct payments, with over 30% of total out-of-pocket expenditure financing dental treatment.

An extensive black economy and informal payments are common features of the Greek health sector. They can be attributed, among other causes, to the lack of a rational pricing and remuneration policy within the health care system. The unethical transactions mainly concern the provision of hospital services and payments to physicians, primarily surgeons, so that patients can bypass waiting lists or ensure better quality of service and more attention from doctors. A recent survey, using a sample of 4738 individuals, concluded that 36% of those treated in a hospital reported at least one informal payment to a doctor. Of these, 42% reported that the payment was given because of the fear of receiving substandard care and another 20% claimed that the doctor demanded such a payment. The probability of making extra payments is 72% higher for patients aiming to “jump the queue”, compared to those admitted through normal procedures. In addition, surgical cases had a 137% higher probability of making extra payments compared to non-surgical patients (Liaropoulos et al. 2008). It is estimated that about 20% of hospital care that is financed privately concerns informal payments within public hospitals, an amount almost equal to formal payments in the form of cost-sharing (Siskou et al. 2008). Doctors in primary health care settings also refer patients to their private practice. The defective organization of primary care involves excessive para-clinical prescribing and profiteering through referrals of patients to private practitioners and private diagnostic centres.

According to the results of a study, in 1994 the hidden economy in the health sector accounted for 1.13% of GDP or 16.9% of total health expenditure (Kyriopoulos 2004). A more recent publication on the black economy and tax

evasion in Greece (Tatsos 2001) made an attempt to estimate informal payments to doctors. Among the main conclusions was that higher informal payments are paid for cardiac surgery and that the amount depends on the doctors' reputation and on the patients' socioeconomic status. The study estimated the black economy in the health care sector at approximately €1.5 billion (14% of total health expenditure in 1999).

3.3.4 Voluntary health insurance

Private health and life insurance products in Greece are mainly not marketed separately and private health insurance (PHI) is sold in combination with life insurance. As a consequence, there are no available data concerning the share of the private insurance market taken up by PHI. However, it can be estimated that in 2006 health insurance accounted for about 25% of total life insurance premiums; that is, €567.5 million or 0.27% of GDP (Economou 2008). Therefore, PHI is a relatively unimportant source of revenue and its activity is limited for the reasons explained in subsection 2.3.5 *The role of the private sector*.

In order to provide incentives for citizens to buy PHI, Law 2071/1992 allows tax deductions for private insurance premiums. Until 1997 there was no upper limit to the amount exempted from taxation. However, since 1997, expenses over a certain amount are taxed. Today, the upper limit for individual contracts is €1200. In the case of group contracts the amount exempted from company taxation cannot exceed €1500 for each employee.

Unfortunately, there is no evidence to suggest how tax incentives affect the market for PHI. It is more likely that two other factors will determine the future development of PHI in Greece. The first is related to the evolution of the statutory health care system and the degree that reform initiatives will be undertaken to confront its financing problems. The second factor concerns the ability of private insurers to introduce policies at reasonable prices that cover the needs of consumers.

3.4 Pooling of funds

As analysed in more detail in Chapter 7, legislation introduced in the 2000s has changed the organizational structure of the health care system, establishing regional health authorities which, theoretically, have responsibility for the coordination of regional activities and the effective organization and management of all health care units, the financial accounting system and the information management system. In practice, however, they have no powers

regarding capital investment or paying providers, which remain under the control of the Ministry of Health and Social Solidarity. The ministry of health is still the main policy-making authority, responsible for setting priorities at the national level, determining the funding for proposed activities and allocating relevant resources.

From a macro-level perspective, the budgeting process in the public sector raises serious questions about health resource allocation and the ability to impose a ceiling on overall health expenditure. Theoretically, ceilings on public health expenditure are agreed at the beginning of each financial year. They are set on the expenditure of the state budget and on the expenditure of the social insurance organizations. In practice, however, the absence of pooling of health resources, the lack of coordination among the large number of payers, the absence of an adequate financial management and accounting system and the lack of monitoring processes result in excesses in the total health budget. As a consequence, every year realized expenditure exceeds budget predictions.

The problem is that the budgeting process for government spending is based on historical patterns of expenditure and on political negotiation. The total annual ESY budget is set not according to the needs of the population (a kind of Resource Allocation Working Party (RAWP) formula) but according to historical data, as adjusted to the government's fiscal priorities and to the expected increase in the level of consumption, salaries and the rate of inflation. In this context, the total annual expenditure of ESY hospitals and health centres (administration, personnel, capital investments, pharmaceutical costs, etc.) is estimated on past performance. Therefore, health expenditure usually exceeds the budget limits by wide margins, thus requiring additional subsidies. Furthermore, the budgets of social insurance organizations are demand-led, given that they reimburse all providers' claims without regulating and monitoring activities, due to the poor coordination of their purchasing activities. Tellingly, Law 2519/1997 specified the implementation of the Council for Coordination and Concerted Action in Health Services, with the aim of aiding the coordination of ESY and the social insurance funds. However, this body has never been established.

In addition, the deficits of hospitals and social insurance funds are retrospectively subsidized by the government's social budget. As a result, there are no incentives to improve efficiency and equity, the negotiating power of social insurance funds is limited and cross-subsidization among insurance funds is impossible (Sissouras, Karokis & Mossialos 1999; Mossialos, Allin & Davaki 2005).

3.5 Purchasing and purchaser–provider relations

One of the main objectives of the 2001 health reform was to separate the purchasing and provider functions and to create an internal market (Tountas, Karnaki & Pavi 2002; Theodorou 2002). An Organization for the Management of Health Care Financial Resources (ODIPY) was to be established in order to unify the five largest social health insurance funds (IKA, OGA, OAEE, OPAD, and the sailors and merchant seamen’s fund (NAT)) and, on a voluntary basis, the other smaller insurance funds. The aim of ODIPY was to collect, monitor, manage and allocate financial health resources and to act as a third-party payer and purchaser for primary and hospital services. The providers were to be the newly established PeSYPs,⁹ owning public services, and the private sector. ODIPY was to have a regional structure and would buy services on a contractual basis, negotiating with providers on the volume, cost and quality of services, and according to the demographic, epidemiological and social characteristics of the local population. Also, primary care units belonging to insurance funds were to be absorbed into the ESY.

The rationale for this proposal was that existing differences in entitlement and coverage would be diminished through the offer of a comprehensive package of services available to all the insured, and that a more efficient use of resources would be achieved by establishing a pooling mechanism and eliminating the fragmentation of the social insurance system. However, this plan was rejected by social insurance funds, which refused to relinquish their right to manage their own resources (Davaki & Mossialos 2006). More specifically, IKA was opposed to bargaining away its polyclinics and the insurance funds that covered privileged groups of employees considered the establishment of a common package of health services to be a “race to the bottom” in terms of the benefits provided to their members.

The main purchasers of health care in Greece are the public budget (through the Ministry of Health and Social Solidarity) and the various social insurance funds. Private insurance plays a comparatively small role as a third-party payer. The revenues of the public budget derive mostly from direct and indirect taxes, while the revenues of the social insurance funds come from employees’ and employers’ contributions; the revenues of private insurance companies are based on risk-rated premiums.

⁹ These were later renamed Health Region Administrations (DYPEs).

The main providers include the various units run by the ESY (emergency pre-hospital care units, rural surgeries, rural health centres and public hospitals), the health units of the social insurance funds and certain polyclinics owned by IKA, and the private sector (specialty doctors, independent practices, independent surgeries and laboratories, private diagnostic centres and private hospitals).

Health care professionals working in the ESY as well as in IKA polyclinics are paid a salary. Public hospitals and contracted private hospitals are reimbursed by social insurance funds on a per diem basis. Private doctors contracted by the social insurance funds are paid on a fee-for-service basis according to set prices. Private diagnostic centres and private laboratories contracted with insurance funds are paid according to an administered fee schedule.

3.6 Payment mechanisms

3.6.1 Payment of health care units

Table 3.5 presents the payment methods for public and private hospitals, public health centres and private diagnostic centres. It is clear that the payment of providers is complex due to the public–private mix of provision and funding.

Public hospitals and rural health centres in Greece generally operate on a fixed budget which covers operational costs and capital investments. The Ministry of Health and Social Solidarity defines, on an annual basis, the prices of hospital care and the per diem according to which ESY hospitals are reimbursed by social insurance funds. Until 1970, the amount of daily compensation covered the current costs of hospitals and extra contributions from the public budget to health care were limited. However, since the 1970s, the government has refused to follow the real prices in the medical market, both in primary and secondary health care. Apart from putting insurance funds in a situation where they constantly risk possible bankruptcy, the consequences of this practice are that the insured have had to pay significant amounts of out-of-pocket payments for both primary and secondary health care and hospitals have had to incur large deficits in their budgets. To avoid the bankruptcy of public hospitals, the government started to subsidize them from the public budget. To give an example, the per diem fee paid to public hospitals by social insurance funds for pathological cases is €73 and €88 for surgical cases. However, the real per diem cost is estimated to be three times these amounts. Recently, the DRG payment method has been adopted for certain cases, where fees are set at

Table 3.5

Payment methods by type of provider

Health providers	Payment method	Payer
ESY hospitals	<ul style="list-style-type: none"> – Fixed budgets and subsidies – Per diem fees – Fixed payment per case-mix group (e.g. cardiovascular surgeries) – Fee for service for diagnostic tests and afternoon outpatient clinics (fees are determined by a fixed price index) 	<ul style="list-style-type: none"> – State budget – Social insurance funds – Private insurance – Household budgets
Rural health centres	Annual budgets	State budget
Social insurance fund hospitals	Annual budgets	Social insurance funds
Army hospitals	<ul style="list-style-type: none"> – Annual budgets – Per diem fees – Fee for service 	<ul style="list-style-type: none"> – Ministry of Defence – Social insurance funds
Profit-making private hospitals	<ul style="list-style-type: none"> – Per diem fees – Fixed payment per case-mix group (e.g. cardiovascular surgeries) – Fee for service for diagnostic tests, surgical procedures and outpatient services 	<ul style="list-style-type: none"> – Social insurance funds – Private insurance – Household budgets – Donations by philanthropic and other sources
Private hospitals	<ul style="list-style-type: none"> – Per diem fees (freely determined) – Fee for service for diagnostic tests, surgical procedures and outpatient services (freely determined) – Fixed payment per case-mix group (e.g. cardiovascular surgeries) 	<ul style="list-style-type: none"> – Private insurance – Social insurance funds – Household budgets
Private diagnostic centres	Fee for service and group contracts	<ul style="list-style-type: none"> – Household budgets – Social insurance funds

approximately the actual cost of services delivered (e.g. coronary artery bypass graft and percutaneous transluminal coronary angioplasty procedures). This measure was introduced as a means of alleviating the problem of systematic underpayment. The ministry of health plans to change the hospital payment method in the future; however, it has not yet been decided how the change will be introduced or whether it will involve the expansion of DRGs or the introduction of global budgets.

Out-of-pocket payments in ESY hospitals are another source of revenue. They usually include an extra charge for hospitalization in a room with upgraded hotel facilities which are not reimbursed by the patient's social insurance fund, direct payments for pharmaceuticals, direct payments and co-payments for other health care services (e.g. €3 charge for regular outpatients clinics, laboratory or diagnostic tests), and private payments for afternoon outpatient clinics. As mentioned above, since January 2002, the government has allowed private practice for doctors employed by the ESY within ESY hospital outpatient clinics. Doctors are paid on a fee-for-service basis with flat rates ranging from €25 to €90, depending on physicians' grades. These payments are distributed between the hospital (40%) and the physicians (60%).

Currently, many public hospitals face deficits as a result of: (a) the absence of real incentives for hospitals to stay within their budgets, (b) delays in reimbursement by social insurance funds, (c) low statutory fees for hospital services, in comparison to actual per diem costs and (d) services offered free of charge to immigrants and the indigent population. These deficits are addressed periodically through state subsidies derived from taxation revenues. During the period 1997–2003, taxation revenues were used twice to cover hospital deficits. It is indicative that, according to estimates, hospital deficits for the period 1 May 2001 to 31 December 2004 amounted to €2.5 billion. In 2004, Law 3301/2004 prescribed that the government should directly reimburse the debts of ESY hospitals owed to suppliers of pharmaceutical products, health material, chemical reactors and orthopaedic material.¹⁰ However, by the end of 2007 the debts rose once again, reaching €2.8 billion.

Social insurance funds' hospitals are mainly funded by social security revenues. Army hospitals operate on annual budgets provided by the Ministry of Defence and through supplementary payments by social insurance funds on a mixed basis of per diem and fee for service.

Non-profit-making and profit-making private hospitals charge either a fixed per diem rate or a fee per unit of service used. Diagnostic tests, outpatient services, rehabilitation services, amongst others, are paid on a fee-for-service basis. Fixed fees are adopted by social insurance funds on a universal basis in order to cover expenses incurred both in public and in contracted private hospitals. In theory, the Ministry of Health and Social Solidarity and the Ministry of Economy and Finance set the same fees for both public and private contracted hospital services. Nevertheless, in practice, per diem fees set by private hospitals are much higher and the difference is covered by patient direct payments. Private insurance pays private providers according to fixed payments per case-mix group and fee-for-service payments for secondary health care services as well as for diagnostic and primary health care services.

Private diagnostic centres charge households and social insurance funds on a fee-for-service basis at rates set by the state.

3.6.2 Payment of health professionals

ESY doctors are not allowed to practise private medicine. They are only permitted to offer care to private patients visiting afternoon outpatient clinics of public hospitals on a fee-for-service basis. Law 2889/2001 expanded the

¹⁰ The law covered unpaid invoices and consignment notes issued up until the publication date of the legislation in 2004.

exclusive employment requirement to university doctors too, who until then were free to work in both the public and private sectors. Under the new framework, university doctors can work in the ESY, receiving a salary bonus, and have the right to see patients in afternoon outpatient clinics of public hospitals, or they may choose the private sector at the cost of losing the opportunity to become directors of ESY clinics. However, many such doctors still have illegal private practices. Private practice is also forbidden for specialists employed by social health insurance funds (e.g. IKA) on a full-time salaried basis. However, most insurance fund doctors have part-time contracts and are allowed to work privately, running their own surgery or having contracts with private hospitals. A fifth category is private specialists; these doctors practise in their own surgeries and have annual contracts with insurance funds, compensated on a defined fee-for-service basis.

Currently, Greece has a medical care payment system that offers doctors incentives to provide more services, especially when public insurance funds (e.g. OPAD) contract with health care providers on a fee-for-service basis. For health services offered by the government and some of the main social security funds, health personnel are paid on a salary basis. Despite this, and the fact that public health services operate on a fixed budget set on past performance, cost-containment strategies have been unsuccessful in controlling costs and deterring unnecessary use. Moreover, even when paying providers on a salary basis is supposed to contribute to cost control, it does not offer incentives for improving productivity and effectiveness. The experience of ESY hospitals and IKA primary care units further validates this finding. Despite ESY hospital doctors being salaried full-time employees, with limits on seeing private patients, they and IKA doctors, who are mostly contracted on a part-time basis, manage to work fewer hours than those stipulated in their contracts and often use their public service hours only to recruit patients for their (illegal) private practices. These practices are encouraged by the low wages offered and the outdated fee schedules, as well as by the lack of any effective control mechanisms.

Doctors and dentists contacted by social insurance funds are paid on a fee-for-service basis, which theoretically induces unnecessary demand for health care services. Some physicians charge for additional visits or prescribe more diagnostic tests and drugs than are medically required in order to boost their income. Also, as fees are usually set at a very low level, informal additional payments are regularly made by patients to doctors. OAEE is the only fund that contracts with its doctors on a capitation basis and this may explain its success in controlling costs.

Private hospitals, apart from salaried physicians, employ “affiliated” doctors, who are mainly reimbursed on a fee-for-service basis directly by the patient. The latter also receive a proportion of the patient’s bill as a “bonus”.

Dentists and doctors in private practice are reimbursed directly by patients on a fee-for-service basis. These fees are usually determined at a minimum permitted level by the medical associations, depending on the physician’s qualifications; for practising specialists, fees usually vary from €40 to €100 per visit. This rate depends on supply and demand factors and per capita income in different regions.

Nurses in all health settings are mainly salaried personnel. However, in a few private nursing services (home-care etc.), nurses are remunerated on a fee-for-service basis.

Pharmacists are paid on a fee-for-service basis, collecting a percentage (ranging from 10% to 25%) on the value of the prescription from patients, and the rest from the relevant social insurance fund. Until the summer of 1997, the price of medicines included significant add-ons in the form of contributions to other social insurance organizations or the EOF. Such a system clearly offered incentives for dispensing expensive products and was amended in August 1997. As a result, pharmacists’ profit of 35% (plus 8% VAT) is now calculated on the ex-factory price only.

Physiotherapists, speech therapists and occupational therapists are mainly private practitioners reimbursed on a fee-for-service basis paid directly by patients. Only a small percentage are contracted by social insurance funds and reimbursed on a fee-for-service basis. As before, low fees set by the state promote additional informal payments made directly by patients. Table 3.6 summarizes payment methods for each health profession category.

To conclude, the methods of paying providers in the Greek health care sector do not generate incentives to improve efficiency and quality. Public hospitals are still paid on a per diem basis and the state budget subsidizes their deficits. Doctors working in public hospitals and health centres are full-time employees not allowed private practice and are paid a salary. Doctors contracted in ambulatory settings are paid on a fee-for-service basis. The fact that doctors’ payments are not related to their performance and that there are no monitoring mechanisms is an incentive to minimize the time devoted to institutional practice and to spend time in private practice, whether permitted or not (Sissouras, Karokis & Mossialos 1999; Mossialos, Allin & Davaki 2005). Very often, as a result of the low salaries offered, ESY specialists see patients

Table 3.6

Payment methods per health profession category

Health care personnel category	Payment method
ESY hospital doctors	<ul style="list-style-type: none"> – Monthly salary – Fee-for-service payments for the physician's contribution to afternoon outpatient clinics – Informal payments
Social insurance funds hospital doctors	<ul style="list-style-type: none"> – Monthly salary – Fee for service – Direct payments from patients for primary health care services provided in their own private practice
Doctors in army hospitals	<ul style="list-style-type: none"> – Monthly salary – Fee for service – Direct payments from patients – Informal payments
ESY rural health centres and health post doctors	<ul style="list-style-type: none"> – Monthly salary
Private hospital doctors	<ul style="list-style-type: none"> – Monthly salary – Fee for service – Extra "bonuses"
Private doctors contracted with insurance funds	<ul style="list-style-type: none"> – Fee for service – Capitation fees (in some cases) – Informal payments
Private dentists contracted with insurance funds	<ul style="list-style-type: none"> – Fee for service – Additional direct payments from patients
Private dentists and doctors	<ul style="list-style-type: none"> – Fee for service
Nurses	<ul style="list-style-type: none"> – Monthly salary
Physiotherapists, speech therapists and occupational therapists	<ul style="list-style-type: none"> – Fee for service (directly paid by patients)

in their illegal private offices or receive under-the-table payments. Likewise, part-time health insurance fund doctors minimize the time devoted to the funds' polyclinics and use their public service hours as a means to recruit clients for their private practices. The reasoning used to explain such behaviour is that their case load in the insurance fund is high and the time they can spend on each patient is limited. In this context, the only way for the patient to attract better care from the doctor is to visit his or her private surgery. Furthermore, fees paid to contracted specialists are set low and as a consequence they induce demand through charging for additional false consultations and prescribing unnecessary diagnostics tests and drugs in order to generate more income. The result is that the insurance funds suffer the economic burden of paying for fictitious services.

4. Regulation and planning

4.1 Regulation

Despite the establishment of regional health authorities in 2001, the Greek health care sector is highly regulated by the central government. There is extensive legislation controlling the activities of third-party payers and providers of services, the purchasing process and the levels of prices and reimbursement, and training and licensing of health professionals. Greece has also incorporated into national legislation the EU directives concerning professional qualifications of health personnel, medical equipment, pharmaceuticals and voluntary health insurance. However, there is a significant divergence between the enactment and the enforcement of the legislation in relation to the functioning of both the private and the public sectors. This is documented in the reports of the SEYYP.

SEYYP, an independent authority established in 2001, has responsibility for conducting performance audits of private and public health and welfare services. In its reports, it highlights the fact that most of the problems detected in the management and administration of health and welfare units, as well as in the financing and provision of services, could have been avoided if the relevant legislation had been implemented (SEYYP 2005, 2007).

With respect to health policy planning, as Brian Abel-Smith has argued, it involves six steps: knowing where you are, deciding where you want to go and how to get there, deciding how far you can hope to get towards your target in a period of time, trying to get there in the time period, evaluating your progress and amending the implementation plan (Abel-Smith 1994). Two studies by the Ministry of Health and Welfare, published in the early 2000s, which referred to the health of the population (2000) and the country's health services (2001a), were an attempt to make the first step. Unfortunately, the next steps were never made.

A second point of Abel-Smith's argument is the need to make a distinction between planning for health in its broadest sense and planning health services. The former presupposes the involvement of all sectors and all levels of government and civil society. In Greece health policy was never approached by the government from the point of view of a wider economic and social reform. As a consequence, there has been no systematic research focusing on issues such as the social determinants of health or the contribution of health to economic development. Moreover, planning of health services is not based on needs assessment or the measurement of the output of health services but rather on political considerations.

Given this context, so far Greece has neither developed a health targets programme for setting priorities, nor a national plan for the implementation of a Health in All Policies. In 2008, the Ministry of Health and Social Solidarity's Unit for Strategy and Health Policies, which is responsible for planning national health care policy, undertook a public consultation process and formulated a public health plan for the period 2008–2012, covering 16 axes of action, including cancer, HIV/AIDS, rare diseases, smoking, drugs, alcohol and oral health. However, progress has been slow and partial. Only a few measures have been introduced, including the banning of smoking in public places such as bars, restaurants, and sites providing public services. A similar plan to formulate a national plan for health services development, accompanied by quantified targets, never materialized.

4.1.1 Regulation and governance of third-party payers

Sickness funds, the state budget and private health insurance are the third-party payers in the Greek health care sector. Social health insurance organizations are self-governing, self-managed, non-profit-making entities of public law, mainly under the jurisdiction of the Ministry of Employment and Social Protection. Each is governed by a managing board composed of representatives of the state, the insured population, pensioners and employers. The members of each organization's administration board are nominated by the representative organizations and appointed by the competent minister. However, the presidents of the management boards are chosen by the Minister of Employment and Social Protection. Autonomy is also reduced due to the fact that certain powers fall within the Minister's remit. Thus, the Minister has substantive supervisory competencies, which, for example, result in the power to withhold approval of the budgets of the social insurance institutions and to check their accounts and book-keeping. Furthermore, for each important administrative decision the social security institutions require the approval of the competent minister:

the administrative bodies must first receive ministerial approval before they can introduce qualitative or quantitative improvements to social insurance benefits (Ministry of Labour and Social Security 2002). The sickness funds' financial sources include contributions from employees and employers in the case of dependent employment and contributions from subscribers in the case of self-employed and independent professionals. Due to the large deficits they face, insurance funds receive compensation from the state budget.

Private health insurers are supervised by the Directorate of Insurance Companies and Actuaries within the Ministry of Development. The supervisory body is nominated to exercise prospective as well as retrospective control. More specifically, supervision focuses on three domains: (a) issuing licences of establishment and operation, (b) financial inspection of companies and (c) consumer protection. Insurers are permitted to contract selectively with private providers and this is what they usually do. They do not contract with public providers and they do not make use of private beds in public hospitals because this is forbidden by law. There are also schemes which take the form of health maintenance organizations (HMOs), integrating purchasing and provision functions.

4.1.2 Regulation and governance of providers

Based on their legal status, Greek hospitals are classified as one of the following.

- (a) *Public Law Entities (NPDD)*. These are autonomous, self-governing and self-managed organizations, including ESY hospitals and university hospitals.
- (b) *Private Law Entities (NPID)*. Examples of such hospitals are the Onassis Cardiac Surgery Centre in Athens, the Papageorgiou Hospital in Thessalonica and the Eric Dunant Hospital in Athens. They were built by charitable foundations' donations and operate under the supervision of the Ministry of Health and Social Solidarity as non-profit-making institutions.
- (c) *Private clinics*. These are profit-making organizations, usually in the form of limited liability companies. Their shareholders are usually doctors; during the last few years, however, the role and the activities of entrepreneurs in this sector have increased significantly.
- (d) *Hospitals with special status*. This fourth category includes military hospitals, which cover the needs of the military personnel, and hospitals for prisoners.
- (e) *Decentralized units*. Last but not least, IKA operates a few hospitals as decentralized units.

ESY hospitals are under the jurisdiction of the Ministry of Health and Social Solidarity and are accountable to the president of the relevant DYPE. Each is managed by an executive board. Theoretically, as mentioned above, they are autonomous, self-governing and self-managed organizations. In fact, the situation is rather different. The general director of the hospital board and the majority of its members are appointed by the Minister of Health and Social Solidarity according to political criteria rather than managerial knowledge and capacity. Other members of the board are composed of representatives of the medical and nursing staff, as well as other hospital workers. In addition, ESY hospitals have no decision-making power in relation to capital investment and staffing; every aspect of these functions must be approved by the DYPE and the Ministry of Health. Moreover, public hospitals have no authority to negotiate with social insurance funds in setting prices for the services they provide to the insured population.

The rural health centres do not have the managerial or financial autonomy to develop their own policies and formulate their own priorities, since they operate as hospitals' decentralized units. They are financed via hospital budgets and are administratively attached to hospitals.

The public health departments of the prefectures are responsible for licensing private health care providers, including medical technologies, primary health care facilities and hospitals. Presidential Decrees 235/2000 and 84/2000 regulate the operation of the private health care sector, with the former containing regulations and prerequisites for the operation of private clinics and hospitals, and the latter laying down necessary conditions and procedures for the establishment and operation of private primary health care units.

4.1.3 Regulation and governance of the purchasing process

The purchasing process in the Greek health care sector is contradictory in nature. On the one hand, it is a centralized procedure in the sense that the reimbursement levels, the prices paid to providers and the benefits offered are regulated by the central government and, more specifically, by the Ministry of Health and Social Solidarity, the Ministry of Employment and Social Protection and the Ministry of Economy and Finance. The attempt in 2001 to decentralize this process with the establishment of regional health authorities¹¹ was incomplete since they were not given the authority to manage a global budget or the power to purchase services. On the other hand, the process is fragmented, characterized by the

¹¹ These were the PeSYs, which later were renamed DYPEs.

absence of a mechanism to coordinate the purchasing activities of the insurance funds (Davaki & Mossialos 2005). The plan to establish such a mechanism (ODIPY) never materialized (see sections 3.5 and 7.1).

4.1.4 Regulating quality of care

The authority responsible for managing the accreditation and certification of medical facilities is the Hellenic Accreditation System (ESYD), a private liability company operating in the public interest. ESYD provides its accreditation services to a variety of bodies, including medical laboratories. In addition, the Hellenic Organization for Standardization (ELOT) elaborates the Hellenic National Standards, maintains a central point for testing of materials, assesses management systems and certifies products and services accredited by ESYD, and provides public or on-site training and technical information. For the certification of the quality of health services, which is an optional and not obligatory process, ELOT implements the ELOT EN ISO-9001:2000 model.

In Greece, a specific government agency that has competence for the quality control of health services does not exist, despite the fact that both the 1997 and 2001 health reform laws provided for the establishment of a health services quality control and research institute. In 2005, the KESY and ELOT signed a Memorandum of Understanding for quality standardization within the health sector and the Ministry of Health and Social Solidarity published a draft law to ensure the quality and safety of health services and to establish the National Health Information System. However, the draft law did not come before Parliament for discussion and approval, underlining a certain lack of vision, strategy and concrete goals for the development of a national quality policy in the health care sector.

4.2 Planning and health information management

The Ministry of Health and Social Solidarity, supported by KESY, decides on overall health policy issues and the national strategy for health (see Chapter 2). It sets priorities at the national level, defines the extent of funding and investments and allocates resources. These activities are based on historical, “muddling-through” procedures rather than on rational, needs-based planning. Nevertheless, the 2001 health system reform attempted to rectify this shortcoming and made some serious steps towards the development of planning activities. The regional health authorities were given responsibilities for implementing national priorities at the regional level, coordinating regional activities and organizing

and managing the delivery of health care and welfare services within their catchment area. Within this framework, three sound instruments for the development of strategic planning and rational management were introduced:

- the “Health and Welfare Map” of the country
- the Strategic and Operational Plan for PeSYPs
- the Operational Plan for Hospitals.

However, no progress was made on developing the Health and Welfare Map and the change of government in 2004 signalled the abandonment of any similar attempt. The Strategic and Operational Plans for the regional health authorities and hospitals were actually designed and submitted, but given that both PeSYPs and hospitals were not given individual budgets to manage, these plans fell short of expectations and failed to contribute in a real and lasting way to changing the planning and management culture or practice. From this point of view, the Ministry of Health and Social Solidarity still has to validate all financial transactions and decisions for health resource allocation.

4.2.1 Health technology assessment

It is generally accepted that the lack of an integrated health care system in Greece has resulted in the inability to establish an effective health technology assessment mechanism (Liaropoulos & Kaitelidou 2000). The competence for health care, as highlighted in Chapter 2, falls on two different ministries (the Ministry of Health and Social Solidarity and the Ministry of Employment and Social Protection), and the extent and form of public intervention in controlling health technology vary significantly from one agency to another, given that there is a multiplicity of third-party insurers and service providers. The problem is further exacerbated by the fact that social insurance funds and health services are headed by political appointees with no training in health care management, and there are no specific legal provisions for the regulation of health technology. This situation leads to variations in regulation practices, which, combined with the lack of an established mechanism for conducting health technology assessment studies, indicates that evaluation work in general receives little attention. Some efforts have been taking place since 1990, on a voluntary basis, and without government recognition or support. The limited number of such assessments carried out by committees, working groups and other organizations supervised by the Ministry of Health and Social Solidarity are primarily the products of individual initiatives rather than direct commissioning.

The introduction and placement of new medical equipment in the Greek health sector lies within the discretion of the directors of hospital departments and specialized centres rather than being a function regulated on the basis of needs assessments and socioeconomic evaluations. This is especially obvious in the absence of any regulation of the private sector regarding procurement and installation of “big ticket” health technologies. The only dimension of public intervention is quality control of equipment involving radioactive materials at the time of licensing, performed by the National Centre of Atomic Energy. However, after licensing, no other performance monitoring of the installed equipment takes place (Liaropoulos & Kaitelidou 2000).

Furthermore, the absence of a health technology assessment agency deters any attempt to assess health programmes and as a consequence makes it difficult to decide whether or not a test should be reimbursed by social insurance funds. For example, according to the findings of a study on prevention programmes, the application of screening tests, more precisely mammography screening, PSA (prostate specific antigen) screening and ultrasonography, does not take the form of structured mass screening programmes and their use is left to the discretion of the physician or the initiative of the patient. Moreover, the tests are not always used appropriately and public policy formulation is not based on the best available evidence on efficacy and cost-effectiveness (Mousiama et al. 2001).

In addition to the organizational structure of the health care system creating obstacles for the extensive and systematic use of technology assessment, three more factors are worth mentioning. The first is the lack of formal training and continuing education in the methodology and applications of evaluation and assessment, despite the large number of graduates from abroad who are employed in the health sector. None of the medical faculties have courses on health economics, hospital management or socioeconomic evaluation. The second factor is the absence of reliable statistical data that could contribute to rational decision-making. In this context, the evaluation of a new technology using, for example, cost-benefit analysis is not feasible. The third problem is the transfer of technology assessment evidence into practice. The usual dissemination approach is through conferences, seminars and educational meetings. Currently, no specific mechanism for the dissemination of information on evaluation activities exists. Information derived from international sources is limited to clinical matters, and the concepts of evidence-based medicine, the Cochrane Collaboration and other efforts regarding systematic literature review are not widely used by the medical profession, let alone the public authorities.

4.2.2 Information systems

The NSSG is the responsible public agency for conducting and disseminating official statistics. It collects statistical data through studies, surveys and censuses or from administrative sources, processes it and disseminates the information to public and private users or individuals. As far as the health sector is concerned, the NSSG provides data on hospitals, beds, doctors, dentists, nursing personnel, pharmacies, wholesale pharmacies, sickness/social security funds' expenditures and receipts, patients discharged, as well as vital statistics including births and deaths by cause. In addition, information about private health expenditure is collected through the household budget surveys conducted by the NSSG every five to six years.

However, the NSSG does not provide adequate statistical information for the conduct of epidemiological or health services performance studies. For example, there are no disease registries and systematic records to produce incidence rate data, since the NSSG keeps data only on patients discharged from hospitals and patients readmitted to hospitals are not distinguished from those admitted for the first time. Aggregate data concerning the use of services, such as health centre visits, is also lacking.

Besides the NSSG, a number of other health agencies collect and provide data. For example, the Centre for the Control and Prevention of Diseases (KEELPNO) records the obligatory reported cases of infectious diseases. The Institute of Medicinal Research and Technology (IFET) analyses and processes data on the distribution of medicinal products and pharmaceutical expenditure. Some social insurance organizations also publish data concerning the use of health services by their insured members. The development of the "Health and Welfare Map" would provide the basis for information systems and, by extension, would facilitate the production of a health indicators system, including the European Community Health Indicators (ECHI).

Before the elections of 2009, the Ministry of Health and Social Solidarity considered a proposal to issue an electronic patient identity card to every insured person. The social insurance funds would have responsibility for issuing the card so that the third-party payer for care could be clearly identified. The card would be designed to be used only in the context of patient contacts with primary health care providers and pharmacies, and its function would be similar to a credit card. More precisely, each card would be credited with a predefined annual amount of monetary units, to be deducted by the cost of every service provided to the patient. However, this proposal remained on paper and no steps were taken to implement it.

4.2.3 Research and development

A major source of research planning, coordination and funding is the Ministry of Development's General Secretariat for Research and Technology (GGET). GGET is responsible for the coordination and stimulation of scientific and technical research carried out by universities and research institutes, as well as for the allocation of national and EU funds to research projects focusing on areas that are important for the national economy and for the improvement of quality of life. Specific reference must be made to the Operational Programmes for Research and Technology and the Operational Programmes for Competitiveness under the respective Community Support Frameworks, which to a large degree have supported the formulation and the implementation of science and technology policy in Greece. Among the strategic priorities of Research and Technology Development policy funded by the two above-mentioned Framework Programmes is health, biomedicine, and diagnostic and therapeutic methods.

KESY allocates a small amount of funds to applied clinical research carried out mainly by university clinical departments, large hospitals and specialized institutes. There are also a number of research institutes active in the area of health research. These include:

- The Centre for Planning and Economic Research (KEPE) which focuses on applied research projects concerning the Greek economy and society and provides technical advice on economic and social policy issues to the Minister of Economy and Finance, the Centre's supervisor. KEPE conducted the first major assessment of the Greek health care system in 1975, when the system was reformed on the basis of the 1976–1980 five-year plan for Greece's economic and social development.
- The National Centre for Social Research (EKKE) which has been active in the area of basic and applied health research, providing data and information that is valuable in socioeconomic evaluation studies and other technology assessment research.
- The National School of Public Health (ESDY) which is involved in research within the fields of epidemiology, public health and preventive medicine, occupational health, sociology and the psychology of health, health services management and health economics.
- The Institute for Bio-Medical Technology (INBIT), a non-profit-making organization in Patras, which is an initiative for the advancement of the applied field of biomedical technology in Greece. This organization

aims to effectively contribute to the further development of the field by promoting the areas of biomedical technology management, quality and assessment in the health care sector.

- Academic research centres performing health services assessment work. Among these should be noted the Centre for Health Services Research in the Epidemiology Department at Athens Medical School, the Health Policy and Planning Unit of the University of Patras, the Faculty of Community Medicine at the University of Crete and the Centre for Health Services Management and Evaluation in the Department of Nursing at the University of Athens.
- Institutes and centres supervised by the Ministry of Health and Social Solidarity including KEELPNO, IFET and the Research Centre for Biological Materials (EKEVYL) discussed in section 2.3.
- It is also worth mentioning the Institute for Medical and Biological Research of the Academy of Athens. An attempt to establish the Institute of Health and Evaluation specified in Law 2519/1997 never materialized.

In the private sector, there are signs that evaluation and research development may become an integral part of doing business. The main commissioners for now are the pharmaceutical industry, and, to a lesser extent, the private health insurance industry. More specifically, many pharmaceutical companies operating in Greece have established formal health economics units. Pharmacoeconomics will probably lead developments in the field of technology assessment in the near future, as it has on an international level. This is due to the much more explicit requirements for economic effectiveness evidence in this area. In general, the private sector seems to be more eager to assess the operation of the health care system. In this direction, a promising initiative is the Foundation for Economic and Industrial Research (IOBE), a private, non-profit-making, public-benefit research organization, with the establishment of a health economics department which records and evaluates economic and statistical data from the Greek and international health care sectors.

5. Physical and human resources

5.1 Physical resources

5.1.1 Infrastructure

The number of acute care beds has fallen from 4.9 beds per 1000 population in 1980 to 3.9 beds per 1000 population in 2006 (Table 5.1). This reduction is mainly due to hospital closures in the private sector, which occurred during the 1990s as a result of policies pursued to substitute private with public hospital provision.

Furthermore, psychiatric beds decreased from 143.72 per 100 000 population in 1980 to 94.12 in 1990 and 86.7 in 2005 (WHO Regional Office for Europe 2007). Fig. 5.1 shows the total number of beds as well as the mix between beds in acute care hospitals and psychiatric hospitals. In 2004, psychiatric beds constituted 19.1% of total hospital beds (Tountas et al. 2008).

On the other hand, the bed occupancy rate remained at around 66% until 1995 and then rose to 75.1% in 2001 (Table 5.2).

In addition, hospital discharges increased from 12 688 per 100 000 population in 1990 to 18 791 in 2005 (Table 5.3). This is probably due to an improvement in patient access to hospital services, improvements in patient education on the use of health services and the gradual ageing of the population that, in turn, emphasized the increase in the demand for health care services.

Table 5.1

Acute care beds per 1 000 population in OECD countries, 1980–2007

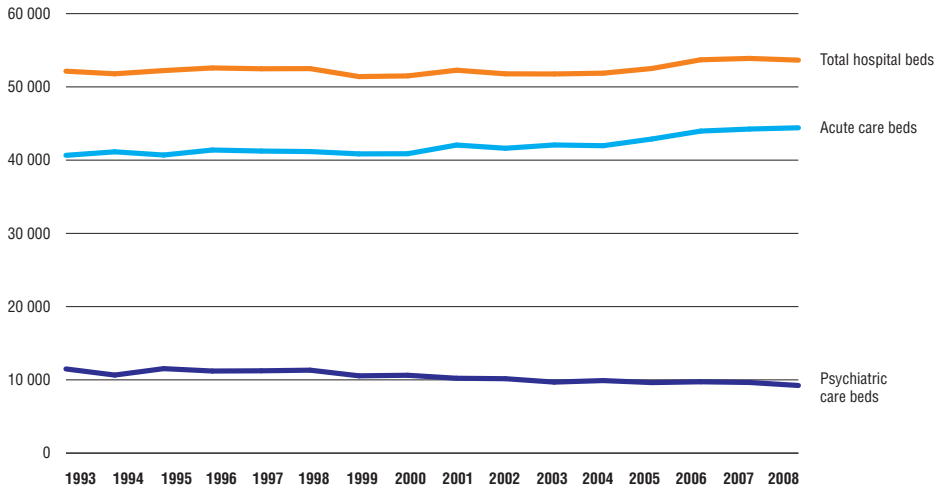
	1980	1985	1990	1995	2000	2005	2006	2007
Australia	6.4	5.3 ^b	n/a	4.1	3.6	3.5	3.5	n/a
Austria	n/a	n/a	7.5	6.8	6.3	6.1	6.1	6.1
Belgium	n/a	n/a	5.2	5.0	4.7	4.4	4.3	4.3
Canada	4.6	4.4	4.0	3.9 ^b	3.2	2.8	2.7 ^b	n/a
Czech Republic	8.1	8.2	8.1	6.9	5.7 ^b	5.3	5.3	5.2
Denmark	5.3	4.7	4.1	3.9	3.5	3.1 ^a	3.0 ^a	2.9 ^e
Finland	4.9	4.8	4.3	4.1	4.0	3.9	3.8	3.7
France	6.2	5.7	5.2	4.6	4.1	3.7	3.7	3.6
Germany	n/a	n/a	n/a	6.9	6.4	5.9	5.7	5.7
Greece	4.9	4.3	n/a	3.9	3.8	3.9	3.9	n/a
Hungary	6.6	6.8	7.1	6.5	5.8	5.5	5.5	4.1
Iceland	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Ireland	4.3	4.1	3.2	3.1	2.8	2.8	2.7	2.7
Italy	8.0	7.0	6.2	5.6	4.1	3.3	3.3	3.1
Japan	n/a	n/a	n/a	12.0	9.6	8.2	8.2	8.2
Luxembourg	n/a	n/a	n/a	n/a	n/a	4.6	4.5	4.4
Mexico	n/a	n/a	1.0	1.1	1.0	1.0	1.0	1.0
Netherlands	5.2	4.7	4.3	3.8	3.5	3.1	3.0	3.0
New Zealand	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Norway	5.2	4.7	3.8	3.3	3.1	3.0	3.0	2.9
Poland	5.6	5.7	6.3	5.8	5.2	4.4	4.7	4.6
Portugal	4.1	3.5 ^b	3.4	3.3	3.2	3.0	2.9	2.9
Republic of Korea	n/a	n/a	2.7	3.8	5.2	6.6	6.8	7.1
Slovakia	n/a	n/a	n/a	n/a	5.8	5.0	4.9	4.9
Spain	3.8	3.7	3.6	3.5	2.8	2.5	2.5	n/a
Sweden	5.1	4.6	4.1	3.0	2.4	2.2	2.2	2.1
Switzerland	7.2	6.8	6.5	5.5	4.1	3.6	3.5	3.5
Turkey	1.5	1.6	2.0	2.1	2.2	2.5	2.5	2.7
United Kingdom	n/a	n/a	n/a	n/a	3.0	2.9	2.8	2.6
United States	4.4	4.2	3.7	3.4	2.9	2.7	2.7	n/a

Source: OECD 2009.

Notes: n/a: data not available; ^b break in the series; ^a estimate.

Fig. 5.1

Total, acute and psychiatric beds, 1993–2008



Source: WHO Regional Office for Europe 2010.

Despite the rapid growth of the private sector during the last decade, public hospitals are used more than private hospitals by the population because of: (a) easier access in districts outside of Athens and Thessalonica, (b) the provision of free services for insured people and (c) their better scientific reputation in many medical specialties. Thus, hospital days are allocated 75% to public hospitals and 25% to private hospitals.

In general, an examination of the utilization of hospital services shows that there has been a trend to increase productivity. The average length of hospital stay for acute care has declined from 10.2 days in 1980 to 5.6 days in 2005, displaying a better pattern than some other OECD countries, including Belgium, Canada, Germany, Luxembourg, Italy, Portugal and Spain (Table 5.4). This was mainly due to advances in clinical practice rather than improved operational efficiency, at least for the period 1980–1995.

Table 5.2

Average bed occupancy for acute care (% of available beds) in OECD countries, 1980–2001

	1980	1985	1990	1995	2001
Australia	66.3	69.0	n/a	69.5	72.0
Austria	n/a	79.9	79.3	76.9	78.0
Belgium	77.7	n/a	81.9	79.7	n/a
Canada	80.4	83.4	78.6	84.6	89.7
Czech Republic	81.8	80.8	69.6	72.6	70.5
Denmark	75.3	78.9	78.5	78.6	84.0
Finland	n/a	76.2	74.2	74.0	n/a
France	79.0	79.1	77.3	76.0	75.2
Germany	n/a	n/a	n/a	82.1	81.1
Greece	66.0	66.0	63.2	66.4	75.1
Hungary	83.3	80.6	74.9	72.6	76.9
Iceland	n/a	n/a	n/a	n/a	n/a
Ireland	82.2	75.9	84.5	82.5	86.2
Italy	69.0	67.9	69.3	70.7	76.0
Japan	n/a	n/a	n/a	81.6	81.0
Luxembourg	n/a	n/a	n/a	n/a	65.4
Mexico	n/a	n/a	n/a	50.1	57.8
Netherlands	83.5	79.1	73.3	73.3	66.0
New Zealand	n/a	n/a	n/a	n/a	n/a
Norway	79.3	82.0	77.0	79.4	87.2
Poland	85.0	77.0	66.0	67.3	76.0
Portugal	n/a	67.7	66.7	72.6	70.0
Republic of Korea	n/a	61.0	83.9	66.3	67.3
Slovakia	n/a	n/a	n/a	n/a	70.5
Spain	n/a	72.2	73.5	76.4	77.2
Sweden	72.1	75.3	72.2	75.9	n/a
Switzerland	77.9	80.0	79.0	n/a	84.6
Turkey	n/a	52.1	57.2	55.4	58.9
United Kingdom	75.1	76.1	n/a	77.1	83.2
United States	75.4	64.8	66.8	62.8	64.5

Source: OECD 2007b.

Note: n/a: data not available.

Table 5.3

Hospital discharge rate (per 100 000 population) in OECD countries, 1990–2007

	1990	1995	2000	2005	2006	2007
Australia	n/a	16 482	15 813	16 024	16 238	n/a
Austria	22 704	23 955	28 449	27 765	n/a	n/a
Belgium	n/a	15 884	17 773 ^b	17 429	17 374	n/a
Canada	12 899	11 047	9 401	8 751	8 429	n/a
Czech Republic	n/a	20 568	19 124 ^b	21 073	20 390	20 306
Denmark	n/a	n/a	17 220	17 031	17 074	16 975
Finland	21 745	24 566	26 663	20 131	19 621	19 007
France	n/a	n/a	26 786	27 924	28 440	27 377
Germany	n/a	18 163	19 559	21 826	22 040	22 693
Greece	12 688	14 078	16 076	18 791	n/a	n/a
Hungary	n/a	n/a	n/a	23 391	22 644	18 916
Iceland	17 641	18 116	18 190	17 244	16 005	15 618
Ireland	n/a	11 463	13 861 ^b	13 664 ^b	13 768	13 796
Italy	n/a	15 362 ^d	15 632	14 091	13 887	n/a
Japan	n/a	10 009 ^d	10 434 ^e	10 550	n/a	n/a
Luxembourg	n/a	n/a	18 075	17 157	16 862	16 599
Mexico	n/a	4 812	5 177	5 242	5 486	5 528
Netherlands	10 212	10 230	9 265	10 414	10 689	10 931
New Zealand	n/a	n/a	14 063	13 437	13 304	13 475
Norway	n/a	14 544	15 408	17 519	17 687	17 236
Poland	n/a	n/a	n/a	18 599	18 429	19 432
Portugal	n/a	8 903	8 620	9 004	10 365 ^p	10 803
Republic of Korea	6 536	7 710 ^c	9 593 ^e	13 216	n/a	n/a
Slovakia	n/a	19 112	19 607	19 805	19 942	19 089
Spain	9 501	10 512	11 183	10 780	10 724	10 660
Sweden	17 884	17 457	16 458	16 052	16 248	16 481
Switzerland	n/a	n/a	n/a	15 898	16 103	16 638
Turkey	5 674	6 092	7 416	8 451 ^f	n/a	10 486
United Kingdom	n/a	n/a	12 136	12 308	12 604	12 554
United States	13 387	12 490	12 185	12 695	12 632	n/a

Source: OECD 2007b.

Notes: n/a: data not available; ^b break in series; ^c 1994; ^d 1996; ^e 1999; ^f 2004.

Table 5.4

Average length of hospital stay for acute care (number of days) in OECD countries, 1980–2007

	1980	1985	1990	1995	2000	2005	2006	2007
Australia	7.7	7.4	6.5 ^a	6.5	6.1	6.0	5.9	n/a
Austria	n/a	n/a	10.3	8.6	6.7	5.9	5.8	5.7
Belgium	n/a	n/a	n/a	9.4	7.7	7.7	7.2	n/a
Canada	10.0	10.4	10.2	7.2	7.2	7.2	7.3	n/a
Czech Republic	13.6	13.1	12.0	10.2	8.7	8.0	7.8	7.7
Denmark	8.5	7.8	6.4	4.1	3.8	3.5	n/a	n/a
Finland	8.8	8.0	7.0	5.5	5.0	4.8	4.7	4.6
France	10.2	8.6	7.0	6.2	5.6	5.4	5.4	5.3
Germany	n/a	n/a	n/a	10.8	9.2	8.1	7.9	7.8
Greece	10.2	8.9	7.5	6.4	6.2	5.6	n/a	n/a
Hungary	11.2	10.6	9.9	9.2	7.1	6.5	6.4	6.0
Iceland	n/a	n/a	7.0	5.9	6.1	5.4	5.5	5.4
Ireland	8.5	7.4	6.7	6.6	6.0	6.0	5.9	n/a
Italy	n/a	n/a	n/a	8.4	7.0	6.7	6.7	n/a
Japan	n/a	n/a	n/a	33.2	24.8	19.8	19.2	19.0
Luxembourg	n/a	n/a	n/a	n/a	7.5	7.6	7.6	7.3
Mexico	n/a	n/a	n/a	4.0	4.0	4.0	3.9	n/a
Netherlands	14.0	12.5	11.2	9.9	9.0	7.2	6.6	6.3
New Zealand	n/a	n/a	n/a	n/a	4.3	n/a	n/a	n/a
Norway	10.9	9.6	7.8	6.5	6.0	5.2	5.0	5.0
Poland	14.0	13.1	12.5	10.8	8.9	6.5	6.1	5.9
Portugal	11.4	11.1	8.4	7.9	7.7	7.1	6.9	6.8
Republic of Korea	10.0	11.0	12.0	11.0	11.0	10.6 ^d	n/a	n/a
Slovakia	n/a	n/a	n/a	10.5 ^b	8.5	7.3	7.2	7.0
Spain	n/a	10.1	9.6	8.8	7.1	6.7	6.6	n/a
Sweden	8.5	7.5	6.5	5.2	5.0	4.6	4.6	4.5
Switzerland	15.5	14.7	13.4	12.0	9.3	8.5	8.2	7.8
Turkey	6.3	6.2	6.0	5.7	5.4	5.2 ^c	n/a	4.4
United Kingdom	n/a	n/a	n/a	n/a	8.2	7.8	7.5	7.2
United States	7.6	7.1	7.3	6.5	5.8	5.6	5.6	5.5

Source: OECD 2009.

Notes: n/a: data not available; ^a 1991; ^b 1996; ^c 2002; ^d 2003.

5.1.2 Capital stock and investments

Current capital stock

There are 132 public hospitals under the ESY, out of which 84 are general hospitals, 7 are university hospitals, 23 are specialized hospitals and 18 are small hospitals/health centres. They have a total capacity of 36 621 beds – that is, 67% of total hospital beds. Most of ESY hospitals have a capacity of

100–200 beds and offer mainly secondary health care, while 32 of them have a capacity of more than 400 beds. The latter are equipped with advanced technology, are staffed with specialized personnel and offer tertiary health care.

In addition to the 132 ESY hospitals, there are 23 public hospitals operating outside the national health service. These include:

- (a) 14 military hospitals funded by the Ministry of Defence which provide health services to military personnel and their families exclusively;
- (b) 5 hospitals funded exclusively through the IKA budget which provide services to IKA beneficiaries;
- (c) 2 university hospitals under the supervision of the University of Athens which receive extra funds from the Ministry of Education and provide highly specialized care to all insured citizens; and
- (d) 2 hospitals under the supervision of the Ministry of Justice, serving the needs of prisoners.

These 23 public hospitals not managed by ESY offer an additional capacity of 4000 beds, or 7% of the country's total hospital beds. There are also six private non-profit-making hospitals with a total capacity of 1600 beds, connected with the ESY network, which provide highly specialized services to the insured population.

Today there are 218 private profit-making hospitals, possessing 26% of total bed capacity. The private hospital sector in Greece has two characteristics. One is its dualism in relation to the size of the units, the groups of patients served and the quality of services offered. According to these criteria, the general, neuropsychiatric and obstetric/gynaecological private hospitals operating in Greece can be classified into two categories. The first consists of small low-cost hospitals with fewer than 150 beds, mainly contracted with public insurance funds and offering services to the insured which are of moderate quality. The number of these hospitals has decreased over the years due to the low reimbursement rates for hospitalization by the public insurance funds. The second category includes a small number of prestigious high-cost hospitals with 150–400 beds, mainly in Athens and Thessalonika, offering high-quality services to private patients and patients with private insurance. The second characteristic of the sector is its high degree of concentration. A study estimated that in 2004 the four largest private general and neuropsychiatric hospitals accounted for 52% of the market share of this category of hospitals while the four largest obstetric/gynaecological private hospitals accounted for 81% of the market share. In addition, trends over the period 1997–2004 show that fewer private hospitals and clinics hold more and more of the market share (Boutsoli 2007).

Investment funding

Capital investments in the ESY are funded by the Ministry of Health and Social Solidarity. The Greek state budget for 2008 set aside an amount of €209 million for public investments in health. However, the role of EU financial inflows must be emphasized. Out of this €209 million, €135 million (65% of the total) concerns payments for actions and projects funded by EU resources.

Based on the legal framework introduced in 2005 for the implementation of public–private partnerships (PPPs) in Greece (Law 3389/2005), in 2007 the government approved various PPPs' health projects which involve the design, construction, financing, maintenance, facility management (cleaning, linen, waste management, parking and catering), insurance and security of four new hospitals, along with the provision and maintenance of all necessary clinical and support equipment. The indicative total budget was €866 million. The government expected that during the operational period (27 years) better facility management and infrastructure maintenance would be achieved, via setting high quality and availability standards, which are directly linked to private partner reimbursement levels. However, given the serious inefficiencies of the Greek public administration and the mixed evidence of the international experience, caution is warranted. The paradigms used in Australia, Spain and the United Kingdom show that, in many cases, new facilities constructed under PPPs have been more expensive than they would have been if procured using traditional methods. Second, while new facilities are more likely to be built on time and within budget, often this seems to be at the expense of compromises on quality. Third, such projects are in some cases prohibitively complex (McKee, Edwards & Atun 2006).

Capital investment controls

The Ministry of Health and Social Solidarity is responsible for controlling capital investments in health. Nevertheless, the process for setting priorities and allocating resources is not clear since a formula has not been developed. The attempt during 2001–2004 to formulate and implement the “Health and Welfare Map” as an instrument for matching the needs of the population with health care resources failed to be implemented (see Chapter 4). As an example, Table 5.5 is indicative of the unequal regional allocation of hospital beds.

Table 5.5

Regional allocation of hospital beds in 2003 (per 1 000 population)

Regional health administration	Beds/1 000 population
A Attica	6.45
B Attica	3.43
C Attica	2.71
A Central Macedonia	4.36
B Central Macedonia	2.77
Eastern Macedonia and Thrace	3.31
Western Macedonia	2.46
Epirus	4.84
Thessaly	2.52
Ionian Islands	2.34
Western Greece	2.92
Central Greece	1.71
Peloponnesus	2.02
North Aegean	2.79
A South Aegean	2.18
B South Aegean	2.39
Crete	3.89

Source: Ministry of Health and Social Solidarity 2007a.

5.1.3. Medical equipment, devices and aids

Since 1985 there has been a significant growth in the number of private diagnostic centres. The prohibition by Law 1397/1983 of the establishment of new private hospitals led many investors to set up diagnostic centres. This resulted in an uncontrolled supply of expensive biomedical technology. In the early 1990s only 50% of public sector medical investment in Greece was on medical equipment, in contrast to the private sector where 90% of the relative investment had been directed to high-technology equipment. It seems that there is no coherence in the strategy for expenditure on biomedical equipment, and technologies are introduced without standards or formal consideration of needs, without control of appropriateness and quantity, and without performance monitoring of the equipment installed. The problem is further aggravated by the lack of proper incentives determining doctors' behaviour. Doctors have a financial interest in promoting expensive medical technology and, as a consequence, tests and procedures are overprescribed (Liaropoulos & Kaitelidou 2000). In addition, "big ticket" technology equipment is almost entirely imported and the number of medical device suppliers has increased rapidly and often not on a well-structured basis. Underlining the lack of a

domestic medical device industry is the absence of Greek standards (with the exception of Radiation Protection Regulations) and the limited participation in international standardization activities.

Among 28 OECD countries for which data are available, Greece is ranked 10th in relation to computerized tomography (CT) scanners (25.8 per million population) and 8th in relation to magnetic resonance imaging (MRI) (13.2 per million population). The number of scanners and the number of MRI per million inhabitants in Greece are higher than that in France, Germany or the United Kingdom. Furthermore, Greece has the third highest rate of mammographs among 21 OECD countries for which there are available data (Table 5.6).

Table 5.6

Diagnostic imaging equipment per million population, 2005

	CT scanners	MRI units	Mammographs
Japan	92.6	40.1	–
Australia	45.3	4.2	25.1
Republic of Korea	32.2	12.1	28.7
United States	32.2	26.6	–
Belgium	31.6	6.6	21.3
Austria	29.4	16.3	–
Luxembourg	28.6	11.0	22.0
Italy	27.7	15.0	–
Portugal	26.2	3.9	34.6
Greece	25.8	13.2	36.5
Iceland	23.7	20.3	16.9
Switzerland	18.2	14.4	–
Germany	15.4	7.1	–
Finland	14.7	14.7	37.7
Denmark	13.8	10.2	10.0
Spain	13.5	8.1	10.2
Czech Republic	12.3	3.1	14.1
New Zealand	12.1	3.7	23.1
Slovakia	11.3	4.3	13.6
Canada	11.2	5.5	21.3
France	9.8	4.7	42.2
Poland	7.9	2.0	15.9
United Kingdom	7.5	5.4	8.4
Turkey	7.3	3.0	6.5
Hungary	7.1	2.6	13.1
Netherlands	5.8	5.6	–
Mexico	3.4	1.3	4.5
Ireland	–	–	12.6

Source: OECD 2007⁹.

5.1.4 Information technology

In Greece, 30.2% of households have access to the Internet at home and 56% of the total Internet connections are DSL¹² (Observatory for the Greek Information Society 2007a). Compared to other EU countries, Greece is ranked 26th with regard to broadband penetration and it is almost in last place regarding various classifications such as the Digital Access Index (DAI) (20th), e-readiness (21st) and the Networked Readiness Index (NRI) (24th) (Observatory for the Greek Information Society 2006). Only a small proportion of Greek citizens use the Internet to obtain information about health – 11.7%, which is the lowest percentage among the EU countries. About 5.4% use it less than once a month, 2.1% once a month, 2.3% once a week and 1.9% once a day (Eurobarometer 2003).

According to research carried out among pathologists in the country in 2007, as part of a study for determining and monitoring the indicators of the eEurope plan, the majority of them (68%) use computers. However, the proportion of those who keep records in electronic form is relatively low (25%). Slightly over half of doctors (57%) use the Internet. Most of them have a DSL connection (46%) while 36% have ISDN (integrated services digital network) and 29% have a standard dial-up. Overall, 4 out of 10 doctors have a personal e-mail address, while just 4% have their own web site. They use the Internet mainly for purposes of a professional nature, such as consulting databases for information about their work (84%), seeking advice on official guidelines issued by state agencies (78%), seeking information on interactions between drugs (77%) and looking for new drugs (75%) (Observatory for the Greek Information Society 2007b).

In order to promote information and communication technologies (ICTs) in Greece, an Operational Programme for the Information Society was formulated in the context of the 3rd Community Support Framework. One of the strategic objectives of the Programme for the period 2000–2006 (which was achieved in 2009) was enhancing citizens' quality of life through actions to improve the services offered through integrated information and communications systems in a range of critical sectors, including health. In this context, the special objectives are the development of telemedicine applications, the development of electronic systems for the elderly and for people with disabilities, the development of information systems at health centres, hospitals and social health insurance funds, and the development of systems for secure and confidential access to information networks for patients (Ministry of National Economy & Ministry of the Interior, Public Administration and Decentralization 2006).

¹² A DSL or digital subscriber line provides a dedicated, high-speed Internet connection through a modem.

A pioneering application of ICTs in Greece is the framework used by Sismanogleio General Hospital which, since 1989, and in collaboration with the University of Athens Medical School, has developed a telemedicine network to support 40 health centres located on islands and in remote areas all over the country. Subsequently, a number of similar activities were undertaken and many other telemedicine networks have been implemented or are under development, covering diagnosis, therapy, monitoring, provision and education. The TALOS Network for Tele-cardiology, which supports the health units in the Aegean Islands, HYGEIANet in the region of Crete, EPIRUS-NET for the transmission of medical data in the region of Epirus and HERMES Maternity Telemedicine Services, which connects the primary health care centres of the islands of Naxos and Mykonos with the Aretaieion University Hospital in Athens, are some of the telemedicine initiatives introduced over the last 15 years. However, all these initiatives lack continuity, being mere pilot projects, and they are not integrated into a coherent governmental policy (Bamidis et al. 2006).

5.2 Human resources

There has been a significant increase in the size of the health care labour force, from 2.6% of the total workforce at the beginning of the 1980s to 4% in 2004 (OECD 2007b). In 2004, health services employed 174 693 people, a figure that had increased by 101% compared to 1980 (86 911 employees) and by 28% compared to 1990 (136 700 employees) (OECD 2007b). Considering the MAGR of health employment, we find that the most rapid changes occurred in the 1980s (4.6%) compared to the 1990s (1.7%), indicating that an effort was made to cover the gaps in ESY staffing levels during the first period of its establishment. Afterwards, this effort eased off and, as a consequence, the overall MAGR for the period 1990–2004 fell to 1.8% (OECD 2007b). According to more recent data, in 2007 the total employment in health and social services was 240 854 employees, accounting for 5.3% of total civilian employment (OECD 2009).

As can be seen from Table 5.7, there has been a substantial increase (46.3%) in the number of practising physicians between 1980 and 1990, while the increase was more moderate in the following two decades. The development was even more impressive in the absolute number of nurses, with an increase of 85.4% between 1980 and 1990, which was then restricted to 20.5 % in the 16 years that followed.

Table 5.7

Health employment in Greece, 1980–2006

	Number of practising physicians	Number of practising dentists	Number of practising pharmacists	Number of practising nurses
1980	23 469	7 646	5 170	18 654
1990	34 336	10 038	7 463	34 582
1995	41 039	10 663	8 348	38 195
2000	47 251	12 362	8 977	29 704 ^b
2004	53 943	13 316	n/a	36 133
2006	59 599	14 180	9 837	35 794

Source: OECD 2009.

Notes: ^b break in series in 1998; n/a: data not available.

Table 5.8 depicts the ratio of health professionals per 1000 population. A steady increase in the number of practising physicians can be observed, which is mainly due to the increase in specialists. The ratio of nurses to inhabitants has also increased while the ratios of dentists and pharmacists have remained almost stable.

Table 5.8

Health care personnel per 1 000 population, 1990–2006

	1990	1995	2000	2004	2006
Practising physicians	3.40	3.86	4.33	4.88	5.35
Practising GPs	n/a	n/a	0.25	0.29	0.31
Practising specialists	2.19	2.58	3.09	3.29	3.39
Practising dentists	0.99	1.00	1.13	1.20	1.27
Practising pharmacists	0.74	0.79	0.82	0.86	0.88
Practising nurses	3.43	3.59	2.72 ^b	3.27	3.21

Source: OECD 2009.

Notes: ^b break in series in 1998; n/a: data not available.

Compared to other OECD countries, the number of physicians appears to be extremely high. Greece has the highest number of physicians per 1000 people (Table 5.9). In addition, while the number of specialists per 1000 inhabitants is the highest in the OECD (3.9), the number of GPs (0.31) is the lowest after Poland. The reasons for this striking difference between the numbers of GPs versus specialists could be related to four issues. The first is the absence of a sound tradition of this specialty in the health care system. In Greece, although general practice was recognized in 1964, the duration of practice to obtain the specialty was just one year and the number of physicians obtaining the specialty was very limited. It was only in 1985 that Presidential Edict 80/1985

determined a modern framework for obtaining the specialty in order to staff the newly established rural health centres. Second, the hospital-oriented health care system, the power of hospital doctors and an absence of political will to reform the system according to the Alma-Ata Declaration and Ottawa Charter have not enabled the development of an integrated primary health care network based on GPs as gatekeepers. Third, in Greece GPs enjoy lower social status than specialists. Last but not least, the prospect of earning higher income has influenced graduate doctors to choose other specialties over general practice.

Table 5.9

Health professionals per 1 000 population in OECD countries, 2007 (or latest available year)

	Practising physicians	Practising GPs	Practising specialists	Practising dentists	Practising pharmacists	Practising nurses
Australia	2.81 ^f	1.43 ^f	1.35 ^f	0.49 ^g	0.87	9.66 ^g
Austria	3.75	1.53	2.22	0.54	0.60 ^f	7.37
Belgium	4.03	2.01	2.02	0.81	1.16	14.84 ^g
Canada	2.18	1.04	1.13	0.58	0.83	9.02
Czech Republic	3.57	0.71	2.86	0.67	0.56	8.01
Denmark	3.17 ^f	0.77 ^f	1.16 ^f	0.78 ^f	0.21 ^f	14.30 ^f
Finland	2.95 ^f	0.73 ^f	1.56	0.79 ^f	1.05	10.25
France	3.37	1.64	1.73	0.67	1.18	7.73 ^b
Germany	3.50	1.48	2.03	0.77	0.60	9.94
Greece	5.35 ^f	0.31	3.39	1.27 ^f	0.88 ^f	3.21 ^f
Hungary	3.04 ^f	0.65 ^b	2.00 ^b	0.42	0.55	6.12
Iceland	3.72	0.64 ^e	2.28	0.94	1.14	14.00
Ireland	3.03 ^d	0.53	1.06	0.58	1.04	15.50
Italy	3.65	0.92 ^f	n/a	0.55	0.94	7.03
Japan	2.06 ^f	n/a	n/a	0.74 ^f	1.36 ^f	9.35
Luxembourg	2.87	0.82	2.04	0.80	0.72	11.02 ^f
Mexico	1.96	0.68	1.27	0.10	n/a	2.35
Netherlands	3.93 ^d	0.47	1.01 ^e	0.50	0.18	8.69
New Zealand	2.31	0.76	0.79	0.44	0.68	9.93
Norway	3.86	0.82	2.16	0.87	0.46	31.92
Poland	2.19	0.16	1.66	0.35	0.61	5.18
Portugal	3.51 ^d	1.82	1.69	0.63	0.98	5.11
Republic of Korea	1.74	0.63	1.12	0.39	0.65	4.16
Slovakia	3.06 ^h	0.43 ^h	2.32 ^h	0.54 ^h	0.49 ^h	6.32 ^h
Spain	3.65	0.84	2.00 ^f	0.55	1.08	7.54
Sweden	3.58 ^f	0.60 ^f	2.56 ^f	0.83 ^f	0.73 ^f	10.83 ^f
Switzerland	3.85	0.53	2.78	0.52	n/a	14.89
Turkey	1.51	0.47	1.04	0.25	0.35	2.01
United Kingdom	2.48	0.72	1.77	0.42	0.68 ^f	10.02
United States	2.43	0.96	1.46	0.60	0.80 ^f	10.57

Source: OECD 2009.

Notes: ^b break in the series; ^d difference in methodology; ^e estimate; ^f 2006; ^g 2005; ^h 2004; n/a: not available.

Similar comments can be made about dentists given that Greece has the highest number per 1000 population. On the other hand, although the ratio of nurses to inhabitants has increased at a moderate rate, Greece has the third lowest density (3.21 nurses per 1000 population) in OECD countries, coming above Turkey (2.0 nurses per 1000 population) and Mexico (2.35).

5.2.1 Trends in health care personnel

Considering the allocation of physicians in the different geographical regions of the country, there appear to be great inequalities in their distribution. As indicated in Table 5.10, the concentration of doctors in the area of greater Athens (Attica) is remarkable. The regions of Central Greece, Western Macedonia and the South Aegean Islands display the largest scarcities.

The distribution of dentists across geographical regions displays a similar trend to that of doctors, with approximately 50% of all dentists employed in the greater Athens area.

Table 5.10

Health workforce by health region per 1 000 inhabitants, 2006

Region	Doctors	Dentists	Nurses
Attica	7.3	1.8	4.2
Central Greece	2.7	0.7	2.3
Western Greece	4.2	0.9	3.8
Peloponnesus	3.6	0.9	2.9
Thessaly	4.4	1.1	3.6
Epirus	5.5	1.0	5.7
Eastern Macedonia and Thrace	4.2	0.9	3.9
Central Macedonia	5.6	1.3	4.2
Western Macedonia	3.2	0.8	2.9
Ionian Islands	4.2	0.7	3.3
North Aegean Islands	3.4	0.8	3.7
South Aegean Islands	3.2	0.9	3.6
Crete	5.4	1.0	4.7

Sources: NSSG 2007; author's calculations.

A particular characteristic of Greek medical personnel is the large number of doctors who have graduated from universities in central and eastern Europe due to their failure to pass the entry exams of the Medical Schools in Greece. It is estimated that since 1990 approximately 25 000 Greeks have studied medicine in Bulgaria, Hungary, Romania and other central and eastern European countries. It comes as no surprise that about one-third of the doctors registered with TSAY

(the social insurance fund for doctors, dentists, pharmacists and veterinarians) obtained their degrees from universities outside Greece. Even more striking is the fact that during the period 1995–2000 almost 65% of the medical degrees obtained abroad and recognized by the National Academic Recognition Centre were granted by Bulgarian and Romanian medical schools (Economou 2004). The accession of these two countries to the EU and the inability of the Greek government to control the flow of medical students raises serious questions about the Greek health labour market.

Despite the oversupply of doctors, Greek hospitals face significant human resources shortages. It is estimated that there is a need to employ more than 4000 doctors in public hospitals. The problem is even more pressing regarding nursing personnel. Approximately 15 000 nursing positions in public hospitals are not filled. Thus, patients are forced to hire private (and in most of the cases non-qualified) nurses for day or night shifts. Some insurance funds cover a part of the relevant cost while others do not. This situation results in an increase of private spending and illegal under-the-table payments (Geitona, Margaritidou & Kyriopoulos 1998). Another negative consequence of personnel shortages in public hospitals is the shutting down of a large number of intensive care units (ICUs). There are about 650 ICUs in Greece's public hospitals, although the needs of the population require at least 1500–2000. About 150–200 of the 650 ICUs have been closed due to the lack of doctors and nurses.

5.2.2. Planning of health care personnel

Greece faces significant numerical and distributional imbalances in health care personnel. “Numerical imbalances” refers to the contradictory situation where an oversupply of doctors and dentists coexists with the medical understaffing of ESY services. It also refers to the fact that although there is a significant number of nursing graduates, nursing posts in public hospitals are not adequately covered, raising serious reservations about the quality of services offered. The tendency towards explosive growth in medical personnel combined with providers' reimbursement methods (see Chapter 3), constitute the basic framework within which supplier-induced demand can be developed, regardless of the real health needs of the population, and informal transactions can be established, bypassing the official procedures of health care provision (Kyriopoulos, Geitona & Karalis 1998).

On the other hand there is a distributional mismatch in the geographical allocation and the specialty mix of health care resources. Doctors are concentrated in large urban areas and there are shortages in specialties

such as general medicine. This results in a failure to cover the needs of the population in remote areas as well as to develop an integrated primary health care network. Furthermore, there is an oversupply for some medical specialties and an undersupply for some others, with doctors facing an increasing rate of underemployment and unemployment.

Macroeconomic constraints, and the challenge to maintain control of public spending and reduce budget deficits in order to fulfil the Maastricht criteria and the provisions of the Stability and Growth Pact, contributed to a freeze on hiring employees in public health services. The present economic difficulties will probably aggravate the problem further. However, the imbalances in health care personnel are also a result of the absence of a long-term strategic plan for health personnel development connected with a plan for education and training. In turn, health personnel planning should be derived from long-term plans for the overall development of health care services, which is also absent in the case of Greece.

The reform initiative of 2000–2002 was an attempt to confront these problems, among others. The health reform plan proposed by the then Minister of Health, included measures for planning and regulation of health services personnel. More precisely, the plans contained the following proposals.

- (a) The separation of graduation and licensing for medical practice by physicians.
- (b) The abolition of waiting lists for acceptance to study a specialty and the introduction of examinations.
- (c) The Greek Medical Association would act as an adviser to the Ministry of Health and Social Solidarity on the numbers and the specialties of doctors that are necessary in the subsequent five years in each prefecture and region of the country in order to cover the needs of the population.
- (d) The establishment of special incentives for specialties that face shortages of doctors, including general practice, public health, occupational medicine and emergency medicine.
- (e) Abolishing the use of private nurses in public hospitals.
- (f) The hiring of medical, nursing and administrative personnel to fill all the vacancies in public hospitals.

These measures were clearly defined, moved in the right direction and constituted a significant change to the existing situation. However, they were never implemented.

5.2.3 Training of health care personnel

There are currently seven public university medical schools in Greece offering a basic six-year medical course that leads to the acquisition of a medical degree. Access to them is limited to people who attain extremely high entry grades in national competitive examinations. All schools follow a highly standardized curriculum, which is divided into two phases: the core programme, which covers the basic sciences and the clinical programme with practical sessions oriented to practice and specialized procedures.

After university, all medical graduates are required to attend a specialization course. The mandatory number of years for this qualification varies according to the type of specialization, ranging from four (general practice) to seven years (vascular surgery, neurosurgery). Training for specialization takes place in public or university-affiliated hospitals. It is extremely hard for medical graduates to acquire a training place to study for their preferred specialization and the waiting times for some of the most sought-after specializations (surgery in particular) can often be more than two years. To date, health care and education policy planners have found it difficult to determine a national strategy for medical career planning. Such a strategy is needed to provide medical graduates with a clearer understanding of what opportunities for specialization are available to them and which career paths would be more attractive.

Before acquiring full medical specialization status, doctors are also obliged to carry out a mandatory one-year “rural service”, delivering health care services in rural health centres. On completion of their service, doctors are free to practise medicine in their chosen location.

There are three types of nursing personnel working both in the public and the private health care sector, depending on their education.

- Assistant nurses, who are the lowest in the nursing hierarchy, do not hold a graduate nursing degree. Assistant nurses typically have had a one or two years of hospital-based training prior to their employment.
- Midwives are graduates of the higher technical education institutes (ATEIs). Currently, there are three departments of midwifery and the courses last for four years.
- Registered nurses are either graduates of ATEI or graduates of university departments (AEI). Nowadays, there are seven nursing departments in the various ATEI across Greece and the basic nursing course they offer lasts for four years (eight semesters) of which the eighth semester is dedicated to clinical practice. There are also two university departments, one at

the University of Athens and the other at the University of Peloponnese, whose graduates complete four years of education and then practise in hospitals throughout the country.

5.2.4 Registration/licensing

After completing specialization training and acquiring full medical specialization status, in order to have the right to practise medicine, doctors are obliged to apply to the health department of the prefecture where their residence is located for a licence to practise. In addition, doctors are required to enrol in the relevant Medical Association. In the case of nurses, those who have the necessary diploma granted by the universities and the ATEIs nursing departments also apply to the prefecture for a licence to practise.

Training of doctors and nurses in Greece conforms to EU standards for mutual recognition according to the Community directives regulating the free movement of health professionals. However, no reliable data are available concerning the international mobility of Greek doctors and nurses. On the other hand, health professionals from other European countries do not seem to come to Greece to practise. To give an example, in 2002 according to the Greek Medical Association's data, only 0.8% of practising doctors in Greece were citizens of other EU Member States. This can be attributed to cultural and language factors, as well as to the not-so-attractive conditions prevailing in the Greek health labour market (e.g. low salaries) (Economou 2004).

Although there are excessive numbers of specialized physicians and shortages of GPs, and medical unemployment and underemployment has risen to 25%, no specific measures such as quotas for medical specialties have been adopted. The only interventions to limit the number of doctors are the result of Ministry of Education policy rather than planning by the Ministry of Health and Social Solidarity. During the last decade the Ministry of Education has stabilized the number of new entrants in medical schools.

5.2.5 Doctors' career path

Law 2889/2001 imposed restrictions on tenure for ESY hospital doctors through the introduction of performance-based contracts. A permanent contract is granted to new recruits after 10 years of service on condition that they have successfully passed three consecutive evaluations.

There are three grades of specialists: junior registrar, senior registrar and consultants. Evaluations of junior and senior registrars are performed by councils composed of: (a) the director of the hospital, (b) the director of the relevant medical department or clinic, (c) the head of the medical service of the hospital, (d) a consultant of the same or similar specialty appointed by the KESY and (e) a senior registrar of the same or a similar specialty appointed by the Greek Medical Association. Therefore, both the hospital management and the hospital medical service, as well as the Ministry of Health and Social Solidarity and the self-regulating collective body of doctors participate in the process. However, more weight is placed on the hospital in which the candidate will work, given that three of the five members of the council are its representatives.

In the case of evaluations of consultants, the following stakeholders participate in the council: (a) the director of the DYPE, (b) three consultants of the same or a similar specialty and (c) a professor or associate professor of a medical university department with the same or a similar specialty. Here, the decision has a more national character given that, with the exception of the director of the regional health authority, the participants in the councils are chosen from a national catalogue for each specialty compiled by the Ministry of Health, following suggestions from KESY.

5.2.6 Pharmacists

The number of pharmacists in Greece has stabilized over the past ten years and, as can be seen in Table 5.9 (p. 92), remains at a comparable level in relation to the other European countries.

Over the past decade the number of pharmacies increased by 9.2%, from 8767 in 1998 to 9577 in 2006. Although there are differences between regions, their distribution and density across the country seems to be relatively balanced (Table 5.11). This can be attributed to government regulation and the population restrictions that have been applied in relation to licensing the establishment of pharmacies (see section 6.6).

Table 5.11

Regional distribution (number) and density (inhabitants per pharmacy) of pharmacies, 2006

Region	Number	Density
Attica	3 776	996
Central Greece	395	1 533
Western Greece	534	1 387
Peloponnesus	440	1 452
Thessaly	725	1 040
Epirus	259	1 366
Eastern Macedonia and Thrace	471	1 297
Central Macedonia	1 785	1 049
Western Macedonia	220	1 371
Ionian Islands	158	1 348
Aegean Islands	342	1 488
Crete	472	1 274

Sources: NSSG 2007; author's calculations.

6. Provision of services

6.1 Public health

The public health system in Greece carries out epidemiological monitoring and infectious disease control as well as environmental health control, and health promotion and disease prevention at community level. The system consists of a centralized service within the Ministry of Health and Social Solidarity, a grid of services at the regional and local level, and a number of public health organizations which are under the auspices of the ministry of health but operate as autonomous bodies and provide laboratory, research, educational and statistical support.

The organization of public health services nationally is the responsibility of the Directorate General for Public Health in the Ministry of Health and Social Solidarity. Directorates for Public Health, Environmental Health, Medicines and Pharmacies, Coordination of Regional and Prefectural services, Oral Health, and the Departments for Drugs and for the Health and Welfare Map address all issues relevant to public health organization and delivery at a strategic level. More precisely, the Directorate for Public Health is responsible for epidemiological monitoring, control of sexually transmitted diseases, sourcing and quality control of vaccines, public health risk management, child–mother health, health and safety at work, and school health, as well as the supervision and administration of various organizations involved in the provision of public health services, for example, the KEELPNO, the Hellenic Pasteur Institute and the National School for Public Health (see section 2.3). The Directorate for Environmental Health is engaged in the hygienic control of water and waste, air pollution, radioactivity and radiation, as well as the cleanliness and hygiene of health care and housing units. The Directorate for Medicines and Pharmacies oversees the EOF, IFET and EKEVYL (see section 2.3), and regulates and sets the standards for the operation of units activated in the production, import, trading and selling of pharmaceuticals. The Directorate for Oral Health plans and implements dental health and hygiene policy. The aim of the Directorate

for the Coordination of Regional and Prefectural services is to develop an integrated public health policy through a well-tuned network of laboratories and services. The Department for Drugs is responsible for dealing with illicit drug abuse. Lastly, the Department for the Health and Welfare Map is responsible for the development of an instrument for the rational distribution of health and welfare services across the country based on the needs of the population. However, although the necessity of the “Health and Welfare Map” has been recognized by all governments at least since 2000, this tool has not yet been completed (see Chapter 7).

In addition, the ESYDY is an independent seven-member body consisting of experts in epidemiology, health promotion and public health, and is responsible for the scientific supervision and coordination of public health organizations for the monitoring and promotion of the health of the population, control of communicable diseases, drugs, pharmaceuticals, medical devices and transplantations. ESYDY is also responsible for the elaboration of the National Action Plan for Public Health. A public consultation process took place during 2007, resulting in the development of the National Action Plan for Public Health for the period 2008–2013. The emphasis is on 11 major health hazards including cancer, HIV/AIDS, rare diseases, drugs, dietary disorders, smoking, environmental hazards, depression, sexually transmitted diseases, alcohol and dental health. Law 3370/2005 also provides for the establishment of a Regional Public Health Council within each DYPE that would be responsible for overseeing the regional organization of public health services and for coordinating the implementation of national public health policies and priorities at a regional level. It would also draft and develop proposals on regional public health initiatives as well as answer any health ministry inquiries on the provision of public health services in the region. However, so far, regional public health councils have not been implemented.

Operational responsibility falls on a grid of actors at the regional and local level. At the regional level, public health services are provided by the regional directorates for public health, which administratively belong to the relevant DYPE. Each regional directorate consists of a public health department, a health services department and a department for welfare. The public health department is mainly responsible for preventive strategies as well as promotion of public health. It engages in controlling risk factors and in identifying public health issues. Moreover, it accommodates an autonomous department for the promotion of health in schools. At the prefecture level, public health departments have been integrated into the respective regional directorates; they

operate as their branches and in close cooperation both with the directorate in their region and with the Ministry of Health and Social Solidarity directorates, and they are primarily responsible for public health and hygiene, vaccination and prevention. Various programmes exist at the local level, particularly on prevention and vaccination, delivered in rural health centres and the IKA health centres in urban areas. Municipal public health policies and services are still underdeveloped, although many cities have introduced preventive programmes for dental health.

In parallel, the health ministry oversees a number of organizations and institutions with public health functions (see section 2.3). The health ministry also operates a Central Laboratory for Public Health (KEDY) and a number of regional laboratories for public health (PEDY). Another public health structure is the laboratories for public health and hygiene that operate in medical schools and are used as reference and supporting centres. These laboratories, as well as a number of selected public hospitals, are designated “reference centres” for various diseases such as AIDS, hepatitis, salmonella, parasitic diseases and tropical diseases. Greece also participates in several European networks for public health, including the Epidemiological Surveillance Network, EWGI, W135, Euro-HIV, Enter-net, Euro-TB and Euro-STD.

In addition, the health ministry produces a collection of health promotion and health education leaflets, and relevant radio and television advertisements, especially concerning tobacco and alcohol consumption. Smoking in school premises, health care establishments and public places such as theatres, cinemas, museums and libraries is totally prohibited.

Traditionally, public health services in Greece have taken a back seat in favour of the development of a sound secondary health care services system. Public health doctors have had a low status within ESY and there have always been problems with their recruitment. Therefore, all levels of public health services organization and provision are severely understaffed. Nonetheless, over the past 20 years and following the establishment of the ESY, as well as mounting budgetary pressures on health expenditure, it became clear that the expansion and strengthening of the public health function would offer the most cost-effective way of securing further improvements in the health of the population. Health promotion and education are increasingly viewed as a lifelong benefit for the health of the population. Awareness of the health risks associated with unhealthy lifestyles is growing among the population in Greece. Until now, however, there has been no systematic research focusing on the impact that changes in living, working and socioeconomic conditions,

as well as in lifestyles, have on the health of the population. In this context a national strategy to reform and develop a comprehensive system of public health services, and new institutional structures, need to be developed, with emphasis on the analysis and examination of determinants of health, the identification of the needs of certain groups (for example the elderly and disabled), mapping the epidemiological profile of the population, the development of information and surveillance services, the identification and control of possible outbreaks of communicable diseases, the development of health promotion, public counselling, screening programmes, public health research and training, reporting on the health status of the population and the recruitment of qualified public health professionals.

6.2 Patient pathways

A gatekeeping mechanism and a referral system have not been developed in Greece. Patients can choose to visit the emergency department of any public or private contracted hospital, bypassing primary health contact points. As the user charges for emergency visits are low, a large proportion of patients go directly to emergency departments. This results in uncontrollable flows of patients across regions. Patients prefer to visit hospitals in Athens or the large university hospitals offering expensive and high-technology services due to the fact that district hospitals often are understaffed and, in some cases, have poor infrastructure. As a consequence, many hospitals in Athens have to develop extra beds to meet the excess demand. The second negative effect is the long waiting lists for specialist care. Very often patients search for specialist consultations according to their own personal estimations about their situation rather than seeking a medical opinion within primary care settings beforehand. Third, patients are often hospitalized for conditions which could be treated by primary care services. On the other hand, patients covered by private health insurance contracts based on preferred provider networks or integrated insurer and provider schemes are obliged to visit a first-contact service that will subsequently refer them to specialist or hospital care.

6.3 Primary/ambulatory care

Primary health care in Greece is delivered by a mix of public and private health service providers, mainly through four structures:

- (a) Primary health care provided through ESY. This includes rural health centres and their health surgeries, as well as public hospital outpatient departments.
- (b) Primary health care provided through social insurance funds. This includes health centres owned and operated by specific insurance funds.
- (c) Primary health care offered through local authorities. This includes clinics and welfare services offered by municipalities.
- (d) Primary health care provided by the private sector. This includes physicians in private practice who are under contract with one or more insurance funds, other autonomous physicians in private practice as well as physicians who work in diagnostics centres and laboratories and private hospital outpatient departments.

Because an integrated primary health care system has never been established, a referral system does not exist as yet and almost all primary-care providers are specialists. In 2006, out of a total of 59 571 doctors, only 1540 (2.6% of doctors) were GPs. General practice was only established as a field of medical specialization in Greece in 1987. It requires three years of additional medical training. However, the majority of medical graduates prefer other fields of clinical specialization.

6.3.1 Primary health care provided through the ESY

Primary health care in rural and semi-urban areas is mostly delivered free of charge by a network of 201 health centres staffed by GPs and specialists (paediatricians, gynaecologists, dentists, radiologists, physiotherapists, microbiologists, nurses, midwives and social workers). In addition, 1458 health surgeries, administratively linked to health centres, are staffed by publicly employed doctors and medical graduates. The latter are required to spend at least one year in a rural area upon graduation and prior to enrolling for medical specialization. The number of available doctors in each health centre depends on the characteristics of the catchment area (in terms of size, economic growth, epidemiological profile, access to hospital, etc). Most doctors working in health centres are specialists (70–80% of the total) due to the lack of GPs in the country. Each health centre covers the health needs of approximately 10 000–30 000 people and operates on a 24-hour basis.

Each health centre includes consultation rooms, rooms for one-day medical treatment, basic diagnostic equipment, radiological and microbiological laboratory, septical surgeries, dental clinics and an ambulance. This infrastructure

contributes to the provision of a wide range of services, which includes prevention (mainly immunization) and health promotion, emergency services, first aid and transportation, diagnosis, cure, dental treatment, pharmacy services and prescribing, rehabilitation and social care, as well as epidemiological research and training of medical personnel. Health centres are also involved in school hygiene services, occupational health services, family planning and prenatal care. In addition, health centres provide short-stay hospitalization and follow-up care for recovering patients.

One of the major problems of rural health centres' operation is inadequate staffing in terms of doctors, nurses and administrative personnel. Thus, only 47% of the medical positions and 54% of other personnel positions (for example, nursing, administrative) are actually filled. The most adequately staffed health centres are close to urban areas. They have a 74% coverage rate. Major problems appear in remote areas, where the coverage rate does not exceed 31% (Theodorou et al. 2005). Although there are major concerns about the current scope and possible expansion of primary health care provision (especially in rural and remote areas), no measures have been adopted to improve the situation. For example, recruitment of new personnel has not yet occurred and hospital doctors visiting remote areas on a weekly basis must try to meet the growing health care demands of the population in these areas. In addition, the lack of experience of medical personnel in health surgeries raises concerns about the quality of services delivered there.

Although one of the principal functions of the health centres should be that of gatekeeping, implementation of this function is severely inhibited by the lack of GPs. In short, health centres cannot act as gatekeepers between primary and secondary health care. Consequently, maintaining efficiency within services is problematic and continuity between ambulatory and secondary health is lost. Nonetheless, health centres have improved access to primary health care. Health centres are available in many areas of the country and their geographical spread is reasonable. Yet, insufficient resources and transportation difficulties limit the health centres' efficiency, especially when it comes to elderly patients who are the major consumers of such services and often have trouble accessing them.

The 114 outpatient departments of public hospitals provide primary health care within the ESY. They cover all specialties and are the major providers of primary care services in urban areas (given that urban health centres, that were meant to be part of an integrated primary health care system, have never been created). Their use has significantly increased over recent years. They provide services during morning hours. Each consultation requires a minimum co-payment by the patient (currently set at €3) and these visits are scheduled on

an appointment basis. Law 2889/2001 established afternoon services in hospital outpatient departments provided by doctors working in the hospital on a private, appointment-only basis for which they are paid on a fee-for-service basis. Fees paid by visiting patients approximately equal the average fee set by the market for the level and the specialization of the physician visited. According to an evaluation of empirical data, patient satisfaction with this arrangement seems to be very high, indicating that, under certain conditions, attracting private funds into a public health system constitutes an opportunity to reinforce public provision (Niakas, Theodorou & Liaropoulos 2005).

6.3.2 Primary health care provided through social insurance funds

Social insurance funds play a significant role in the provision and funding of primary health care services. IKA is the largest social insurance fund (covering approximately 50% of the total population, mainly blue- and white-collar workers and their dependants). It is responsible for primary health care provision to its 5.5 million beneficiaries through a wide and decentralized network of 293 health centres and special units, staffed with 8320 doctors in almost all specialties and 3934 nurses and other health care professionals (IKA 2008). Most of the doctors are part-time salaried employees, who also maintain private practices. In some rural areas, where IKA infrastructure is insufficient, rural doctors provide services to IKA beneficiaries under contract with the fund.

Theoretically, IKA provides its members with a wide range of preventive, diagnostic, curative and rehabilitation services, such as general medical care for the adult population and the elderly, health promotion, children's care, dental treatment, women's health, prenatal care and family planning, work medicine, first aid, vaccinations, prescribing, epidemiological research, social care and pharmacy services. In practice, the bulk of the work of IKA's primary health care services is limited to prescribing (45% of cases), referrals to secondary health care services and high-cost examinations (mainly for elderly people, who are the major consumers of these services).

OGA is the second largest social insurance fund (covering 20% of the total population). It is financed mainly through the state budget and, to a lesser extent, through health contributions, and provides health services to agricultural workers. OGA members are offered primary care services in rural health centres, health surgeries and outpatient hospital departments free of charge. Approximately 8000 private doctors are under contract with OGA. Their services are restricted to prescribing. They receive a set fee for every patient they see.

Other social funds (OPAD, OAEE, OIKOS NAUTOU, etc.) deliver primary health care services mainly through contracts with private physicians, diagnostic centres and laboratories. OPAD (which covers public sector employees) has contracts with approximately 20 000 doctors, diagnostic centres and laboratories. The respective numbers for OAEE (which covers professionals, small businesses and merchants) and OIKOS NAUTOU (which covers seamen) are 3500 and 3100. Private physicians and diagnostic centres contracting with insurance funds are generally paid a set fee per consultation. Several funds, such as those of bank employees, OAEE, civil servants, and some independent ones offer freedom of choice between a private and a public doctor. Patients pay the fee demanded by the doctor and are reimbursed by their funds. In addition to IKA, which has a high number of facilities, many other social funds such as OIKOS NAUTOU, TYPET (health insurance fund for the personnel of the National Bank of Greece) and TAP-OTE DEH (social insurance fund for the personnel of the OTE and the Public Electricity Company) allocate a limited number of health centres in urban areas.

6.3.3 Primary health care provided through local authorities

During the last decade some large municipalities have established small health centres offering a limited range of services to be provided by GPs, cardiologists, paediatricians, gynaecologists, dentists and oculists. Access to these services is free of charge for all citizens. Data from the Municipality of Athens show that such services are primarily used by the uninsured and immigrants. Aggregate data concerning staff, equipment, the number of visits and the cost of operating such facilities are not available. However, it can be argued that the significance of these services is very small and does not affect the total supply of the country's primary health care services.

6.3.4 Primary health care provided through the private sector

In addition to public primary care services, there are more than 25 000 private practices and laboratories and approximately 400 private diagnostics centres. Most of them are equipped with high-quality and expensive medical technology. The majority of private diagnostic centres are located in Athens and Thessalonica (urban areas). Private practices, laboratories and diagnostic centres are contracted by one or more social insurance funds and provide health care services to their beneficiaries. They also provide services directly to patients on a fee-for-service base, covered by out-of-pocket payments or private insurance. Rehabilitation services and services for the elderly are predominantly offered

by the private sector. Over 5 million cases are examined in private diagnostics centres annually and their profits amount to approximately €154 million (ICAP 2006).

6.3.5 Challenges and reforms

The relative importance of the ESY, social health insurance funds and the private sector in providing primary health care to the Greek population is difficult to estimate due to the lack of sufficient official aggregate data on the utilization of services. In principle, given the absence of a referral system, users can choose between the various public facilities. For example, a person insured by IKA has the choice to go to either ESY or IKA facilities but it is not clear where the patient eventually goes and for what reason. It is also possible to visit facilities within both networks. The results of a survey in 2006 using a sample of 1000 individuals revealed that 50.1% of the participants visited social insurance fund services, 26.3% visited private services and 22.3% visited ESY settings (Institute for Social and Preventive Medicine 2006). According to the data presented in the Ministry of Health and Social Solidarity's Operational Programme for Health and Welfare, primary health care consultations are allocated as follows: 12.5% to health centres and rural surgeries, 38.8% to IKA polyclinics, 2.5% to other social funds' settings, 34.4% to private practices and 11.2% to private diagnostic centres, laboratories and public hospital outpatient departments (Ministry of Health and Social Solidarity 2006). Thus, social health insurance, and particularly IKA, seems to cover the bulk of the demand for primary health care. The lack of data is also apparent when trying to compare Greece with other OECD and EU countries in relation to physician visits. The figure of 2.5 physician contacts per person given for Greece refers to the year 1998 and is over 10 years old (OECD 2009). Closer to the reality seems to be the latest available data from IKA (IKA 2008), according to which each beneficiary has an average of 3.94 visits to physicians and 5.29 laboratory tests per annum.

The primary health care sector in Greece faces problems on two levels of coordination. On a general level, due to the absence of a referral system, there is very little coordination between primary health care providers and hospital doctors, with no clearly defined referral procedures, a fact that does not permit continuity of care and increases the ineffectiveness of the system. The other level is related to the existence of different organizational and administrative structures with insufficient staff and equipment. Health centres have increased access to primary care in rural areas; however, due to inadequate staffing, outdated biomedical technology and facilities, and lack of financial and

managerial autonomy, their actual performance has fallen short of expectations. According to estimates, one-third of all personnel positions in health centres are not filled. In order to meet the health demands of the rural population, the recruitment of 1000 new GPs is needed. In its latest report, the SEYYP (2007) ascertained serious shortcomings in the operation of health centres. The first is the numerical and distributional imbalances in human resources, resulting in a mismatch between the geographical and specialty mix. The second problem is the lack of sufficient buildings, basic technological equipment and computerization of the secretariat. As a consequence, there is an inequitable distribution of health resources, which contributes to difficulties in access, especially for the elderly, and the bulk of the work of health centres is limited to prescribing and referrals to secondary health care services. Unfortunately, consecutive governments have viewed the human resources needed to provide primary health care within the context of ESY as a recurring burden rather than an issue that requires investment in human capital and public health.

The large number of insurance funds and providers with varying organizational and administrative structures offer services that are not coordinated. Not only do they overlap, they also vary with regard to quality and extent of services, resulting in social inequity. Serious deficiencies in material and technical infrastructure and inadequate staffing results in limitations in the range of services offered. The problem is further aggravated by the absence of urban health centres. As a consequence, insurance funds contract out to private providers for services not offered by the public system. In particular, the lack of control measures over referrals to private diagnostic centres for high-cost examinations burdens the insurance funds with unjustifiable expenses. The absence of a referral system based on GPs, and of personal electronic medical records undermines continuity in care, overloads the system with unnecessary visits and leads to financial overburdening of the insurance funds. The poor quality of services and the absence of quality assurance programmes create a feeling of mistrust in the users of public services and lead them to seek second opinions from private physicians. Furthermore, the large number of doctors under contract to insurance funds and the fee-for-service remuneration induce demand and increase costs shouldered by the different insurance funds. Last but not least, there is a lack of integrated information systems. Information on patients' visits and the operational and economic state of public and private providers of primary care services is substandard. Thus, there is no integrated management information system at any management level and no proper evaluation of the system based on a set of well-defined performance indicators. This all cultivates a culture that lacks accountability (de Kervasdoue 2009).

Laws 2519/1997 and 3235/2004 attempted to confront these problems, but without success. These two laws, which have not been implemented, provided for the establishment of a referral system based on GPs, primary health care networks, payment of doctors on a capitation basis, the introduction of personal electronic health cards, the development of accreditation mechanisms and the transformation of the social security polyclinics into urban health centres.¹³ The core of any reform initiative must include an update of infrastructure, the improvement of the services' accessibility, the establishment of public rural health centres' autonomy, the improvement of coordination among primary care providers, the development of an integrated information system and the recruitment of additional nursing, administrative and medical personnel. In 2007, another draft bill for restructuring primary health care was drawn up, but it was never passed and it did not become law (see Chapter 7).

6.4 Inpatient care

Secondary and tertiary health care is provided by ESY hospitals, other non-ESY public hospitals and private clinics. According to the type of services they offer, Greek hospitals are categorized as either general or specialized. General hospitals include departments of medicine, surgery, paediatrics, obstetrics and gynaecology, supported by imaging and pathology services. Their size varies from big general hospitals in large urban areas and district hospitals located in the main administrative district, to small hospitals in semi-urban areas and towns. Specialized hospitals are referral centres for a single specialty such as obstetrics, paediatric care, cardiology, psychiatry and so on. The most complex and technologically sophisticated services are offered by hospitals linked to the country's medical schools. There are also some rural health centres called "health centre-hospitals", which provide basic diagnostic services, minor surgery and care for patients who need nursing care; they operate in distant and isolated areas such as islands, remote areas or mountainous locations.

All clinical services are provided directly by ESY hospitals. These provide a wide range of services in addition to inpatient services: outpatient services, day care services, diagnostic services, dental services and emergency services. In rare cases (usually for CT scans and MRI), when the waiting lists are too long, or in cases of machine breakdowns in an ESY hospital, services are outsourced to private diagnostic centres. Nonclinical services such as security,

¹³ Law 3235/2004 was not implemented due to a change of government, while Law 2519/1997 did not proceed due to an absence of will to promote major structural reforms and bureaucratic inaction.

cleaning and maintenance are often outsourced to the private sector, based on the rationale that such measures save costs and improve quality (Moschuris & Kondylis 2006). At the same time, there is a reduction in the number of permanent employees in the ESY who deal with these services, through a policy of not replacing retiring staff.

All public hospitals have outpatient departments, which operate on a rotation basis. In urban areas, hospitals are on-call every three or four days, but in the districts (with only one hospital per city) they are on-call every day. A tertiary health care hospital, in combination with one or two smaller ones, is jointly on-call 24 hours a day in Athens and Thessalonica. During on-call days the outpatient departments are used as accident and emergency departments, and provide emergency services that complement the functions of the National Centre for Emergency Care (EKAV), the authority for emergency cases transfer and coordination (see section 6.5). In the districts, patients are (if necessary) transferred to the main hospital of the region, or to big referral centres in Athens, Thessalonica, Crete (especially for the Aegean islands), or Ioannina and Patra (for the Ionian Islands).

In the decade (1983–1992) following the establishment of the ESY, the number of private hospitals gradually declined, as private hospitals could not cope with the competition from public hospitals. However, over the past ten years, lengthy waiting lists in the ESY or low-quality services have led patients to seek care in the private sector. Thus there has been a rapid growth of private general, neuropsychiatric and obstetric/gynaecological private hospitals. Most of these are located in Athens and Thessalonica, indicating that there is a high concentration in urban areas, similar to the distribution of the public ESY hospitals.

6.5 Emergency care

Emergency pre-hospital care is provided through the ESY and the facilities of the EKAV. EKAV was established in 1985 (Law 1579/1985) and is responsible for the provision of first aid and emergency medical care to all citizens, as well as transportation to health care units, free of charge at the time of use. It also provides continual training to doctors, nurses and other health care personnel in all aspects of emergency medicine and health care. EKAV's central service centre is located in Athens, with branches in most regions of the country, serving about 500 000 patients annually.

EKAV's Command and Coordination Centre is the first contact point for emergency care. It receives all calls for emergency medical assistance through two nationwide three-digit call numbers (166 or 112) and classifies them according to severity based on medical dispatch protocols. It also selects and mobilizes the most appropriate response, guides the ambulance crews in providing specialized life support and coordinates with hospital emergency departments. In addition, it activates ambulances and other units in case of major disasters. EKAV offers three types of services:

- (a) basic life support ambulances, with two rescuers and basic life support and automated external defibrillator equipment;
- (b) advanced life support intensive care mobile units with two rescuers, one emergency physician, basic life support equipment and electrocardiograph, defibrillator, respirator, medication and intravenous fluids; and
- (c) advanced life support motorcycles and small vehicles, with one rescuer, one emergency physician, basic life support equipment and electrocardiograph, defibrillator, medication and intravenous fluids.

The operations of EKAV are coordinated through communication technologies including wireless communication networks, a wired communication network with the hospital emergency departments and a unified informatics registration and processing system (Zygoura, Syndos & Keckeris 2007).

The Athens Olympic Games in 2004 was a major factor contributing to the modernization of EKAV. Before the Games, EKAV had 435 basic life support ambulances, 77 advanced life support intensive care mobile units, 16 advanced life support emergency motorcycles and 3 helicopters. In preparation for the Games 270 more ambulances, 20 mobile intensive care units, 21 motorcycles, two mobile coordination centres and two vehicles for managing mass casualties were procured (Zygoura, Syndos & Keckeris 2007). EKAV staff includes 121 physicians, 2948 paramedics and 271 administrative and technical personnel.

6.6 Pharmaceutical care

In Greece there is universal coverage for pharmaceutical care. All prescription-only medicines are reimbursed by social insurance. The only products not reimbursed are over-the-counter (OTC) and "lifestyle" drugs. Insured citizens participate in covering the cost of pharmaceuticals with a co-payment rate set

at 25%. Patients with chronic conditions are exempted from co-payments, while pensioners on lower incomes who are beneficiaries of EKAS pay a co-payment of 10%. The very poor are entitled to pharmaceuticals provided by public hospitals free of charge.

The main responsibility for planning and implementation of pharmaceutical policy lies with the Ministry of Health and Social Solidarity. However, several other ministries share responsibilities for pharmaceutical issues. The Ministry of Development is responsible for pricing. The Ministry of Labour and Social Security supervises social insurance organizations, the Ministry of Mercantile Marines supervises the NAT and the Ministry of Economy and Finance is responsible for reimbursing medicinal products for civil servants.

The competent authority for the evaluation and market authorization of pharmaceuticals is the EOF, which was established in 1983¹⁴ and is a public entity of the Ministry of Health and Social Solidarity. Within the scope of its mission, EOF also monitors post-marketing product quality, safety and efficacy, as well as product manufacturing procedures and clinical studies. It also develops and promotes medical and pharmaceutical research and provides all stakeholders with useful information. EOF is assisted in its work by its subsidiaries: (a) the IFET, which performs statistical analyses and distributes the products that are under the EOF's authority in order to cover permanent or extraordinary product shortages in the market, and (b) the EKEVYL, which is responsible for certification, quality control and research on medical devices.

6.6.1 The pricing system

The prices of all medicinal products, either branded or generics, and OTC drugs are government controlled. The competent authority for pricing is the Ministry of Development (General Secretariat of Commerce). A Pricing Committee, composed of delegates from all stakeholder groups, sets pharmaceutical prices which are published in a Price Bulletin. In order to grant a price to a specific medicinal product, the latter has to be marketed at least in the country of origin or in any other EU Member State.

Since 1997, the pharmaceuticals price setting system has been based on the lowest ex-factory European price. A Ministry of Health and Social Solidarity decree issued in 2005 provides for the price of medicinal products to be determined based on the average price, calculated by considering the average of the three lowest prices among EU25 countries plus Switzerland (taking

¹⁴ Law 1316/1983.

as benchmarks two EU15 countries plus Switzerland and one of the 10 new EU countries after EU enlargement). For products manufactured or packaged domestically, production and distribution cost factors are taken into account. The estimation of cost includes production and packaging expenditure, as well as expenditure on management, allocation and distribution. Moreover, the cost of research and developing the active substance, as well as any new investments, are considered. The net profit rate is 8.5% and is calculated on top of the total cost excluding depreciation, interest and third-parties' profit for outsourcing production.

Three prices apply to medicinal products: the wholesale price, the retail price and the hospital price. The wholesale price (pharmacy purchase price) is the price at which the drug is purchased by the pharmacist. This price includes the wholesaler's profit margin (8%) based on the ex-factory price of the producer or importer. The ex-factory price is the price at which the pharmaceutical company sells to wholesalers prior to any discounts. The retail price derives from the pharmacy purchase price plus the pharmacist's profit margin and VAT. The pharmacist's gross profit margin is 35% on top of the wholesale price and VAT is 9%. The retail price is uniform across the country except for some districts where a reduced VAT rate (6%) applies. Lastly, the hospital price is the price at which public hospitals or health institutions supervised by the Ministry of Health and Social Solidarity and by the Ministry of Employment and Social Security purchase pharmaceutical products and derives from the pharmacy purchase price reduced by 13%. Pharmaceutical companies can offer an additional discount of up to 5% on the wholesale price to wholesalers. This discount is unlimited should the buyer be the state, public hospitals and foundations supervised by the ministry of health. The price of medicinal products for which there is proof that the patent will expire is reduced by 20%. The price of generic medicinal products is defined based on 80% of the initial price of the original product. In general, out of a pharmaceutical price, 62.7% goes to the manufacturer, 5.3% to the wholesaler, 23.8% to the pharmacist and 8.2% is VAT (SFEE 2008).

6.6.2 The reimbursement of medical products

Until 2006, a medicine was reimbursed if it was included in a positive list which had been in effect since 1998. The list was uniform for all social insurance organizations and it was revised at regular intervals by the EOF. The inclusion criteria in the list were the proven therapeutic efficacy, patient tolerance and safety of the product, the average cost of daily treatment (CDT) and its reimbursement by other EU Member States. The principal criterion

for the inclusion of an original medicinal product in the positive list was the therapeutic result, which was evaluated based on the severity of the disease, the effectiveness/safety ratio, the possibility of using alternative treatments (medicinal or not) and the target population. However, doctors were able, at will, to prescribe “irreplaceable” medicinal products excluded from the list, and often did so. Studies evaluating the impact of the positive list found that it did not manage to control the expansion of pharmaceutical expenditure, resulting only in a one-off reduction in the growth rate of the market. This was due to the shift of doctors’ prescription behaviour towards more expensive drugs (Karokis et al. 2000; Yfantopoulos 2008). In 2006, new legislation abolished the positive list. All prescription-only medicines are now reimbursed by the social security funds based on a recovery price (see Chapter 7).

6.6.3 The distribution chain

Pharmaceutical companies distribute pharmaceutical products in the Greek market either through wholesalers to pharmacies or directly to public hospitals. It is also possible for companies to sell pharmaceuticals directly to pharmacies. In areas where there is no pharmacy, doctors are also dispensing drugs, while in special cases, such as patients with mobility problems, the company can deliver the medicinal product directly to the patient subject to prior permission from the insurance fund.

Hospitals purchase medicines according to the needs of each of their departments. The procurement procedure is carried out by the in-hospital pharmacy. A special hospital scientific committee approves any new drug to be ordered. In addition, public hospitals dispense medicinal products to the poor at no charge. Moreover, hospitals exclusively dispense a range of products to outpatients, who are then fully reimbursed by their social insurance fund.

Medicinal products are dispensed to citizens exclusively by private pharmacies. The terms and conditions for the establishment and operation of a pharmacy are included in the current pharmaceutical legislation, compliance with which is supervised by the Ministry of Health and Social Solidarity. In addition, the Ministry supervises the operation of the existing 115 wholesalers and 28 pharmacists’ cooperatives. In 2007, wholesalers represented 55% of the wholesale market, while the remaining 45% of the market was covered by pharmacists’ cooperatives. Furthermore, there were approximately 10 000 pharmacies in 2006 (Kousoulakou & Vitsou 2008).

The licence to practise pharmacy is awarded by the KESY. The licence to establish a pharmacy is granted by the competent prefecture of the country. Population restrictions apply to those holding a licence. In particular, in municipalities and municipal or communal regions with a population of up to 1500 inhabitants, only one pharmacy licence is granted. In municipalities and municipal or communal regions with a population 1501 and over, a proportion of 1500 inhabitants per pharmacy is required. The pharmacies must also be a certain distance away from each other: (a) at least 100 m apart in municipalities and municipal or communal districts with a population up to 5000 inhabitants; (b) at least 180 m apart in municipalities and municipal or communal districts with a population between 5001 and 100 000 inhabitants; (c) at least 200 m apart in municipalities and municipal or communal districts with a population between 100 001 and 200 000 inhabitants; (d) at least 250 m apart in municipalities and municipal or communal districts with a population over 200 001 inhabitants.

6.6.4 Pharmaceutical sales

During the period 1990–2009, sales of medicinal products to public hospitals and wholesalers grew, both in terms of value and volume, at an average annual rate of 16.5% and 5% respectively. In 1990, 214.7 million packages of medicinal products were distributed to wholesalers and 28.8 million to public hospitals at a total value of €0.5 billion. In 2009, 465.8 million packages of medicinal products were distributed to wholesalers and 96.8 million packages to public hospitals at a total value of €8.4 billion. Public hospitals' pharmaceutical expenditure rose from €0.23 billion in 1995 to €1.5 billion in 2009 (Table 6.1). In 2004, medicinal products for the cardiovascular system (ATC C) accounted for 20% of total sales in terms of value and 18% in terms of volume, thus ranking first since 1990. Medicinal products for the central nervous system (ATC N) accounted for 14% of total sales in terms of value and 18% in terms of volume. An important market share is also held by general anti-infectives for systemic use (ATC J) (11% in value and 10% in volume), and medicinal products for the alimentary tract and metabolism (ATC A) (12% of sales in value and 14% of sales in volume) (IFET 2007).

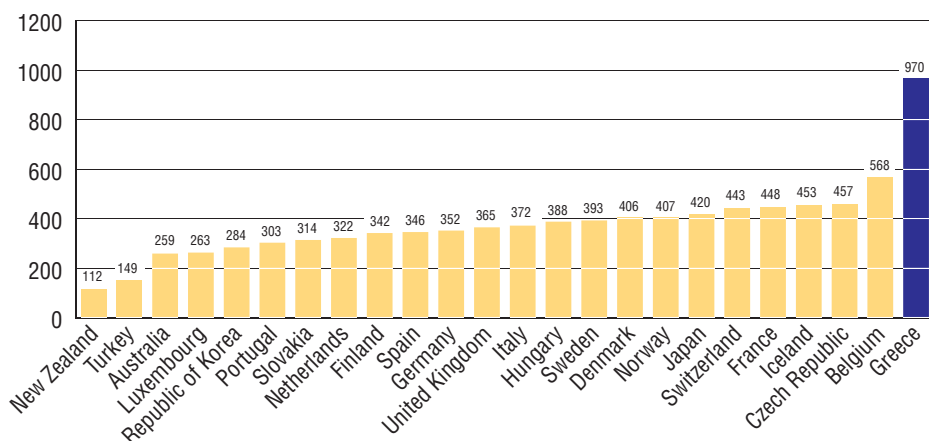
Table 6.1

Sales of medicinal products in Greece, 1990–2009

Year	Quantity (thousands packages)				Values (million euro)			
	Public hospitals	Wholesalers, pharmacies	Total quantity	% growth	Public hospitals	Wholesalers, pharmacies (retail price)	Total value	% growth
1990	28 768	214 669	243 437	–	70	428	498	–
1991	30 659	211 258	241 918	-0.62	94	539	634	27.3
1992	33 013	221 916	254 929	5.4	123	701	824	30.1
1993	34 515	235 348	269 863	5.9	156	902	1 059	28.5
1994	35 450	240 584	276 034	2.3	187	1 064	1 250	18.1
1995	39 453	254 316	293 769	6.4	231	1 226	1 457	16.5
1996	41 967	277 534	319 502	8.8	277	1 441	1 717	17.9
1997	45 178	285 753	330 931	3.6	318	1 561	1 879	9.4
1998	44 739	297 420	342 159	3.4	322	1 441	1 763	-6.2
1999	46 546	324 102	370 648	8.3	367	1 755	2 123	20.4
2000	47 732	343 242	390 974	5.5	423	2 148	2 572	21.2
2001	50 896	363 415	414 311	6.0	523	2 612	3 135	21.9
2002	51 160	381 794	432 954	4.5	626	3 136	3 762	20.0
2003	55 166	387 455	442 621	2.2	768	3 562	4 330	15.1
2004	57 245	402 435	459 679	3.8	835	4 164	4 999	15.5
2005	n/a	n/a	n/a	n/a	921	4 627	5 548	11.0
2006	n/a	n/a	n/a	n/a	1 014	5 155	6 169	11.2
2007	n/a	n/a	n/a	n/a	1 514	6 364	7 878	27.7
2008	97 531	468 796	566 327	n/a	1 467	6 568	8 035	2.0
2009	96 771	465 752	562 523	-0.67	1 466	6 995	8 461	5.3

Sources: IFET 2007; EOF 2010 (parallel exports are included).
 Note: n/a: not available.

Besides the fact that sales of medicinal products have increased substantially over the past 25 years with regard to both volume and overall value, three more trends must be highlighted. First, it is obvious from Fig. 6.1 that per capita demand for pharmaceuticals in Greece is the highest among OECD countries. Second, sales of medicinal products since 1998 have been dominated by imported products. In particular, in 2004, the latest year for which data is available, the market share of imported products was 73.3% while in 1987 it was only 18.3% (Table 6.2). For locally produced and packaged medicinal products the market share in 2004 was 17.6% and 8.8% respectively, compared to locally produced products accounting for 75.1% of total market sales in 1987.

Fig. 6.1Total pharmaceutical sales per capita in OECD countries, 2007^a (US\$ PPP)

Source: OECD 2009.

Note: ^a Data for Hungary, Republic of Korea and the Netherlands refers to 2006 and for Turkey to 2005.**Table 6.2**

Origin of medicinal products sales in Greece, 1987–2004

Year	Imported	% of total	Locally produced	% of total	Locally packaged	% of total
1987	47	18.3%	192	75.1%	14	5.5%
1988	69	21.3%	233	72.1%	19	6.0%
1989	89	23.6%	263	69.7%	23	6.1%
1990	154	30.9%	276	55.4%	68	13.8%
1991	219	34.6%	322	50.8%	93	14.6%
1992	306	37.1%	395	47.9%	124	15.0%
1993	407	38.5%	488	46.1%	164	15.5%
1994	502	40.1%	528	42.2%	220	17.6%
1995	610	41.9%	596	40.9%	250	17.2%
1996	784	45.6%	651	37.9%	282	16.4%
1997	905	48.2%	664	35.3%	309	16.5%
1998	903	51.2%	598	33.9%	262	14.9%
1999	1 134	53.4%	656	30.9%	324	15.3%
2000	1 460	56.8%	705	27.4%	375	14.6%
2001	1 937	61.8%	759	24.2%	379	12.1%
2002	2 532	67.3%	802	21.3%	411	10.9%
2003	3 028	69.9%	843	19.5%	435	10.1%
2004	3 667	73.3%	879	17.6%	441	8.8%

Source: IFET 2007.

Third, parallel exports, given the relatively low prices of pharmaceutical products in Greece compared with other EU Member States, have increased notably during the last few years. More precisely, their value grew from €107 million in 1998 (7.7% of total pharmacy market) to €557 million in 2002 (21.6% of the total pharmacy market) (Kanavos et al. 2004). In October 2001, following concerns about market shortages due to high levels of parallel exports, EOF issued two circulars to ensure that the pharmaceutical supply needs of the domestic market are met. All members of the supply chain must ensure that the supply of each product is kept at least at current prescribing levels, plus an additional 25% (which is the safety net in case of emergency needs or fluctuations in demand). Moreover, since 1 January 2002, all wholesalers have been required to submit quarterly reports that record total parallel exports for each product pack to other EU countries, including quantities per exporting country and per lot number.

6.6.5 Expenditure on pharmaceuticals

Over the period 1995–2007, pharmaceutical expenditure increased considerably from €1.2 to €4.5 billion. Public expenditure as a share of total pharmaceutical expenditure rose from 70.9% to 94.6% (see Table 6.3). An increase was also recorded in pharmaceutical expenditure as a proportion of total health expenditure from 15.7% in 1995 to 21.6% in 2007. Furthermore, the share of GDP devoted to the pharmaceutical sector increased from 1.5% to 2.0%. In 1998 we observe a reduction in pharmaceutical expenditure as well as in total sales value (see also Table 6.1) which can be attributed to the introduction of the positive list and the calculation of the prices of all pharmaceutical products according to the lowest price in Europe.

Table 6.3

Pharmaceutical expenditure in Greece, 1995–2007 (€ million)

	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005 ^b (p)	2006 (p)	2007 (p)
Total	1 210	1 355	1 489	1 374	1 566	1 812	2 068	2 380	2 749	2 916	3 114	3 761	4 542
Public	858	993	1 111	961	1 098	1 278	1 502	1 793	2 132	2 272	2 918	3 494	4 298
Private	352	362	378	412	468	534	566	587	617	644	196	267	244
% GDP	1.5	1.5	1.5	1.3	1.4	1.5	1.6	1.7	1.8	1.7	1.6	1.8	2.0
% THE	15.7	16.1	16.2	13.9	14.4	15.4	15.4	16.6	17.4	17.8	17.5	19.3	21.6

Sources: NSSG 2006; NSSG 2009.

Notes: ^b break in series; (p): provisional data; THE: Total health expenditure.

In 2007, pharmaceutical expenditure represented 42.3% of social insurance funds' total health expenditure, a share that is higher than hospital expenditure (27.2%). This can be attributed to the fact that the latter figure does not include social insurance funds' debts towards hospitals which are subsidized by the state. The breakdown of pharmaceutical expenditure per insurance fund shows that IKA holds the highest share of pharmaceutical expenditure (55.6%), followed by OGA (30.8%) (SFEE 2008; Kousoulakou & Vitsou 2008). With reference to medication expenditure incurred by households in Greece, data from the Household Budget Survey (2004–2005) lead to the conclusion that 16.4% of average monthly household expenditure is spent on pharmaceuticals.

The pharmaceutical policy of all Greek governments over the past 20 years has focused, from a macroeconomic perspective, on price regulation in order to control expenditure. However, pharmaceutical expenditure increased due to the fact that this kind of intervention failed to control consumption volume, which is determined by factors including the number of active physicians, doctors' prescribing behaviour and patients' demand. For example, as already mentioned, the introduction of the positive list and the pricing of pharmaceuticals based on the lowest ex-factory European price resulted initially in a reduction in expenditure; shortly afterwards this trend was reversed due to the replacement of old products by new ones that were more expensive, often due to repackaging rather than any real improvement in therapeutic effects, and doctors switching to more expensive medicines of the same therapeutic category (Contiades, Golna & Souliots 2007; Karokis et al, 2000; Yfantopoulos 2008). The incentive for some doctors to behave this way rests on unethical transactions with pharmaceutical companies and the lack of an audit system monitoring doctors' prescription behaviour. For example, many doctors receive sponsorship from pharmaceutical companies to cover the costs of attending conferences and seminars. Furthermore, there are no measures such as budget ceilings on doctors, utilization reviews or prescribing guidelines. Thus, it seems that the emphasis on price controls was not effective in containing pharmaceutical expenditure because it was not accompanied by measures to control volume consumption.

6.7 Rehabilitation/intermediate care

Rehabilitation of people with disabilities is defined by WHO as a process aimed at enabling them to reach and maintain their optimal physical, sensory, intellectual, psychological and social functional levels. In Greece, rehabilitation services are provided within the health care sector and the social sector, by both public and private institutions.

Rehabilitation is partly provided by public hospitals' departments of physical medicine and rehabilitation. There are seven public hospitals with such departments, all of which are located in the wider area of Athens. The capacity of these departments does not exceed 200 beds. In addition, there is a university clinic with 40 beds that has been operating since 2006 in the Medical School of the University of Ioannina. There were 164 specialists practising physical and rehabilitation medicine (PRM) in 2006, and 33 trainees. With 1.5 PRM specialists per 100 000 population, Greece has one of the lowest ratios among European countries (Gutenbrunner, Ward & Chamberlain 2006). The inability of existing PRM facilities to cover the needs of the population due to their uneven territorial distribution motivated the Ministry of Health and Social Solidarity to approve a public–private partnership project to build a new facility, the Rehabilitation and Recovery Centre of Northern Greece. The Centre would belong to the ESY and would have 250 beds. It would be constructed in the Prefecture of Pieria and would be expected to cover the existing gap in northern Greece for the provision of rehabilitation and recovery services. However, as yet, the Centre has not been built and in the current economic climate, the prospects for the implementation of the project are doubtful.

Within the social sector, rehabilitation is offered by two structures. The first structure comprises a network of 24 Centres for Social Support and Training for People with Disabilities (KEKYKAMEAs), established according to the provisions of Law 2646/1998 for the development of the national system of social care, and of 17 Centres for Recovery, and Physical and Social Rehabilitation (KAFKAs). These are independent public entities supervised by the Ministry of Health and Social Solidarity. The aim of these centres is to offer early diagnostic services, psychosocial support, education and training to provide disabled people with the tools they need to attain independence and self-determination. The intention of creating KEKYKAMEA and KAFKA was to deinstitutionalize and regionalize the provision of care, and to supply open services allocated across the whole country. However, their operation has fallen short of expectations, mainly due to inadequate staffing (scientific, administrative and auxiliary personnel) and equipment (SEYYP 2005).

The second social sector structure providing rehabilitation includes a variety of different forms of “rehabilitation centres”, with a more residential-oriented character. These are:

- (a) Centres of Recovery, Rehabilitation and Social Support for People with Disabilities (KAAKYAMEAs)
- (b) Centres of Rehabilitation of People with Disabilities (KAAMEAs)
- (c) National Institution for the Rehabilitation of Disabled People (EIAA)
- (d) Centres for the Rehabilitation of Children with Disabilities (KAAPs)
- (e) Centres for People with Autism.

All of these centres cater for people with disabilities and, more specifically, support people with congenital disorders, or temporary or permanent muscle, respiratory, circulatory and nervous system problems, as well as those with mental disability. They offer services mainly to resident disabled patients. Their aim is to:

- (a) provide recovery services, as well as physical and social rehabilitation;
- (b) provide psychological and social support to both patients and their relatives or carers;
- (c) provide training and education to achieve self-sufficiency and to facilitate adaptation to the labour market;
- (d) operate laboratories, as well as recovery and rehabilitation mobile units, for home care of the disabled; and
- (e) develop research programmes relevant to this area of care.

There is also the Hellenic Society for the Protection and Rehabilitation of Disabled Children (ELEPAP), a non-profit-making NGO which provides support, diagnosis, health care, therapeutic and educational services to physically disabled children from birth to 16 years of age. These services include:

- (a) medical clinics in orthopaedics, paediatrics, neurology, physical medicine and other specialties;
- (b) support for children and their families from psychologists and social workers;
- (c) therapeutic departments offering physical, occupational and speech therapy;

- (d) Centre for Evaluation and Diagnosis offering gait analysis, functional and cognitive evaluation, augmentative and alternative methods of communication, biofeedback and supportive services; and
- (e) an educational department, where children with motor disabilities can attend special kindergartens and six-year elementary schools run by the Greek Ministry of Education, in conjunction with ELEPAP'S rehabilitation and health care services.

ELEPAP offers its services in six rehabilitation centres nationwide: Athens, Thessalonika, Chania, Ioannina, Volos and Agrinio. Their activities are funded by government subsidy, revenues from legacies, fees from social security agencies, benefit events and from grants and donations.

Finally, it is worth mentioning that during the last ten years, private sector profit-making activities in the provision of physical rehabilitation have increased due to the gaps in ESY services and the inefficient operation of public facilities owing to staff and equipment shortages. These profit-making centres enter into contracts with insurance funds to provide services.

6.8 Long-term care

Long-term care in Greece is provided to three categories of people characterized by a high level of dependency: the elderly, people with physical and intellectual disabilities and people with mental health problems. This section will focus on the first two groups as mental health services are analysed in section 6.11.

Over the last two decades, added importance has been given to open care services and various policies have been developed for the comprehensive planning of the care needs of the ageing population. These policies aim to guarantee decent living conditions for the elderly and for them to remain in their family environment as well as being supported by means of specific programmes, so that they continue to be equal and active members of society. The interventions implemented have resulted in the development of three types of services.

- (a) The *open care centres for the elderly* (KAPIs) are public law entities, financed by the Ministry of Health and Social Solidarity and run by municipalities. They aim to provide psychosocial support, health education and preventive activities to older people, thus improving their well-being, while they continue to live in their own personal and social

settings. The main services offered include preventive medical services, such as blood pressure measurement and blood sugar tests, physiotherapy programmes (for example, preventive physiotherapy, rehabilitation), ergotherapy programmes (for example, orthopaedics), education on health matters, including lectures on proper diet, clothing, prevention of accidents and personal hygiene, as well as recreational activities. There are more than 320 KAPIs around the country and the number is increasing. The centres are staffed by a team of social workers, health visitors, occupational and physical therapists and family assistants.

- (b) The *home help for the elderly* programme was initiated by the Ministry of Health and Social Solidarity and is run by municipalities in close collaboration with KAPI. The aim is to provide home care to the elderly, mainly the frail and those who live alone, in order to improve their quality of life, to ensure that they maintain their autonomy and independence, and to keep them active in their family and social environment, thus reducing the need for institutional hospital care. A social worker, a nurse and a home helper pay regular visits (on a scheduled basis) to elderly people in their home, providing help and care, counselling and psychological services, and assistance with everyday tasks for those unable to perform them on their own, according to individual needs. Collaborating NGOs also offer substantial support in this area. Today, there are 1200 home help programmes across the country.
- (c) The *daily care centres for the elderly* (KIFIs) are an alternative form of public support and protection offered to the elderly with the aim of keeping them within their family environment. This service is provided to people aged over 65 suffering from chronic or acute physical or mental disorders, who depend on others for care, have economic problems and face social and family problems. Services include daily care and coverage of basic needs, psychological and emotional support, and assuring the delivery of pharmaceutical care.

In assessing the open community services for the elderly, it could be argued that their financing is not adequate and access to them is unequal across the country given that most of them are situated in the biggest urban centres (Petmesidou 2006). Furthermore, although the services offered are indeed invaluable for the health of the elderly, as well as their social and mental well-being, discrepancies between what should be offered and what actually is offered exist as to the range of services provided. Preventive services,

physiotherapy, ergotherapy, “Help at Home” and health education programmes are all performed below expected levels and are only offered at a limited number of KAPI. Accordingly, it would not come as a surprise if members were found to continue visiting their doctor, in addition to receiving medical care at a KAPI (Daniilidou et al. 2003).

These assessments are confirmed by the results of a Eurobarometer survey, according to which in Greece (50%), Italy (40%), Romania (38%) and Bulgaria (36%) negative opinions about care services offered in the homes of dependent people outnumber positive ones. It is also important to note that in Greece (48%), as well as in Slovakia (50%) and Croatia (50%), around half of citizens are critical of the availability of care services for dependent people in their home. With regard to the affordability of the services provided, 71% of the Greek respondents found them to be not affordable, the highest percentage among the EU countries surveyed (Eurobarometer 2007).

Besides the open structures, a number of public homes for the aged operate under the supervision of the Ministry of Health and Social Solidarity, providing shelter, food, psychological support, counselling and medical care. There are also private profit-making homes for the aged; however, the quality of the services they offer is very low. The buildings are old, they lack the infrastructure to host people with disabilities and they are understaffed (SEYYP 2005). In the Eurobarometer survey discussed above, it was found that citizens in Greece tend to be the most negative in the EU concerning the quality of nursing homes, with 65% of respondents indicating that they find the quality of these institutions to be bad. In terms of the affordability of nursing homes, the majority holds a critical view, with 79% of Greeks (the highest percentage in the EU) believing that they are not affordable (Eurobarometer 2007). In addition, infirmaries for chronic diseases aim to offer inpatient care to people over the age of 65 suffering from chronic, incurable conditions and who are not self-dependent. In total there are 23 public homes for the aged and infirmaries for chronic diseases nationwide.

Last but not least, five centres for child care (KEPEPs) provide treatment to children suffering from incurable diseases, physical disabilities or mental disability.

The role of the Church must also be mentioned. A number of Church organizations offer a variety of services including last-resort residential care for frail elderly people, asylums for people with incurable diseases, infirmaries for chronic diseases, institutions for the disabled and physiotherapy centres (Church of Greece 2001a).

6.9 Services for informal carers

Support for family carers in Greece is not a priority of the social policy agenda and measures to recognize the value of informal care, protect informal carers and provide them with access to support services are almost non-existent. In addition, there is no extensive research or information on the dimensions of family care or the needs of carers. National data concerning the profile of family carers, including the number, age, gender, income, hours and caring tasks, educational and employment status, are not available (Triantafillou & Mestheneos 2001). However, according to the results of a recent survey using a sample of 1014 family carers, 80.9% are women and, as a result of family care duties, their income is low and they expect to enter old age with an inadequate pension. Similarly, their quality of life is low, they feel heavily burdened and experience negative impacts from their caring work (Triantafillou et al. 2006).

According to the Greek Constitution, the family is responsible for the care of its dependent members of all ages. Where the family cannot provide such care, the state intervenes by taking special measures for groups such as the elderly or the disabled. In this sense, responsibility is delegated to both the family and to the state. However, given the legislators' wide discretion with regard to the implementation of social rights and the Mediterranean welfare regime that is dominant in Greece, the enforcement of this provision is rare and, in essence, the family undertakes the whole responsibility.

A good picture of the prevailing situation is given in a national report written within the framework of the EU-funded project *Services for supporting family carers of elderly people in Europe: Characteristics, coverage and usage* (Mestheneos, Triantafillou & Kontouka 2004). As indicated in the report, no national policies exist that directly concern family carers and they have no legal entitlement to benefits. Pension and insurance rights, as well as allowances, are not available. It is common practice for family carers to use the incapacity pensions and invalidity allowances provided by social insurance funds and welfare services to the individuals being cared for to aid them in their caring activities. Sometimes, family carers use private residential homes for short-term respite care, even though these may be of questionable quality. In addition, few service providers are aware of the needs of family carers and what forms of support can best help them. Psychosocial services are available in the community mental health centres, but they are not specifically geared to providing counselling to family carers and there is no data on their use. The lack of an official policy has resulted over the past few years in the setting

up of self-help groups – such as the Alzheimer’s Association – and volunteer organizations for the support of family carers. Nevertheless, their total number is small.

6.10 Palliative care

There are no officially established palliative care units in Greece. Palliative services to patients are provided mainly on a voluntary basis by anaesthesiologists, oncologists, psychologists, nurses and other relevant health care personnel in the pain centres of anaesthesia and oncology departments. Today, there are 48 such departments operating in public hospitals. They offer pain relief and counselling to patients suffering from long-term diseases including cancer, AIDS and multiple sclerosis. Beds specifically allocated to palliative care inpatients do not officially exist. However, according to the results of a study conducted by the European Association for Palliative Care, it is estimated that in oncology departments and pain centres in anaesthesia departments, there are two or three beds available for palliative care inpatients. In the same study it is recorded that there are also nine home palliative care teams organized by public hospitals and municipalities and three day centres (Katsouda, Mystakidou & Vadalouca 2006). Furthermore, hospices are not well developed since it was only in 2003 (Law 3106/2003 on the reorganization of the national social care system) that the legislative framework for their establishment was formulated. There are four palliative care nursing departments in Athens in national hospitals, two in private hospitals and three in other urban areas.

Gaps in the official government policy are partially filled by voluntary sector and scientific non-profit-making organizations. One such scientific organization is the Hellenic Society of Palliative and Symptomatic Care of Cancer and Non-Cancer Patients, founded in 1997 by scientists working with patients suffering from chronic pain or who are terminally ill, with the aim of promoting care for these people, sensitizing the state to matters concerning palliative care and assisting international research conducted around chronic pain and end-stage disease.¹⁵ In addition, self-help groups have been established along with charitable foundations that give donations to create and operate facilities for relatives. For example, the Jenny Karezi Foundation for Cancer Pain Relief and Palliative Care financially supports the operation of the Pain Relief and Palliative Care Unit opened at the Athens University Medical

¹⁵ See: <http://www.grpalliative.org>

School. The Unit is established in a separate building, with a day-care unit, an outpatient unit and a research room. It also has a seminar/education area for the organization of palliative care seminars for nurses and social workers within the municipality of Athens.¹⁶

6.11 Mental health care

Until the late 1970s, mental health care in Greece had mainly been characterized by the centralization of services based in large public psychiatric hospitals, an absence of psychiatric units in general hospitals (11 in total, 5 of which were in Athens) and a lack of community-based alternatives to long-term public hospital care. Psychiatric facilities and mental health beds, as well as mental health personnel, had been unevenly distributed. Neither government funding nor social insurance coverage had been adequate. As to prevention and social policies, they had been non-existent. The standards of public psychiatric services had been very low, in spite of quite substantial public expenditure (10% of the general health care budget). The public sector had consisted of 10 overcrowded hospitals. An average of 50% of their beds had been occupied by patients who had been hospitalized for more than a year, but only 24% of private mental health hospital beds in the greater Athens area had been occupied by chronic patients. Many had remained in the public hospitals due to the lack of alternative community facilities (Stefanis, Madianos & Gittelman 1986; Yfantopoulos 1994).

In 1984, with the establishment of the ESY, the enabling legislation provided for the creation of psychiatric departments in general hospitals and of community mental health centres, which would provide short-term treatment (Sarantidis et al. 1992). A five-year plan for the reorganization of mental health services was approved. Its objectives included the decentralization of services, the development of community mental health centres and psychiatric units in general hospitals as well as of vocational and social rehabilitation facilities and after-care services. With the encouragement of the European Parliament, in the same year the Council of the European Communities adopted Regulation (EEC) No. 815/84 on exceptional financial support in favour of Greece. The regulation provided for the following programmes for the period 1984–1988: (a) the construction, adaptation and equipping of vocational training centres,

¹⁶ <http://www.monadaanakoufisis.gr>

including centres for the rehabilitation of the mentally and physically disabled (Programme A) and (b) the construction, adaptation and equipping of centres for the vocational rehabilitation of the mentally ill and disabled (Programme B).

During the period 1984–1988, 182 projects were put forward, but while 84% of the funds were made available for take-up, Greek authorities absorbed only 28.64% of them. Factors accounting for this were a lack of prior assessment of feasibility, delays caused by bureaucratic restrictions on hospital budgeting legislation, the inflexibility of the hospital financial system and the lack of qualified hospital managers. Other more general factors included the lack of regionalization of services, of decentralization in decision-making, of mental health planning and of evaluation of the projects (Madianos et al. 1994). This inefficiency was proven in the case of the “psychiatric” settings in Leros, where patients were living in appalling conditions. At the end of 1988 a new EEC Regulation 4130/88 approved the extension of the psychiatric reform programme for another three years, and some amendments and commitments were inserted to ensure the achievement of the Community goals. In 1989, the European Commission came to the conclusion that while Programme A was steadily progressing, implementation of Programme B was seriously behind schedule and that conditions in the Leros Mental Hospital remained intolerable. Consequently, the European Commission decided to suspend the approval of new actions under Programme B until a number of conditions had been met. The Greek authorities came up with a two-year special programme (1991–1992), which was approved by the European Commission and, by autumn 1991, experts confirmed that there had been progress (CEC 1995).

A year later, 48% of planned community mental health centres, 46% of the psychiatric beds in general hospitals and 49.8% of the planned beds in hostels were completed. A total of 161 projects were implemented, comprising 203 actions, 65% of which were concerned with the infrastructure of mental health services, 30% were pilot projects and 5% were general projects (Madianos, Tsiantis & Zacharakis 1999). By 1996, there were 30 units in general hospitals (321 beds) and 24 mental health community centres. In addition, there were another 10 psychiatric units without inpatient facilities in general hospitals, offering outpatient and consultation services. During the period 1981–2000 there has been a decline of 59% in beds in public psychiatric hospitals (from 8486 to 3500 beds), which was combined with the development of community psychosocial rehabilitation facilities. Censuses have shown that the number of patients who were residents in public psychiatric hospitals dropped from 8149 in 1982 to 5118 in 1995 and 2922 in 2000 (Ministry of Health and Welfare 2001b). Although their geographical distribution is still quite uneven with a

high density in urban areas and a relative scarcity in the countryside, every area with a public psychiatric hospital offers a variety of other psychiatric facilities. In the areas without public psychiatric hospitals, about half supply psychiatric units in general hospitals and mental health centres together with other local services. Child guidance centres grew from 8 in 1981 to 36 in 2000, an increase of approximately 122%, and the number of mental health community centres grew from 6 to 28, an increase of approximately 134% (Ministry of Health and Welfare 2001b).

Meanwhile, the most recent Mental Health Reform Act (Law 2716/1999) introduced a 10-year action plan, “Psychargos”, to reform, restructure and create new mental health services throughout the country. The reform gives priority to social inclusion, social cohesion and destigmatization. The main objective of the reform is the development of services within the community that will enable patients to be supported within their own family environment, maintaining their social activities through every possible means. Particular policies focus on prevention and rehabilitation. Priority is given to restructuring and strengthening primary health care, ambulatory care, deinstitutionalization, psychosocial rehabilitation and continuity of care, as well as optimizing voluntary assistance from the community for the promotion of mental health.

The plan also allows for the gradual creation of infrastructure in the community (psychiatric departments in hospitals, mental health centres, child guidance centres, day-care centres, day-care hospitals, vocational training workshops, mobile units, social cooperatives and crisis management units). Approximately 366 units were expected to be fully functional by 2005/2006, which would employ 2628 mental health professionals together with 494 psychiatrists and child psychiatrists. Thus, four psychiatric hospitals are expected to close down. Psychiatric beds in the remaining four psychiatric hospitals will be reduced by 40–50%, making the target of total closure of mental health hospitals by 2015 attainable. Table 6.4 gives a brief indication of the number of services currently available through the reform.

Evidence is lacking regarding the outcomes of different interventions. The measurement of outcomes has never been attempted in a comprehensive way. Most researchers (even commissioned research/evaluation projects) have focused on measuring outputs and process. Therefore, we do not know to what extent the new structures were really cost-effective or whether other options could have been more effective in terms of outcomes. The situation in the public psychiatric sector was (and still is) so appalling that any measure towards deinstitutionalization was perceived as an improvement. In some cases, a gap

Table 6.4
Mental health units in Greece, 2007

Type of unit	Number
Hostel	88
Boarding home	111
Apartment	211
Day centre	22
Mobile mental health unit	16
Home care unit	2
Autism unit	9
Alzheimer unit	6
Mental health centre	35
Child guidance centre	10
Psychiatric unit in general hospital (with beds)	22
Outpatient clinic in general hospital	35
Psychiatric unit for children in general hospital (with beds)	4
Outpatient clinic for children in general hospital	3
Short-stay hostel	2
Psychiatric hospital	5
Child psychiatric hospital	1
TOTAL	582

Source: Ministry of Health and Social Solidarity 2007b.

between the hierarchy of goals and real needs was observed and in other cases a lack of coordination between the mental health sector and the health sector was the reason for organizational pitfalls. An exception to this was the integration of psychiatric units into general hospitals, many of which, nevertheless, face serious problems in staffing. Another problem is the lack of appropriately trained personnel. It is indicative that in 2002, out of 2300 new posts submitted by the Ministry of Health and Social Solidarity for the staffing of new mental health units, the Ministry of Finance approved only 700. Furthermore, there are issues related to the public–private mix which have never been addressed. In fact there are no institutional or operational relationships between the two systems. To the best of our knowledge, the private sector has never been evaluated by either the ministry of health or independent experts or academics, despite the fact that currently about 50% of long-term psychiatric patients are hospitalized in private hospitals (Constantopoulos & Yannulatos 2004).

6.12 Dental care

Dental health care coverage of the Greek population is provided by three independent structures: (a) social insurance funds, financed by employees' and employers' contributions, (b) the ESY, through rural health services and public hospitals funded by the state budget and (c) the private sector, where providers are remunerated mainly by direct out-of-pocket payments. In consequence, it has the same structural weakness as the rest of the primary health care system; that is, a lack of coordination and limited protection due to the system's segmented character.

A major weakness of the social insurance system is its significant disparities and inequalities, given that there are wide differences in coverage between social insurance funds; hence large parts of the population are not covered for dental services. For example, OAAE does not cover children under 16 years of age. OGA beneficiaries have the right to consult a dentist only in rural health centres and hospitals, where a total force of 700 full-time salaried dentists provides oral health services. Health centres offer dental treatment to the rural population under the age of 18, while state hospitals provide coverage for special cases (patients with AIDS, diabetes, etc.). The rural population over 18 years of age and insured through OGA need to use the private sector's dental services as this group is not covered for dental care. IKA employs approximately 1000 part-time dentists in its polyclinics, remunerated on a salary basis. It has also established contracts with private dentists for a specific range of services only, such as fillings, dentures and mobile prostheses and orthodontics for children under 15. Crowns and bridges are not covered. A number of funds that do not have their own polyclinics contract with private dentists, who are remunerated on a fee-for-service basis according to a predetermined tariff, while some other funds offer their beneficiaries a free choice of dentist. In the latter case, the patient pays the dentist and is then reimbursed by the fund. The cost of preventive dental services is not covered by funds. With the exception of the beneficiaries of banking funds, free preventive dental care is only made available occasionally by certain dentists in rural health centres (Dolgeras, Economou & Kyriopoulos 2004).

The private sector, and out-of-pocket payments made by patients, act as a substitute for the gaps in insurance coverage of dental treatment and dissatisfaction over the quality of existing services offered by the public sector. The extended use of private sector services for dental treatment is highlighted by the fact that 31.1% of household health expenditure in 2005 was devoted to dental services. Consequently, it is not surprising that the results of a study on

the social and economic factors influencing dental care utilization in Greece show a strong association between income and utilization: people with higher incomes have an increased probability of using dental care services. Similarly, higher income is also associated with more dental visits (Zavras, Economou & Kyriopoulos 2004).

The problems of dental care in Greece are mirrored in the results of a Eurobarometer survey in 2007. People in Greece are among the least inclined to positively rate the quality of the dental care they receive. The survey found that 61% of Greek citizens think that dental services in Greece are of good quality, the lowest percentage after Poland (50%) and Portugal (51%). Furthermore, on the question of affordability, we find the most negative public opinion in Portugal (82%), followed by Greece (75%) (Eurobarometer 2007).

6.13 Complementary and alternative medicine

Greece has no regulations regarding the provision of complementary and alternative medicine, including acupuncture, osteopathy, naturopathy, phytotherapy or chiropraxy. However, the situation is different for homeopathy. In 1988, the then Minister of Health, Welfare and Social Insurance established the Commission for Homeopathy, working within KESY, with the aim of submitting proposals concerning the conditions and prerequisites for practising homeopathic medicine. A year later, the subsequent Minister decided that homeopathic remedies would be covered by social insurance funds, on the grounds that they belong to the category of Galenic preparations and are prepared in pharmacy laboratories according to a doctor's prescription. In 1994, a ministerial decision provided for Greece to conform to an EU Directive¹⁷ which further strengthened the regulation of homeopathic medicinal products. However, a circular issued by the Minister of Health and Welfare in 1998 reversed the previous decision on reimbursement of homeopathic Galenic preparations by social insurance funds and patients now pay out of pocket for these remedies.

In general, alternative therapy methods are not officially recognized. As a consequence, specialists in these areas are not obliged to be registered and there are no available data concerning either their number or the utilization of the services they provide. The absence of a legal regulatory framework for complementary therapies and their exclusion from the mainstream health system

¹⁷ Council Directive 92/73 of 22 September 1992 on the approximation of provisions laid down by law, regulation or administrative action relating to medicinal products.

can be attributed mainly to the strong opposition expressed by the “orthodox” allopathic medical profession. Nevertheless, indirect official recognition can be said to have been given to homeopathy through the Ministry of Education’s approval in 2006 of a Master of Science programme in Homeopathy organized by the University of the Aegean in cooperation with the International Academy of Classical Homeopathy. The programme lasts for two years and is intended for doctors, dentists, veterinarians and pharmacists. It includes 400 hours of teaching that cover the theory of classical homeopathic medicine and pharmacology, and live cases of chronic diseases, with long-term follow-up.

6.14 Health care for specific populations

The Ministry of Health and Social Solidarity operates seven host centres for asylum seekers, one of which is for unaccompanied children. In close cooperation with KEELPNO, the Hellenic Red Cross and other specialized NGOs, the Ministry organizes psychosocial support and medical care at the refugee reception sites. It also undertakes specific initiatives, including health education and prevention activities. It should be noted that asylum seekers, refugees and people hosted for humanitarian reasons have free access to medical care within the ESY (see also section 3.2).

Another priority vulnerable group for the Ministry of Health and Social Solidarity is Greek Roma citizens. A serious problem that creates difficulties in accessing the national health system is the low level of social insurance coverage, as well as the fact that a significant part of the Roma population does not have identity papers or citizenship documents. Over the last decade some progress has been made in terms of preventive services being offered to the Roma population, while it remains difficult to access the mobile parts of the population. Regional health authorities, in cooperation with KEELPNO and the Ministry of Health and Social Solidarity, have developed and implemented a comprehensive immunization programme, thus “bringing” health care services to these populations through the provision of immunization services at their place of residence. During these immunization visits, data are collected on which children have been vaccinated against which diseases, and health care needs are identified. Such information is recorded on special “health cards” that form a rough “medical record” for these children. Routine health monitoring programmes are established mainly for the monitoring of children’s health and the organization of health education and health prevention programmes. In addition, mobile health units visit Roma camps and provide health promotion

and preventive services, including pap-tests amongst others. In some camps, social and health centres staffed by a social worker, a psychologist and a nurse have also been established.

7. Principal health care reforms

7.1 Analysis of recent reforms

With the beginning of the new century, the health care system was put at the centre of political debate and a number of reform initiatives were inaugurated. The changes introduced can be categorized into two rounds of reform processes, also corresponding to two different ideological and political perceptions: the first includes legislation passed during 2001–2004 by the socialist government and the second covers measures passed during the period 2005–2007 by the conservative government. In some cases, as will be highlighted in this section, the changes were contradictory. Table 7.1 outlines the most important changes introduced between 2001 and 2007 and, importantly, indicates the extent to which they have been implemented.

In 2000 the Minister for Health put forward a plan of 200 measures and initiated a public discussion on reforms, most of which reflected long-awaited proposals to organize and develop the ESY. These interventions included: the decentralization and development of regional health structures, the establishment of new managerial structures within public hospitals, the modification of terms of employment for ESY doctors, the merging and coordination of health care funding agencies, the development of public health services, the reorganization of primary health care and the development of structures for the accreditation of services and quality assurance. The coordination of health care funding agencies and the creation of a single financial institution, which in effect would act as a unified health insurance fund, were at the centre of the purchaser–provider split in health care. It was envisaged that the new ODIPY would manage the revenues of the biggest social insurance organizations, which cover more than 95% of the Greek population (IKA, OGA, OAEE, OPAD), and optionally of other smaller funds. The unification of financing would be combined with the formulation of a basic package of benefits common to all insurance funds and resource allocation according to demographic criteria. A quality assurance policy in health care

Table 7.1

Health care reform laws, 2001–2007

Law	Content	Implementation
2889/2001	Decentralization of the health care system and the introduction of autonomous hospital management	Implemented (but hospital reforms later reversed)
2920/2001	Creation of SEYYP	Implemented
2955/2001	Creation of a new legislative framework for hospital procurements	Partially implemented
3029/2002	Reform of the social security system. Among other things, the law establishes the framework for the creation and operation of professional insurance funds for supplementary insurance coverage.	Implemented
3106/2003	Reorganization of welfare services with decentralization and better management	Implemented
3172/2003	Reorganization and modernization of services relating to public health	Not implemented
3235/2004	Changes to primary health care services, including the introduction of family doctors, the transformation of polyclinics owned by social insurance funds into urban health centres, and the establishment of new services for home care, post-hospital care and rehabilitation	Not implemented
3329/2005	Changes to the regional administration of the ESY and to hospital management, reversing the 2001 reform that had professionalized senior management structures	Implemented
3370/2005	Reorganization of public health services: establishment at the Ministry of Health and Social Solidarity of: (a) the General Secretariat for Public Health, (b) the General Directorate for Public Health, (c) the Health Coordination Command Centre, (d) the National Public Health Council and (e) the Body of Public Health Officials. Reorganization of the Hellenic Centre for Infectious Diseases Control	Implemented
3457/2006	Reform of pharmaceutical care, abolishing the positive list and introducing recovery prices	Implemented
3580/2007	Centralization of procurement procedures for public hospitals	In the process of implementation

services was planned to be developed by establishing a National Institute of Health, with specialized centres of quality assurance, biomedical technology, research, education, public health and medical information technology.

The first strand of reforms adopted, starting with Law 2889/2001 on the improvement and modernization of the ESY, provided for the establishment of regional health authorities, new management structures and prospective reimbursement for public hospitals, (private) afternoon hospital services in public facilities and new employment relations for public hospital doctors. The country was divided into 17 regional health authorities (PeSYs). Later, Law 3106/2003 on the reorganization of welfare services decentralized all social care responsibilities to the PeSYs, which were in turn renamed regional health and welfare authorities (PeSYPs). Each PeSYP was a public entity managed by a 10-member board, responsible for service planning and coordination, staffing, financial control and supervision of the quality of all health and welfare services delivered within the region.

ESY hospitals became decentralized subsidiary units of each PeSYP, but administratively independent of them, governed by a general director for a five-year term, assisted by an administrative council consisting of the directors of medical, nursing and financial hospital departments, as well as the hospital scientific committee. Under the previous system, hospitals were individual public entities supervised directly by the health ministry and hospital directors were political appointees without management experience. Prospective payment of public hospitals included the gradual introduction of global and departmental budgets and the preparation of business plans. Afternoon outpatient clinics were established in public hospitals where doctors would offer care to private patients on a fee-for-service basis. The aim was to facilitate citizen access to hospital care, according to income and ability to pay, and to restrain the black economy that tended to operate within the hospital sector. Newly employed public hospital doctors would have the right to obtain permanent tenure after two consecutive, successful five-year contracts. With regard to university doctors, the law restated the existing prohibition on private practice and gave them two options: they could choose either to remain within the ESY and receive a salary bonus while having the right to private practise in the afternoon outpatient clinics in public hospitals, or they could choose to practise solely within the private sector and lose the privilege of becoming directors of ESY clinics.

Law 2955/2001 introduced a regulatory framework for procuring supplies by hospitals and other health care units under PeSYs. According to this law, contracting authorities could be hospitals, PeSYs or the Ministry of Health, depending on the size and kind of supplies. Hospitals had a significant degree of autonomy concerning supplies of consumables. The hospitals and PeSYs were obliged to produce an annual supply plan. The kind of medical supplies that could be procured as necessary for the operation of the hospitals were defined by a ministerial decision and were entered into a coded positive list. For every product in the list specifications were defined that were common to all public hospitals. For some medical devices, including artificial kidney filters, pacemakers and artificial implants, public procurement was exercised through direct negotiations with suppliers, under the reasoning that it was not possible to foresee the necessary quantities. The law also provided that medical supplies could be procured directly, without a prior tender procedure, when the award concerned devices without substitutes.

The modernization of public health services was to be promoted by Law 3172/2003, with the establishment of new agencies, including the national and regional public health councils, national committees for intersectoral cooperation in public health, regional public health laboratories and the

development of the country's "Health and Welfare Map" as a tool for rational resource allocation. In addition, the SEYYP was established (Law 2920/2001), with the responsibility for monitoring and conducting surveys in health care and welfare services to improve quality and effectiveness.

Another important piece of legislation related to health was Law 3029/2002 on the reform of the social insurance system. This law foresaw, for the first time, the creation of a legal framework for the establishment and operation of professional insurance funds as private legal entities. According to the provisions of the law, these funds would offer voluntary insurance coverage to their beneficiaries, supplementary to statutory social insurance coverage and would be financed by both employees' and employers' contributions. Last but not least, Law 3235/2004 on primary health care provided for the optional establishment by social insurance organizations of primary health care networks and family doctors, the transformation of social insurance polyclinics into urban health centres and the establishment of new services for home care, post-hospital care and rehabilitation.

However, Laws 3172/2003 (public health) and 3235/2004 (primary care) were abolished due to the change of government that occurred after the elections of 2004. The Stability and Growth Programme 2004–2007 (Ministry of Economy and Finance 2005) submitted to the European Commission by the newly elected government stated that the main objective of its proposed health reform would be to secure the system's financial viability in the short term and its sustainability in the long run through cost-containment measures while at the same time addressing the present system's specific weaknesses and guaranteeing an adequate level of services for all Greek citizens. More precisely, the reform effort would attempt to address three issues.

- The accumulation of debt by hospital suppliers would be tackled through the establishment of a centralized administrative system for public procurement procedures, a new management system for public hospitals based on operational devolution to the local hospital level and a new computerized accounting system for all ESY hospitals and health centres.
- Cost-containment would be achieved through the use of information technologies (IT) and enterprise resource planning systems throughout the ESY, the application of modern management methods in ESY hospitals, the introduction of new pricing and costing mechanisms and the establishment of auditing procedures.
- PPPs for the construction of public hospitals would be developed to ease the financial burden on the public investment budget.

However, only a small part of these measures actually materialized and the initiatives undertaken during the period 2005–2008 were rather controversial. Moreover, cost-containment policies, new pricing and costing mechanisms, auditing procedures and the introduction of computerized accounting systems were totally neglected. More precisely, Law 3329/2005 abolished the professional hospital management framework established in 2001 and replaced it with the previous pattern of political administration. Given the importance of professional managers for the efficiency of public hospitals, the government's rationale for abandoning a sound administrative tool that would contribute to improving hospital performance can be attributed to the continued desire to exercise political patronage in this area. The same law simply renamed the PeSYs as "health region administrations" (DYPEs), and their number was reduced from 17 to 7 in mid 2006. According to the then Minister for Health and Social Solidarity, Dimitrios Avramopoulos, the rationale for this change was to pursue economies of scale and to provide services in a more efficient and effective way. However, an assessment of this change to the regional management framework should take stock of two findings in a report by the Economic and Social Council of Greece (ESCG). In the ESCG's opinion, the competences of the DYPEs are mainly supervisory and advisory. Furthermore, five out of seven members of the DYPE boards are appointed by the Minister or the General Secretary of the Region. Consequently, any real decentralization of competences or independence from central government for DYPEs to develop their health services according to the needs of their populations has not been achieved. The management and control of the health care system remain with the Ministry (ESCG 2005). Another perplexing element of this reform was that the new government established the DYPEs despite its pre-election statement that it would abolish the ESY's regional management structure altogether, indicating that there was a lack of clear objectives for the health care system.

The aim of Law 3370/2005 was to reorganize public health services through the establishment of new organizational structures. The General Secretariat for Public Health and the General Directorate for Public Health were established at the Ministry of Health and Social Solidarity with a remit to implement measures within the framework of the National Action Plan for Public Health, to inspect public health agencies and to monitor and supervise the implementation of EU policies. In addition, the Health Coordination Command Centre was given the role of coordinating the agencies responsible for actions and programmes responding to emergency situations and natural disasters. The National Public

Health Council was established as a scientific advisory body to the Ministry of Health and Social Solidarity, as well as a supervisory and coordinating body of public health agencies.

Law 3457/2006 on the regulation of pharmaceuticals, approved in 2006, included two important provisions. The first was the abolition of the positive list. The new arrangements allow for the reimbursement (by the state or the insurance funds) of any lawfully marketed medicinal products in the country which has approval to be supplied only under prescription. The second is the establishment of a “recovery price”, which is defined as the (positive) difference arising from the deduction of the retail price of the medicinal product from the reference price of the therapeutic group to which it belongs, after taking into account any reduction in the net price by the producer or importer.¹⁸ Under the reimbursement arrangements, the social security funds are charged the retail price of the medicine, decreased by: (a) the anticipated percentage of participation of the insured (that is, the co-payments)¹⁹, and (b) the equivalent recovery price. The social security funds and the state confirm and collect the recovery amount from the pharmaceutical companies. The recovery amount is best understood as a discount on the drug company’s turnover, according to the effective legislation (Yfantopoulos 2008). However, the abolition of the positive list and its replacement by a recovery price probably will not have the desired effects on pharmaceutical expenditure if it is not complemented by incentives to change doctors’ prescribing behaviour. Positive lists are not ineffective per se. The international experience shows that they can decrease the costs and the number of prescriptions, particularly if targeted at high-cost medicines where there is an effective lower-cost drug available. The precondition for this to happen is that alternative preparations need to be acceptable to professionals or patients, otherwise the result will be inappropriate use of higher-cost substitutes (Mossialos, Walley & Mrazek 2004). An alternative policy might have been the promotion of generics substitution. Although the potential savings made from higher usage of copy drugs could have been significant, the promotion of generics has not been officially a priority in the country’s drug policy. Empirical

¹⁸ In effect, the pharmaceutical manufacturer or distributor pays a rebate, which is defined as the difference between the price reimbursed by the social insurance funds and the reference price for the therapeutic cluster.

¹⁹ The insured across all funds pay a co-payment on reimbursable pharmaceutical products of 25%. However, there are some exceptions. A co-payment of 10% applies to medicines for the beneficiaries of cash benefits for low-income pensioners (EKAS) and chronic diseases. In addition, there is a 0% co-payment category which includes medicines used for malignant neoplasms, diabetes mellitus, psychosis, epilepsy, haemophilia, renal failure, multiple sclerosis, paraplegia, quadriplegia and cytostatic medicines.

evidence shows that generics have a small share in the Greek pharmaceutical market, accounting for only 9.7% of the total sales of pharmaceuticals in 2003 (Geitona et al. 2006).

Finally, with the aim of rationalizing public hospitals' supply system, in 2007 the government enacted Law 3580/2007 which emphasizes the centralization of procurement procedures through the creation of a Central Committee of Health Supplies (EPY). EPY unifies the tenders carried out annually by public hospitals and its work is assisted by other existing organizations (IFET, DEPANOM, EKEVYL).

7.2 Future developments

The international experience of implementing health care reforms suggests that a big-bang approach based on the top-down imposition of a grand plan is not the most appropriate way to introduce change (Figueras, Saltman & Mossialos 1997). With this in mind and given the problems of the Greek health care sector, it will be necessary to adopt an incremental approach to future reform, focusing on certain areas of high priority: (a) restructuring of primary health care; (b) pooling of financial resources; (c) changing the payment system of providers; (d) introducing new managerial and administrative methods; (e) adopting cost-effectiveness and monitoring mechanisms; and (f) developing policies for better allocation of resources. These priority areas and the necessary measures have been analysed and developed by the scientific community over and over again (Sissouras, Karokis & Mossialos 1999; Mossialos, Allin & Davaki 2005; Economou & Giorno 2009). However, the absence of the political will to promote changes has made such proposals, to date, exercises on paper.

The issues raised in primary health care are not new and several reform plans have been proposed (Souliotis & Lionis 2005). The establishment of primary care groups, consisting of GP and specialist practices, could be a viable solution given the lack of GPs and the oversupply of specialists in Greece. The primary care groups should assume responsibility for referring patients to hospitals and other health services, and for maintaining medical records. Systematic review and improvement of the quality and outcomes of primary care groups should be achieved by the introduction of clinical protocols, clinical audit and electronic clinical information systems. Payment by capitation or a combination of capitation and salary instead of fee-for-service could restrict the incentives for physicians to increase health expenditure (Mossialos, Allin and Davaki 2005). The positive outcomes of reorganizing primary health care include the

abolition of overlapping private and public medical practice, and ensuring continuous care and better patient movements within the system, resulting in a reduction of hospital outpatient department visits. In addition, rural health centres should be upgraded and used as mechanisms for the enhancement of public health and prevention policies. A draft bill for the reorganization of primary health system was submitted for public consultation in 2007. The main elements of the proposal were the establishment of a referral system, the introduction of personal electronic health cards and the adoption of clinical and pharmaceutical protocols. However, this draft bill remained on paper and was not passed as legislation.

The reform of health care financing requires the separation of demand from supply and the establishment of a unified fund in order to pool resources from taxation and social health insurance and to create a monopsony purchasing system. The enhanced financial and negotiating power of such a structure, accompanied by monitoring systems, could impose its priorities and establish accountability, placing pressure on providers to improve efficiency. In addition, it offers the potential for the development of a more rational pricing policy as well as the achievement of a more equal regional allocation and social redistribution of resources, with the formation of a common package of benefits and the elimination of insurance and social inequalities. However, such a measure may prove to be inadequate if it is not integrated into a much larger and well-planned reform of the whole fiscal system, including taxation and social security financing. As a step in this direction, health insurance funds should be separated from other social funds, with all responsibilities given to the Ministry of Health and Social Solidarity.

Changing the payment system of providers is a means, *inter alia*, of changing their incentives to be more productive and effective. Of crucial importance is the introduction of a prospective payment system for public hospitals. DRGs and global budgets are two methods that could form the elements of a revised pricing system. In addition, hospital doctors could be paid by a combination of fee-for-service and an annual expenditure ceiling (Mossialos, Allin & Davaki 2005). Nevertheless, the adoption of DRGs and global budgets presupposes changes in the managerial and administrative structures of public hospitals to facilitate the management of information flows and to monitor hospital costs and production. Standardized information systems could also enable the development and monitoring of quality assurance programmes.

More emphasis should also be put on the development of monitoring and evaluation tools and procedures in order to increase efficiency and reduce current pressures on costs. New technologies should be assessed in relation to their cost–effectiveness before they are introduced in public hospitals. Monitoring of doctors’ clinical behaviour should also be based on evidence-based medicine, clinical protocols and prescription guidelines.

In order to improve equity in access and to reduce waiting times it is necessary to address three issues. First, the implementation of a rational allocation formula is a prerequisite for the improved regional distribution of health resources. A step to this end is the completion of the “Health and Welfare Map” of the country, which, although launched in the early 2000s, was subsequently abandoned. Second, the ESY’s staffing problems have to be solved. The shortages of nursing personnel in public hospitals are extremely serious, undermining the provision of quality inpatient services. Given that health service is still a labour-intensive productive sector, a different employment policy must be adopted by the Ministry of Health and Social Solidarity and the Ministry of Finance, one which sees not only the financial burden of hiring new employees but also the option of investing in productive human capital. This should address the current problem of the intensive care units that are closed due to lack of personnel. This policy should also contribute to the reduction of waiting times for surgery, if the third issue is addressed adequately: that is, a national strategy for managing waiting lists must be a high priority.

The new government elected in September 2009 plans to implement major reforms. First of all, Law 3863/2010 for the new social insurance system foresees the separation of health funds from the administration of pensions, the merger of health funds to simplify the overly fragmented system, and bringing all health-related activities under the Ministry of Health and Social Solidarity. At the time of writing, the reforms, which are planned to be completed by the end of 2010 include:

- (a) the establishment of new systems for the management of drugs that favour a greater use of generic medicines, including a new system for the electronic monitoring of doctors’ prescriptions; and
- (b) the completion of the programme of hospital computerization, the upgrading of hospitals’ budgeting systems and the reform of management, accounting (including double-entry accrual accounting) and financing systems.

The government also plans to ensure greater budgetary and operational oversight of health care spending by the Ministry of Finance, the publication of audited accounts and an improvement in pricing and costing mechanisms.

8. Assessment of the health system

This chapter attempts to provide an assessment of the performance of the Greek health care system against equity, efficiency, quality and effectiveness objectives.

8.1 The stated objectives of the health system

The founding law of the Greek ESY (Law 1397/1983) was passed in September 1983 and to date is considered to be the most significant attempt to make a radical change in the health sector, which would gradually lead to a comprehensive public health care system. The philosophy of the law was based on the principle that health is a social good and it should be provided by the state equitably for everyone, regardless of social and economic status. From this point of view, five keystones express the fundamentals of the law and the stated objectives of the health system, that it should be: comprehensive, equal, with universal coverage, of high quality and free of charge at the point of delivery.

8.2. The distribution of the health system's costs and benefits across the population

The theoretical and empirical evidence suggests that health care systems that are financed via taxation and social insurance are more progressive and equitable than those financed via private insurance and out-of-pocket payments (Mossialos & Dixon 2002). In Greece, coverage for health services by social insurance organizations and the ESY is ostensibly full and universal. Moreover, it is assumed that access is free and equal, and that patients pay no official fees at the point of use, with the exception of small user charges for services provided by hospital outpatient departments and for the cost of medication. In

reality, however, these aspects of public health care are significantly distorted. The high level of official and unofficial private spending on health is a factor which negates the principle of equity and the principle of zero prices at the point of use. In effect, private spending and the hidden economy constitute a kind of informal co-insurance and co-payments which are among the highest in OECD countries (Kyriopoulos, Economou & Dolgeras 2001). A recent survey, based on a sample of 4738 individual observations, concluded that 36% of the people treated in public hospitals had made at least one informal payment (Liaropoulos et al. 2008). For 19%, these payments were additional fees extracted by salaried doctors, while for 17% they were “voluntary gratuities”. The probability of making such payments was 72% greater for people wishing to avoid a waiting list as compared to those following standard admission procedures and 137% greater for patients requiring surgery. The median amount of payments was €300, or double the amount of monthly household spending on private health care (or 15% of their aggregate monthly outlays), and €200 in the case of gratuities. Nurses also receive gratuities, but of a lesser amount (€25 to €35). This behaviour is encouraged by low pay in the public sector. As a result, it has been estimated that, on average, patients pay additional fees of approximately €5300 for heart operations for which the reimbursement is €8800 (Siskou et al. 2008).

Besides this, widespread tax evasion, the high proportion of indirect taxation and social security contribution evasion make public funding of health sector highly regressive, disproportionately burdening the lower socioeconomic groups of society. As a consequence, it can be argued that the financing of the health system today is more inequitable than it was in the early 1980s (Liaropoulos & Tragakes 1998).

The extent of the problem is reflected in the results of a study conducted in 2002. This study, applying WHO’s approach to fairness in financial contributions to the health system, concluded that the funding system in 1998 was regressive given that low-income households paid a higher proportion of their income towards health care than the rich. The second finding of the study was that 2.44% of households in Greece face the danger of having to make catastrophic payments for health care; that is, incurring unexpected expenses exceeding 40% of their disposable income (Economou et al. 2004).

No official survey or report concerning inequalities of access has ever been conducted in Greece. However, there are strong indications that inequalities exist. They derive from differences in relation to social health insurance coverage, high out-of-pocket payments and uneven regional distribution of

human resources and health infrastructure. As a consequence, certain regions are incapable of meeting the health needs of their populations, resulting in a flow of patients to the major urban centres of Athens and Thessalonika (Kyriopoulos, Gregory & Economou 2003).

According to the results of a study concerning equity in the use of physician visits in OECD countries, there is significant horizontal inequity in total physician visits in Greece, with the standardized doctor use of the poorest quintile being about 20% lower than that of the richest quintile. However, when data is disaggregated, it is found that the use of GP visits is related to need and only specialist service utilization is inequitable in favour of the rich. In addition, the income-related inequities in specialist use are associated with regional differences in access to such care (Van Doorslaer, Koolman & Puffer 2002).

Another study used 1996 data from Eurobarometer 44 with information on utilization of 17 different health services in Greece in order to investigate the effect of income on utilization. The services included doctor contact, hospital stay, eye test, heart check-up, blood test, cancer test, X-ray test, cholesterol test, hearing test, urine test, test for diabetes, mammography, breast examination by hand, gynaecological examination, ovary examination, pap smear test and osteoporosis examination. Income was found to significantly affect utilization in 13 out of the 17 services. Furthermore, income elasticities of utilization were found to be highest in women's health services, raising the issue of possible gender discrimination (Mergoupis 2001).

8.3 Efficiency of resource allocation in health care

The international experience of health sector reforms shows that publicly financed, single-payer systems with strong monopsony power in dealing with providers make the containment of overall spending easier. By contrast, multiple-payer systems have had more difficulty in attaining and sustaining slowdowns in expenditure growth and in allocating resources rationally. Furthermore, output-related prospective payment systems, including global budgets, DRGs and capitation, on condition that associated prices are set correctly, encourage providers to minimize costs, instead of retrospective methods that induce supply pressures and minimize providers' incentives (Docteur & Oxley 2003). Greece has not seriously taken these factors into account.

From a macro-level perspective, the large share of private expenditure makes it difficult to impose a ceiling on overall health expenditure. Theoretically, ceilings on public health expenditure are agreed at the beginning of each financial year. They are set on the expenditure of the state budget and on the expenditure of the social insurance organizations. In practice, however, the absence of pooling of health resources, the lack of coordination among the large number of payers, the absence of an adequate financial management and accounting system and the lack of monitoring processes result in the presence of excesses in the total health budget. As a consequence, every year actual expenditure exceeds budget predictions. The problem is that the budgeting process for government spending is based on historical patterns of expenditure. In addition, the budgets of social insurance organizations are demand-led, given that they reimburse all providers' claims without regulating and monitoring activities. Furthermore, the hospital and social insurance funds deficits are retrospectively subsidized by the social budget, and as a result there are no incentives to improve efficiency (Sissouras, Karokis & Mossialos 1999; Mossialos, Allin & Davaki 2005).

Another significant problem in Greece is regional disparities in resource allocation. The results of a study comparing regional funding for the year 1998–1999, applying the United Kingdom Resource Allocation Working Party formula, revealed the existence of significant inequalities in health financing as a result of the non-rational manner of allocating resources. The study indicated that in the Greek national health system, the allocation of central resources to the regions follows the practice of an ad hoc estimate of the increase on the previous budget and is mainly governed by political pressures and clientelistic politics in each region (Mitropoulos & Sissouras 2004).

The situation is further aggravated by the absence of specific legal provisions for the control of health technology. Technologies are introduced without standards or formal consideration of needs, without control of appropriateness and quantity, and without performance monitoring of the equipment installed. The increase of private diagnostic centres and the lack of proper incentives determining doctors' behaviour have resulted in an uncontrolled supply of expensive biomedical technology (Liaropoulos & Kaitelidou 2000).

Overall, according to the results of a European Central Bank working paper comparing 23 OECD countries, Greece managed to deliver a significant relative improvement in public sector administrative and economic performance as well as expenditure efficiency during the 1990s. More specifically, concerning public health sector efficiency, Greece was ranked 6th among other countries

(Afonso, Schuknecht & Tanzi 2003). This is in accordance with the conclusion of a recent OECD paper assessing the effectiveness of public health spending in prolonging life, that the Greek efficiency indicators are around (using Data Envelopment Analysis (DEA)) or above (using panel data regressions) the OECD average (OECD 2008b). However, these findings must be treated with caution. The positive picture arising for Greece compared to other countries may be a result of the fact that official public spending data used in the working papers' calculations do not take into account the existence of high informal payments paid by patients to public health service providers.

8.4 Technical efficiency in the production of health care

In relation to the micro level, the methods of paying providers do not generate incentives to improve efficiency and quality. Public hospitals are still paid on a per diem basis and the state budget subsidizes their deficits. Doctors working in public hospitals and health centres are paid a salary, while doctors contracted in ambulatory settings are paid on a fee-for-service basis. The fact that doctors' payments are not related to their performance is an incentive to minimize the effort devoted to institutional practice and to spend time in private practice, whether permitted or not (Sissouras, Karokis & Mossialos 1999; Mossialos, Allin & Davaki 2005).

There is some evidence that significant inefficiencies exist in relation to the performance of both primary health care units and hospitals. In this sense, it can be argued that there is an important margin of potential efficiency gains in the system. One study evaluated the relative efficiency of primary health care centres of the principal Greek public insurance provider, the IKA. Using DEA, the study analysed the performance of 133 centres nationwide and ascertained the low efficiency scores of units with limited technological infrastructure (Zavras et al. 2002). Another study, also using DEA, attempted to analyse the use of resources and to assess the efficacy of 24 primary health centres in two health regions of the country, with data from the year 1996. Inputs included the percentage coverage of actual medical personnel according to the predetermined population covered, while outputs were expressed through the number of visits, laboratory tests and vaccinations. The results indicated the inefficient state and the geographical disparities of primary health centres (Sissouras, Mitropoulos & Gounaris 2000).

If we now focus on hospitals, we have already ascertained that there has been a trend to increase productivity. The average length of hospital stay and number of acute care beds are declining, while bed occupancy and hospital discharges are rising. However, studies using the limited available data conclude that there is considerable space for improvements. A study referring to data from 1992 and using DEA estimated the efficiency of hospital services, including inpatient days in medical care, inpatient days in surgical area, outpatient visits and ancillary services of public, general and teaching hospitals, and found that there are potential savings of up to 20% on hospital spending. The efficient cost of hospitals was also estimated and compared with the actual cost, indicating that the difference between the actual and efficient cost is 27% for general hospitals and 16% for teaching hospitals. The study estimated that non-efficient hospitals could produce the same result if the daily cost per patient were reduced by 26% and that at least 4.1% of health care costs in the GDP are due to inefficiencies created by public hospitals (Giokas 2001).

Many other studies come to similar conclusions. Aletras (1999), using a sample of 91 general public hospitals, estimated that in 1992 the average hospital X-efficiency was 20–34% of observed hospital costs. Athanassopoulos, Gounaris and Sissouras (1999), assessing the efficiency of 98 public hospitals in 1992, found that there was scope for substantial efficiency improvements. Polyzos (2002), using 1995 data, concluded that hospitals with between 250 and 400 beds operated more efficiently than smaller or larger hospitals. Kontodimopoulos, Nanos and Niakas (2006), investigating the efficiency of small-scale Greek hospitals known as hospital-health centres located in remote rural areas, demonstrated technical inefficiencies of 25.13–26.77%.

However, of high interest are the results of a recent study attempting to estimate the impact on hospital efficiency of the reform initiative in 2001. Using DEA, the technical and scale efficiencies of a sample of 51 general acute public hospitals were examined before and after the reform. The analysis concluded that technical and scale efficiency was reduced following the policy changes, indicating that the expected benefits from the reform were not achieved. The researchers attribute this result to administrative and organizational factors, which impeded the reform process. For example, the reform did not introduce effective cost monitoring and control mechanisms, adequate information management systems or performance assessment processes and, as a consequence, any attempts to monitor hospital production and costs were hindered. In addition, hospital financing remained under the control of the Ministry of Health and Social Solidarity, based on historical patterns of expenditure and not on evidence of efficiency (Aletras et al. 2007).

A closely related issue that should be highlighted is the problematic nature of public hospitals' single-entry accounting system. Under this system revenues are recorded when received in cash and expenses are recorded when cash is disbursed. Thus, performance measurement is impossible since the use of resources is not related to the results achieved. Debtors and creditors are not recorded, which is a matter of high importance given that public hospitals have outstanding debts to suppliers and claims that insurance funds must settle for the treatment of their beneficiaries. Ex post audits are difficult to perform for the use of equipment purchased by hospitals. In addition, the absence of inventory controls in relation to consumables and medicines results in the inability to determine the quantities that need to be ordered. Instead, many researchers propose the introduction of accrual double-entry accounting, in which both sides of the transaction are recorded (Ballas & Tsoukas 2004).

Two more factors that undermine the efficient functioning of hospitals are public procurement procedures and the mode of management. With regard to public procurement, Chapter 3 indicated that the debts of ESY hospitals to a large extent are due to supplies. Very often, medical supplies are procured directly without a prior tender. Furthermore, high supply costs for categories of devices are observed, particularly when the final choice depends on the physician (European Profiles 2007).

Two more relevant problems are the ineffective logistics systems of public hospitals, and the delay in settling payment for ordered goods, which may take up to 18 months. In relation to management, traditionally the administration of public hospitals in Greece depends on executives appointed by the government on the basis of their political affiliation with the ruling party and not because of their relevant training or qualifications. Apart from a short interval of four years (2001–2005), during which an attempt was made to introduce scientific hospital management procedures, the pattern of political administration has been dominant, reasserting itself with the change of government in 2005.

8.5 Quality of care

In a 1996 Eurobarometer survey, 53.9% of Greek respondents declared that they were fairly and very dissatisfied with the health care system. This was the third highest level of public dissatisfaction with health services among EU countries after Italy (59.4%) and Portugal (59.3%). In addition, 69.2% of Greek respondents expressed the view that a complete rebuilding of the system or fundamental changes were needed, compared to 76.9% for Italy and 70.1%

for Portugal (Mossialos 1998). In a subsequent Eurobarometer survey, the percentage of those supporting fundamental changes or a complete rebuilding of the system increased to 78.1% for Greece and to 80.4% for Portugal, while it decreased to 65.5% for Italy (Eurobarometer 2002).

Recently, another Eurobarometer survey was conducted with the main objective of exploring Europeans' perceptions regarding patient safety and their attitudes towards the quality of health care in their country. An examination of the survey data shows that the proportion of respondents in Greece (83%) who feel that there is a risk of being harmed by hospital care is much higher than for respondents in all other EU countries. A similar pattern is found in perceptions of the likelihood of being harmed by non-hospital care. Again, the proportion of respondents in Greece (78%) who feel that there is a risk of adverse events in connection to such care is much greater than for respondents in other EU countries (Eurobarometer 2010).

A hiring freeze in the public sector, as has already been mentioned, has serious negative impacts on the quality of health services provided in Greece. Patients are forced to hire private (and, in most cases, non-qualified) nurses for day or night shifts. In addition, doctors and nursing personnel shortages in public hospitals have resulted in the shutting down of a large number of intensive care units.

Another major quality problem is waiting lists. Anecdotal evidence shows that in some hospitals patients may need to wait for three or even six months before having elective surgery. The waiting time for radiation therapy for patients suffering from cancer is approximately three months. In many cases, the same waiting time is required for an operation to remove a tumour. There are some hospital outpatient departments that take at least 5–6 months to arrange an appointment. The waiting time for a mammography is about 3–6 months and for a pap test 2–3 months. However, it must be kept in mind that this information is merely indicative. The underdevelopment of hospital information systems, the absence of an organized central or regional department to collect and process data and, more importantly, the non-existence of a national policy on waiting lists make data recording incomplete.

The third point that needs to be mentioned is that Greek hospitals do not seem to implement quality management and quality assurance programmes. Research findings reveal that the implementation of quality management systems in Greek hospitals rarely occurs and stress the need for the introduction

of quality management into Greek health care. In most cases, the implementation of quality programmes depends on employees' initiatives and does not stem from an organized, central plan (Theodorokioglou & Tsiotras 2000).

The concept of quality also covers a set of nonclinical and nonfinancial dimensions that reflect respect for human dignity and interpersonal aspects of the care process, which WHO defines as "health system responsiveness". The pillars of health system responsiveness include dignity, autonomy, confidentiality, communication, prompt attention, quality of basic amenities, access to social support during treatment and choice of health providers. In a survey conducted by WHO in 16 OECD countries in 2001, it was found that for inpatient services, as well as for outpatient services, Greece reported the lowest level of overall responsiveness. Across inpatient domains, Greece had the worst performance among the 16 countries in autonomy, communication, dignity and prompt attention, the second worst performance in choice and social support and the fourth worst performance in confidentiality. Concerning outpatient domains, Greece had the lowest performance in all domains, except confidentiality where Greece had the fourth worst performance (Valentine et al. 2003).

8.6 The contribution of the health system to health improvement

Many factors are considered to be the major determinants of health: the socioeconomic and political context, levels of social cohesion and social capital within communities, material circumstances, living and working conditions, social stratification, personal behaviour, lifestyles and biological factors, as well as the structure of the health care system. In Greece it is impossible to provide an estimate of improvements in the health status of the population attributed to each of these factors due to the lack of relevant studies.

However, some conclusions can be drawn from two studies conducted by Nolte and McKee, comparing the performance of 19 OECD countries in relation to avoidable mortality amenable to health care. From these studies it is revealed that in the 1980s at least 70% of the total improvements in life expectancy in Greece were due to falling amenable mortality in both sexes, with about half of this improvement due to declining infant mortality. Turning to the 1990s, compared to other countries, amenable mortality made a somewhat smaller contribution than it had in the 1980s, although its impact was still substantial, accounting for about two-thirds of the total increase in life expectancy in both

sexes. Much of this change was again driven by falling death rates in infancy, accounting for 36% in women and 47% in men of the observed improvements (Nolte & McKee 2004). Furthermore, during the period 1998–2003 mortality from amenable causes had fallen by 11% for males and by 17% for females (Nolte & McKee 2008).

Although the two studies intimate a positive impact by the Greek health care system on the population's health, a recently conducted study based on DEA analysis concludes that the effectiveness of the health care system has been eroded. The analysis, which is similar to that performed by Joumard et al. (2008), shows that the performance of the Greek health care system, which had ranked between 3rd and 5th among OECD countries in 1990, had fallen to between 12th and 18th place in 2006, depending on whether the resources available for health care are measured by the level of spending per capita or proxied by the number of active medical personnel. While in 1990 it was estimated that using health care resources as efficiently as the best-performing countries would have increased life expectancy at birth by between 0.8 and 0.9 years, the gap widened to between 1.7 and 3 years in 2006. Moreover, this decline in relative performance seems sharper if resources allocated to health care are measured by the number of active medical personnel. Such evidence would suggest that this weaker performance stems more from a decline in technical efficiency than higher input costs, that is, prices and compensation paid for medical services (Economou & Giorno 2009).

9. Conclusions

The establishment of the Greek national health service, the ESY, in 1983 was the result of a long period of social unrest that followed the two world wars and the civil struggle for democracy. Up until then, health care services were provided primarily in private settings and financed through a basic Bismarckian sickness fund structure, which lacked the organizational and functional characteristics of a comprehensive system and left the vast majority of unemployed, and thus uninsured, citizens uncovered. Because of this tradition of fragmented health care service provision and financing, when demand for universal, free and equitable access to health care services became overwhelming, the establishment of a Beveridge-type national health system was deemed inevitable.

Based on the principle that health is a public good and the state has a responsibility to deliver care, the aim of the ESY was to ensure equal access to high-quality services for all citizens. Towards this end, it tried to address the growing health care needs of the population, primarily through the establishment of publicly owned and operated infrastructure. However, significant portions of the founding Law 1397/1983 were never or only partially implemented. The strategic target of structuring a unified health care sector has proved a controversial topic and a politically difficult process. Despite the fact that the system succeeded in improving the health status of the population, structural inefficiencies concerning the organization, financing and delivery of health services remained and increased over the years. A comprehensive and universal health care system has not yet been established, with several quite differently organized and regulated subsystems operating due to the failure to propose and implement a coherent set of reforms with sufficient public and political support. The health system still functions within an outmoded organizational culture dominated by clinical medicine and hospital services, without the support of an adequate planning unit or adequate accessible information on health status, utilization of health services, or health costs, and without being progressive and

proactive in addressing the health needs of the population through actions in public health and primary health care. As a result, the Greek health care system suffers from inefficiencies which can be summarized as follows:

- a high degree of centralization in decision-making and administrative processes;
- ineffective managerial structures which lack information management systems and, in many cases, are staffed by inappropriate and unqualified personnel, without adequate managerial skills;
- lack of planning and coordination, and limited managerial and administrative capacity;
- unequal and inefficient allocation of human and economic resources, based on historical and political criteria and regional disparities, due to the absence of pooling of health resources, a lack of coordination among the large number of payers, an absence of adequate financial management and accounting systems, and a lack of monitoring processes;
- fragmentation of coverage and an absence of a referral system based on GPs or group practice to support primary health care development and to act as a gatekeeper, meaning that there is no continuity of care and no control of interregional patient flows;
- inequalities in access to services derived from differences in social health insurance coverage, high out-of-pocket payments and uneven regional distribution of human resources and health infrastructure;
- underdevelopment of needs assessment and priority-setting mechanisms;
- regressive funding mechanisms due to the existence of high private spending, under-the-table payments, widespread tax evasion, a high proportion of indirect taxation and social security contribution evasion;
- an anachronistic retrospective reimbursement system according to which providers' payments are not related to their performance, resulting in the absence of incentives to improve efficiency and quality; and
- an absence of a health technology assessment system, quality assurance and economic evaluation processes, leading to an excess of heavy medical equipment.

These shortcomings resulted in low levels of satisfaction with the health care system expressed by citizens and the “epidemic” of short-lived health care reform proposals (Stambolovic 2003). Legislative initiatives undertaken in the 1990s in order to confront these inefficiencies were not successful.

Political particularism, fiscal constraints and administrative weaknesses posed significant barriers, resulting in the partial implementation or the total abolition of the attempted reforms (Tragakes & Polyzos 1998). The second round of changes was inaugurated in the early 2000s; however, the change in political setting once again undermined any effort to introduce modern scientific management into the health care system, and to tackle the shortcomings and inefficiencies in service provision by paying particular attention to the lack of coordination and operational integration. In this context, the need for more determined reforms to improve the efficiency of the Greek health care system is recognized by academic and political thinking and has also been highlighted by international organizations (OECD 2007c; Economou & Giorno 2009). These developments must be seen in the light of a continuous transition phase that Greece entered at the beginning of the new century. Social insurance benefits and the state budget contribution are of great social concern and the focus of continuous debate. The reform of the social care system, the taxation system and the education system are the subject of passionate and rigorous social debate, giving the impression of a never-ending reform perspective.

The most significant problem facing health policy in Greece is the gap between declared objectives and the enactment and implementation of the legislation. Certain legislative provisions for health care reforms have been only partially implemented, or not at all. Some others were short-lived because of subsequent changes of government which stopped the implementation process. Considering the 36-year period from 1974 to 2010 that followed the reinstatement of democracy, only two reform attempts can be considered successful: the first and most significant, in 1983, established the ESY; and the second, in 2001, primarily via Law 2889/2001, led to, among other things, the regional organization of the ESY and the introduction of cutting-edge, modern hospital management principles. Both are considered large-scale interventions, which changed the organizational model and the structure of the health care sector, despite the fact that they were not fully implemented. In both cases, and despite the favourable timing and the declared governmental commitment to see them through, insufficient financing, sectoral opposition and disagreements hindered and gradually blocked the completion of reforms. All other serious reform attempts were either abandoned just after creation or transformed into painless interventions to appease the opposition and vested financial, political, professional, union and other interests.

The fact is that health policy lacks continuity due to the dominance of “party thinking” instead of “consensus building”. The building blocks in the process of policy formation are shaky, given that it rarely involves all the actors in a

constructive collaborative effort aimed at linking the implementation process with the planning process. As Mossialos, Davaki and Allin point out, health policy and health reforms in Greece are path-dependent, influenced by the southern European syndrome of clientelism, political particularism, the absence of consensus, low administrative capacities and weak civil society. The inability to bring about change is a consequence of the prevailing political conditions, unresolved conflict between political parties and economic interests, substantial resistance by the medical status quo and the inability of the public health system bureaucracy to introduce managerial reforms (Mossialos & Allin 2005; Davaki & Mossialos 2005). As a result, rapid big-bang health reforms with top-down imposition of a grand plan are doomed to failure in Greece. Rather, a more incremental approach based on the introduction of sectoral measures that address diagnosed specific inefficiencies of the health system may be more effective and lead to more socially sustainable policies. In this context, fundamental for an effective health reform project, ensuring both equity and efficiency in financing and delivery of services, is to realize the need for a different political culture and the introduction of more participatory modes of governance.

10. Appendices

10.1 References

- Abel-Smith B (1994). *An introduction to health: Policy, planning and financing*. London, Longman.
- Afonso A, Schuknecht L, Tanzi V (2003). *Public sector efficiency: An international comparison*. Frankfurt, European Central Bank (ECB Working Paper No. 242).
- Aletras V (1999). A comparison of hospital scale effects in short-run and long-run cost functions. *Health Economics*, 8(6):521–530.
- Aletras V et al. (2007). The short-term effect on technical and scale efficiency of establishing regional health systems and general management in Greek NHS hospitals. *Health Policy*, 83(2–3):236–245.
- Athanassopoulos A, Gounaris C, Sissouras A (1999). A descriptive assessment of the production and cost efficiency of general hospitals in Greece. *Health Care Management Science*, 2(2):97–106.
- Ballas A, Tsoukas H (2004). Measuring nothing: The case of the Greek National Health System. *Human Relations*, 57(6):661–690.
- Bamidis P et al. (2006). Methodologies for establishing an institutional and regulatory framework for telemedicine services in Greece. In: *Proceedings of the 5th International Conference on Information Technology in Biomedicine. Ioannina, 26–28 October 2006* (<http://medlab.cs.uoi.gr/itab2006/proceedings/eHealth/158.pdf>, accessed October 2010).
- Bank of Greece (2007). *Annual report 2006*. Athens, Bank of Greece.
- Bank of Greece (2010a). *Annual report 2009*. Athens, Bank of Greece.
- Bank of Greece (2010b). *Report on monetary policy 2009–2010*. Athens, Bank of Greece.
- Boutsioti Z (2007). Concentration in the Greek private hospital sector: A descriptive analysis. *Health Policy*, 82(2):212–225.
- Bronchi C (2001). *Options for reforming the tax system in Greece*. Paris, Organisation for Economic Co-operation and Development (OECD Economics Department Working Papers No. 291).
- CEC (1995). *Final report on the implementation of Council Regulation (EEC) 815/84 on exceptional financial support in favour of Greece in the social field*. COM (95) 668 final. Brussels, Commission of the European Communities.
- Church of Greece (2001a). *Η μαρτυρία της αγάπης. Το φιλανθρωπικό και κοινωνικό έργο της Εκκλησίας της Ελλάδος [The testimony of love. The philanthropic and social work of the Church of Greece]*. Athens, Church of Greece.

- Church of Greece (2001b). *Εκκλησία και μεταμοσχεύσεις [Church and transplantations]*. Athens, Church of Greece.
- Constantopoulos A, Yannulatos P (2004). Greek psychiatric reform: Difficulties, achievements and perspectives. In: Kyriopoulos J, ed. *Health systems in the world: From evidence to policy*. Athens, Papazisis Publishers.
- Contiades X, Golna Ch, Souliots K (2007). Pharmaceutical regulation in Greece at the crossroad of change: Economic, political and constitutional considerations for a new regulatory paradigm. *Health Policy*, 82(1):116–129.
- Costacou T et al. (2003). Tracing the Mediterranean diet through principal components and cluster analysis in the Greek population. *European Journal of Clinical Nutrition*, 57(11):1378–1385.
- Daniilidou N et al. (2003). Health and social care in aging population: An integrated care institution for the elderly in Greece. *International Journal of Integrated Care*, 3:1–13.
- Davaki K, Mossialos E (2005). *Plus ça change*: Health sector reforms in Greece. *Journal of Health Politics, Policy and Law*, 30(1–2):143–167.
- Davaki K, Mossialos E (2006). Financing and delivering health care. In: Petmesidou M, Mossialos E, eds. *Social policy developments in Greece*. Aldershot, Ashgate.
- de Kervasdoué J (2009). *OECD public management reviews: Strengthening public administration reform in Greece*. Paris, Organisation for Economic Co-operation and Development (Working Paper V5).
- Docteur E, Oxley H (2003). Health care systems: Lessons from the reform experience. Paris, Organisation for Economic Co-operation and Development (OECD Economics Department Working Papers No. 374).
- Dolgeras A, Economou Ch, Kyriopoulos J (2004). Dental insurance coverage and dental expenditures: The case of Greece. In: Kyriopoulos J, ed. *Health systems in the world: From evidence to policy*. Athens, Papazisis Publishers.
- EC (2010). *The social situation in the European Union 2009*. Brussels, European Commission.
- Economou Ch (2004). *Πολιτικές υγείας στην Ελλάδα και τις Ευρωπαϊκές κοινωνίες [Health policies in Greece and the European societies]*. Athens, Dionikos.
- Economou Ch (2008). *Country report: Private health insurance in Greece*. Athens.
- Economou Ch, Giorno C (2009). *Improving the performance of the public health care system in Greece*. Paris, Organisation for Economic Co-operation and Development (OECD Economics Department Working Papers No. 722).
- Economou Ch et al. (2004). Fairness of health financing in the Greek health care sector. In: *Proceedings of the 8th International Conference on System Science in Health Care: Health care systems. Public and private management*, 1–4 September 2004. University of Geneva:411–415 (CD-ROM).
- EOF (2010). *Pharmaceutical sales data*. Athens, National Drug Organization.
- ESCG (2005). *Εθνικό σύστημα υγείας και κοινωνικής και κοινωνικής αλληλεγγύης και άλλες διατάξεις [National health and social care system and other provisions]*. Athens, Economic and Social Council of Greece (Opinion 128).
- Eurobarometer (2002). *Health issues, cross-border purchases and national identities*. Brussels, European Commission (Eurobarometer 57.2, April–June).
- Eurobarometer (2003). *European Union citizens and sources of information about health*. Brussels, European Commission (Eurobarometer 58.0, March).

- Eurobarometer (2006). *Medical errors*. Brussels, European Commission (Special Eurobarometer 241, Wave 64.1 & 64.3, June).
- Eurobarometer (2007). *Health and long-term care in the European Union*. Brussels, European Commission (Special Eurobarometer 283, Wave 67.3, December).
- Eurobarometer (2010). *Patient safety and quality of health care*. Brussels, European Commission (Special Eurobarometer 327, Wave 72.2, April).
- European Profiles (2007). Sectoral study: The medical devices sector in Greece. Athens, European Profiles.
- Eurostat (2010a). *Europe in figures. Eurostat yearbook 2010*. Luxembourg, European Commission.
- Eurostat (2010b). Labor force survey. In: *Statistics in focus*, 46/2010. Luxembourg, European Commission.
- Figueras J, Saltman R, Mossialos E (1997). Challenges in evaluating health sector reform: An overview. London, London School of Economics and Political Science (LSE Health Discussion Paper No. 8).
- Garanis-Papadatos T, Dalla-Vorgia P (2003). Bioethics in Greece: A regional approach. In: Peppin J, Cherry M, eds. *Regional perspectives in bioethics*. London, Routledge.
- Geitona M, Margaritidou V, Kyriopoulos J (1998). Nursing manpower requirements in Greece: The case of private non-qualified nurses. In: Beazoglou T, Heffley D, Kyriopoulos J, eds. *Human resources supply and cost containment in the health system*. Athens, Exandas Publishers.
- Geitona M et al. (2006). Generics market in Greece: The pharmaceutical industry's beliefs. *Health Policy*, 79(1):35–48.
- Giokas D (2001). Greek hospitals: How well their resources are used. *Omega*, 29(1):73–83.
- Gutenbrunner Ch, Ward A, Chamberlain M, eds. (2006). *White book on physical and rehabilitation medicine in Europe*. Brussels, Section of Physical and Rehabilitation Medicine and European Board of Physical and Rehabilitation Medicine, Union Européenne des Médecins Spécialistes (UEMS) and Académie Européenne de Médecine de Réadaptation.
- Huisman M, Kunst AE, Mackenbach JP (2003). Socioeconomic inequalities in morbidity among the elderly: A European overview. *Social Science & Medicine*, 57(5):861–873.
- ICAP (2006). Private health services in Greece: Sectoral study. Athens, ICAP.
- IFET (2007). *Monitoring of local pharmaceutical market data*. Athens, Institute of Medicinal Research and Technology.
- IKA (2008). *Στατιστικό Δελτίο έτους 2005 [Statistical bulletin for the year 2005]*. Athens, Social Insurance Organization.
- Institute for Social and Preventive Medicine (2006). *Hellas Health I*. Athens, Institute for Social and Preventive Medicine, Centre for Health Services Research.
- Joumard I et al. (2008). *Health status determinants: Lifestyle, environment, health care resources and efficiency*. Paris, Organisation for Economic Co-operation and Development (OECD Economics Department Working Papers No. 627).
- Kanavos P et al. (2004). *The economic impact of pharmaceutical parallel trade in European Union member states: A stakeholder analysis*. (Special research paper, LSE Health and Social Care). London, London School of Economics and Political Science.

- Karokis A et al. (2000). Pharmaceutical price controls and positive drug list effects on total and social insurance pharmaceutical expenditure. Proceedings of the 5th Annual ISPOR Conference, Washington, DC, 21–24 May 2000. *Value in Health*, 3(2):49–166.
- Katsouda E, Mystakidou K, Vadalouca A (2006). *Greece*. Milan, European Association for Palliative Care.
- Kontodimopoulos N, Nanos P, Niakas D (2006). Balancing efficiency of health services and equity of access in remote areas in Greece. *Health Policy*, 76(3):49–57.
- Kousoulakou Ch, Vitsou E (2008). *Η αγορά φαρμάκων στην Ελλάδα. Ετήσια έκθεση 2008 [The pharmaceutical market in Greece. Annual report 2008]*. Athens, Foundation of Economic and Industrial Research.
- Kyriopoulos J (2004). Informal payments in the health sector: Some evidence and research issues. In Kyriopoulos J, ed. *Health systems in the world: From evidence to policy*. Athens, Papazisis Publishers.
- Kyriopoulos J, Economou Ch, Dolgeras A (2001). Side payments in the Greek health sector: The dilemma of equity and efficiency. In: Kyriopoulos J, Beazoglou T, Heffley D, eds. *Health economics in the new era*. Athens, Exandas Publishers.
- Kyriopoulos J, Geitona M, Karalis G (1998). Hidden economy, private spending and informal copayment in health care: The role of medical manpower. In: Beazoglou T, Heffley D, Kyriopoulos J, eds. *Human resources supply and cost containment in the health system*. Athens, Exandas Publishers.
- Kyriopoulos J, Gregory S, Economou Ch (2003). *Υγεία και υπηρεσίες υγείας στον Ελληνικό πληθυσμό [Health and health services in Greece]*. Athens, Papazisis Publishers.
- Liaropoulos L (1995). Health services financing in Greece: A role for private health insurance. *Health Policy*, 34(1):53–62.
- Liaropoulos L (1998). Ethics and the management of health care in Greece: A health economist's perspective. In: Dracopoulou S, ed. *Ethics and values in health care management*. London, Routledge.
- Liaropoulos L, Kaitelidou D (2000). Health technology assessment in Greece. *International Journal of Health Technology Assessment in Health Care*, 16(2):429–448.
- Liaropoulos L, Tragakes E (1998). Public/private financing in the Greek health care system: Implications for equity. *Health Policy*, 43(2):153–169.
- Liaropoulos L et al. (2008). Informal payments in public hospitals in Greece. *Health Policy*, 87(1):72–81.
- McKee M, Edwards N, Atun R (2006). Public–private partnerships for hospitals. *Bulletin of the World Health Organization*, 84(11):890–896.
- Mackenbach J, Bakker M (2003). Tackling socioeconomic inequalities in health: analysis of European experiences. *Lancet*, 362:1409–1414.
- Madianos M, Tsiantis J, Zacharakis C (1999). Changing patterns of mental health in Greece (1984–1996). *European Psychiatry*, 14(8):462–467.
- Madianos M et al. (1994). Decentralization of mental health services in Greece – 1979–82 and 1989–92. In: Christodoulou G, Kontaxakis V, eds. *Topics in preventive psychiatry*. Basel, Karger:103–115 (Bibliotheca Psychiatrica, No. 165).
- Merakou K et al. (2001). Satisfying patients' rights: A hospital patient survey. *Nursing Ethics*, 8(6):499–509.

- Mergoupis Th (2001). Income and utilization of health services in Greece. *Paper presented at the First Conference of the Hellenic Social Policy Association, Komotini, 10–13 May 2001* (<http://ssrn.com/abstract=1000162>, accessed 5 February 2008).
- Mestheneos E, Triantafyllou J, Kontouka S (2004). *National background report for Greece. Services for supporting family carers of elderly people in Europe: Characteristics, coverage and usage*. Hamburg, EUROFAMCARE.
- Migration Policy Institute (2004). *Statistical data on immigrants in Greece: An analytic study of available data and recommendations for conformity with European Union standards*. Athens, Migration Policy Institute.
- Ministry of Economy and Finance (2005). *The 2004 update of the Hellenic stability and growth programme 2004–2007* (Revised). Athens, Ministry of Economy and Finance.
- Ministry of Economy and Finance (2007). *The 2007 update of the Hellenic stability and growth program 2007–2010*. Athens, Ministry of Economy and Finance.
- Ministry of Health and Social Solidarity (2006). *Επιχειρησιακό Πρόγραμμα Υγεία–Πρόνοια 2000–2006: Τρίτο Κοινοτικό Πλαίσιο Στήριξης [Operational program for health and welfare 2000–2006: Third European Community Framework]*. Athens, Ministry of Health and Social Solidarity.
- Ministry of Health and Social Solidarity (2007a). *Εθνικό Στρατηγικό Σχέδιο: Προγραμματική περίοδος 2007–2013 [National Strategic Plan: Programming period 2007–2013]*. Athens, Ministry of Health and Social Solidarity.
- Ministry of Health and Social Solidarity (2007b). *Psychoargos phase B, 2007*. Athens, Ministry of Health and Social Solidarity, Monitoring and Support Unit.
- Ministry of Health and Welfare (2000). *Η υγεία στην Ελλάδα [Health in Greece]*. Athens, Ministry of Health and Welfare.
- Ministry of Health and Welfare (2001a). *Οι υπηρεσίες υγείας στην Ελλάδα [Health services in Greece]*. Athens, Ministry of Health and Welfare.
- Ministry of Health and Welfare (2001b). *Πολιτική και οργάνωση της ψυχικής υγείας στην Ελλάδα [Mental health policy and organization in Greece]*. Athens, Ministry of Health and Welfare.
- Ministry of Health and Welfare (2003). *Health, health care and welfare in Greece*. Athens, Ministry of Health and Welfare.
- Ministry of Labour and Social Security (2002). *The Greek social security system*. Athens, Ministry of Labour and Social Security.
- Ministry of National Economy, Ministry of the Interior, Public Administration and Decentralization (2006). *Operational programme information society*. Athens, Ministry of National Economy, Ministry of the Interior, Public Administration and Decentralization.
- Mitropoulos J, Sissouras A (2004). Rationalising the allocation of central resources to the health care regions in Greece. *Paper presented at the 5th European Conference of Health Economics*, London School of Economics and Political Science, London, 8–11 September 2004.
- Moschuris S, Kondylis M (2006). Outsourcing in public hospitals: A Greek perspective. *Journal of Health Organization and Management*, 20(1):4–14.
- Mossialos E (1998). *Citizens and health systems: Main results from a Eurobarometer survey*. Luxembourg, European Commission.

- Mossialos E, Allin S (2005). Interest groups and health system reform in Greece. *West European Politics*, 28(2):420–444.
- Mossialos E, Dixon A (2002). Funding health care in Europe: Weighing up the options. In: Mossialos E et al., eds. *Funding health care: Options for Europe*. Buckingham, Open University Press:272–300.
- Mossialos E, Thomson S (2004). *Voluntary health insurance in the European Union*. Copenhagen, WHO Regional Office for Europe on behalf of the European Observatory on Health Systems and Policies.
- Mossialos E, Allin S, Davaki K (2005). Analysing the Greek health system: A tale of fragmentation and inertia. *Health Economics*, 14:151–168.
- Mossialos E, Walley T, Mrazek M (2004). Regulating pharmaceuticals in Europe: An overview. In: Mossialos E, Mrazek M, Walley T, eds. *Regulating pharmaceuticals in Europe: Striving for efficiency, equity and quality*. Maidenhead, Open University Press:1–37.
- Mousiama T et al. (2001). Health technology assessment in the area of prevention. *International Journal of Technology Assessment in Health Care*, 17(3):338–357.
- Niakas D, Theodorou M, Liaropoulos L (2005). Can privatising selected services benefit the public healthcare system? The Greek case. *Applied Health Economics and Health Policy*, 4(3):153–157.
- Nolte E, McKee M (2004). *Does health care save lives? Avoidable mortality revisited*. London, Nuffield Trust.
- Nolte E, McKee M (2008). Measuring the health of nations. Updating an earlier analysis. *Health Affairs*, 27(1):58–71.
- NSSG (2005). *Results of household budget survey 2004/2005*. Piraeus, National Statistical Service of Greece.
- NSSG (2006). *National accounts of Greece, 1995–2004*. Piraeus, National Statistical Service of Greece.
- NSSG (2007). *Συνοπτική στατιστική επιτηρίδα 2006 [Concise statistical yearbook 2006]*. Piraeus, National Statistical Service of Greece.
- NSSG (2008). *National accounts of Greece, 2000–2006*. Piraeus, National Statistical Service of Greece.
- NSSG (2009). *National accounts of Greece, 2000–2007*. Piraeus, National Statistical Service of Greece.
- NSSG (2010) [web site]. Piraeus, National Statistical Service of Greece (<http://www.statistics.gr/portal/page/portal/ESYE>, accessed 3 May 2010).
- Observatory for the Greek Information Society (2006). *Best practices in broadband development*. Athens, Observatory for the Greek Information Society.
- Observatory for the Greek Information Society (2007a). *Study for determining and monitoring the indicators of the eEurope 2005 plan in Greece: Research findings among individuals-households*. Athens, Observatory for the Greek Information Society.
- Observatory for the Greek Information Society (2007b). *Study for determining and monitoring the indicators of the eEurope 2005 plan in Greece: Research findings on doctors-general practitioners*. Athens, Observatory for the Greek Information Society.
- OECD (1992). *The reform of health care systems: a comparative analysis of seven OECD countries*. Paris, Organisation for Economic Co-operation and Development.

- OECD (2007a). *Health at a glance*. Paris, Organisation for Economic Co-operation and Development.
- OECD (2007b). *OECD Health Data*. Paris, Organisation for Economic Co-operation and Development (October 2007 update).
- OECD (2007c). *OECD economic surveys: Greece*. Paris, Organisation for Economic Co-operation and Development.
- OECD (2008a). *OECD factbook 2008*. Paris, Organisation for Economic Co-operation and Development.
- OECD (2008b). *Health status determinants: Roles of lifestyle, environment, health-care resources and spending efficiency*. Paris, Organisation for Economic Co-operation and Development, Working Party No. 1 on Macroeconomic and structural policy analysis (ECO/CPE/WP1(2008)7).
- OECD (2009). *OECD Health Data*. Paris, Organisation for Economic Co-operation and Development.
- Petmesidou M (2006). Social care services: “Catching up” amidst high fragmentation and poor initiatives for change. In: Petmesidou M, Mossialos E, eds. *Social policy developments in Greece*. Aldershot, Ashgate:319–357.
- Polyzos N (2002). Striving towards efficiency in the Greek hospitals by reviewing case mix classifications. *Health Policy*, 61(3):305–328.
- Sarantidis D et al. (1992). The reform of psychiatric care in Greece: 1983–1989. *European Psychiatry*, 7:251–257.
- SEYYP (2005). *Ετήσια έκθεση πεπραγμένων 2004 [Annual proceedings report 2004]*. Athens, Body of Inspectors for Health and Welfare Services.
- SEYYP (2007). *Ετήσια έκθεση πεπραγμένων 2006 [Annual proceedings report 2006]*. Athens, Body of Inspectors for Health and Welfare Services.
- SFEE (2008). *The pharmaceutical market in Greece. Facts and figures*. Athens, SFEE (Hellenic Association of Pharmaceutical Companies).
- Siskou O et al. (2008). Private health expenditure in the Greek health care system: Where truth ends and the myth begins. *Health Policy*, 88:282–293.
- Sissouras A, Karokis A, Mossialos E (1994). Greece. In: OECD, *The reform of health care systems. A review of seventeen OECD countries*. Paris, Organisation for Economic Co-operation and Development.
- Sissouras A, Karokis A, Mossialos E (1999). Health care and cost containment in Greece. In: Mossialos E, Le Grand J, eds. *Health care and cost containment in the European Union*. Aldershot, Ashgate:341–400.
- Sissouras A, Mitropoulos J, Gounaris C (2000). Evaluating the efficiency of health care units: The case of the Greek primary health care centres. In: Javor A, Van Eimeren W, Duru G, eds. *Proceedings of the 7th International Conference on System Science in Health Care: Sustainable structure for better health*, 29 May–2 June 2000. Budapest, International Society on System Science in Health Care.
- Souliotis K, Lionis C (2005). Creating an integrated health care system in Greece: A primary care perspective. *Journal of Medical Systems*, 29(2):187–196.
- Stambolovic V (2003). Epidemic of health care reforms. *European Journal of Public Health*, 13(1):77–79.

- Stefanis C, Madianos M, Gittelman M (1986). Recent developments in the care, treatment, and rehabilitation of the chronic mentally ill in Greece. *Hospital and Community Psychiatry*, 37:1041–1044.
- Tatsos N (2001). *Net expenditure for social protection. Study conducted for the National Statistical Service of Greece*. Athens, National Statistical Service of Greece.
- Theodorokioglou Y, Tsiotras G (2000). The need for the introduction of quality management into Greek health care. *Total Quality Management and Business Excellence*, 11(8):1153–1165.
- Theodorou M (2002). Recent reforms in the Greek NHS. *Eurohealth*, 8(2):29–32.
- Theodorou M et al. (2005). *Η οργάνωση και διοίκηση των υπηρεσιών πρωτοβάθμιας φροντίδας υγείας στην Ελλάδα [Organization and management of primary health care services in Greece]*. In: Tsamis N, ed. *Θεωρία και πρακτική της πρωτοβάθμιας φροντίδας υγείας [Theory and practice of primary health care]*. Athens, Ministry of Health and Social Solidarity, Third PeSYP of Attica:23–44.
- Tountas Y, Karnaki P, Pavi E (2002). Reforming the reform: The Greek national health system in transition. *Health Policy*, 62(1):15–29.
- Tountas Y et al. (2008). *Health services in Greece 1996–2006*. Athens, Centre for Health Services Research.
- Tragakes E, Polyzos N (1998). The evolution of health care reforms in Greece: Charting a course of change. *International Journal of Health Planning and Management*, 13(2):107–130.
- Triantafyllou J, Mestheneos E (2001). Greece. In: Philp I, ed. *Family care of older people in Europe*. Amsterdam, IOS Press:75–96.
- Triantafyllou J et al. (2006). *The national survey report for Greece. Services for supporting family carers of elderly people in Europe: Characteristics, coverage and usage*. Hamburg, EUROFAMCARE.
- Trichopoulou A et al. (2003). Adherence to a Mediterranean diet and survival in a Greek population. *New England Journal of Medicine*, 348(26):2599–2608.
- United Nations (2008). *Map No. 3798 Rev. 4*. New York, United Nations (<http://www.un.org/Depts/Cartographic/map/profile/greece.pdf>, accessed 19 December 2010).
- United Nations (2010). *UNSD demographic statistics online* (<http://unstats.un.org/unsd/databases.htm>, accessed 3 May 2010).
- Valentine N et al. (2003). Patient experiences with health services: Population surveys from 16 OECD countries. In: Murray Ch, Evans D, eds. *Health systems performance assessment: Debates, methods and empiricism*. Geneva, World Health Organization:643–652.
- Van Doorslaer E, Koolman X, Puffer F (2002). Equity in the use of physician visits in OECD countries: Has equal treatment for equal need been achieved? In: Smith P, ed. *Measuring up: Improving health system performance in OECD countries*. Paris, Organisation for Economic Co-operation and Development:225–248.
- Vrangbæk K (2007). Towards a typology for decentralization in health care. In: Saltman R, Bankauskaite V, Vrangbæk K, eds. *Decentralization in health care*. Maidenhead, Open University Press:44–62.
- WHO (2007). *World health statistics 2007*. Geneva, World Health Organization.
- WHO (2008). *WHO vaccine-preventable diseases: Monitoring system. 2007 global summary*. Geneva, World Health Organization.

- WHO (2009). *World health statistics 2009*. Geneva, World Health Organization.
- WHO (2010). *Atlas of heart disease and stroke*. Geneva, World Health Organization (http://www.who.int/cardiovascular_diseases/resources/atlas/en, accessed 22 September 2010).
- WHO Regional Office for Europe (2006). *Highlights on health in Greece 2004*. Copenhagen, WHO Regional Office for Europe.
- WHO Regional Office for Europe (2007). European Health for All database (HFA-DB) [offline database] (November 2007 update). Copenhagen, WHO Regional Office for Europe (<http://www.euro.who.int/hfadb>, accessed 7 December 2010).
- WHO Regional Office for Europe (2010). European Health for All database (HFA-DB) [offline database]. Copenhagen, WHO Regional Office for Europe (<http://www.euro.who.int/hfadb>, accessed 7 December 2010).
- Yfantopoulos J (1994). Economic and legal aspects of mental health policies in Greece. *International Journal of Social Psychiatry*, 40(4):296–305.
- Yfantopoulos J (2008). Pharmaceutical pricing and reimbursement reforms in Greece. *European Journal of Health Economics*, 9(1):87–97.
- Zavras D, Economou Ch, Kyriopoulos J (2004). Factors influencing dental utilization in Greece. *Community Dental Health*, 21:181–188.
- Zavras A et al. (2002). Using DEA to evaluate efficiency and formulate policy within a Greek National Primary Health Care Network. *Journal of Medical Systems*, 26(4):285–292.
- Zygoura A, Syndos M, Kekekeris V (2007). Preparedness of emergency medical services. In: Tsouros A, Efstathiou P, eds. *Mass gatherings and public health: The experience of the Athens 2004 Olympic Games*. Copenhagen, WHO Regional Office for Europe:201–224.

10.2 Further reading

- Abel-Smith B et al. (1994). *Report on the Greek health services*. Athens, Ministry of Health and Welfare.
- Apostolides A (1992). The health care system in Greece since 1970: An assessment. *International Journal of Health Care Quality Assurance*, 5(5):4–15.
- Cabiedes L, Guillen A (2001). Adopting and adapting managed competition: Health care reform in Southern Europe. *Social Science & Medicine*, 52:1205–1217.
- Carpenter M (2003). On the edge: The fate of progressive modernization in Greek health policy. *International Political Science Review*, 24(2):257–272.
- Geitona M, Zavras D, Kyriopoulos J (2007). Determinants of healthcare utilization in Greece: Implications for decision-making. *European Journal of General Practice*, 13:144–150.
- Kontozamanis V, Mantzounas E, Stoforos C (2003). An overview of the Greek pharmaceutical market. *European Journal of Health Economics*, 4:327–333.
- Liaropoulos L (2001). Health care policy in Greece: A new (and promising) reform. *Euro Observer*, 3(2):5–6.
- Liaropoulos L, Kaitelidou D (1998). Changing the public–private mix: An assessment of the health reforms in Greece. *Health Care Analysis* 6:277–285.
- Matsaganis M (1991). Is health insurance in Greece in need of reform? *Health Policy and Planning*, 6(3):271–281.

- Matsaganis M (1998). From the North to the Mediterranean? Constraints to health reform in Greece. *International Journal of Health Services*, 28(2):333–348.
- Ministry of Health and Welfare (1994). *Μελέτη για το σχεδιασμό και την οργάνωση των υπηρεσιών υγείας. Ανάλυση και δομή του συστήματος [Study for the planning and organization of health services. Analysis and structure of the system]*. Athens, Ministry of Health and Welfare.
- Ministry of Health and Welfare (1995). *Μελέτη για την οργάνωση και λειτουργία ολοκληρωμένου συστήματος πρωτοβάθμιας ιατρικής φροντίδας [A study for the organization and function of a comprehensive primary medical care system]*. Athens, Ministry of Health and Welfare.
- Ministry of Health and Welfare (1995). *Μελέτη – πρόταση για την οργάνωση και διοίκηση του ΕΣΥ και την ανάπτυξη του ιατρικού δυναμικού [A study – proposal for the organization and management of ESY and the development of medical manpower]*. Athens, Ministry of Health and Welfare.
- Ministry of Health and Welfare (1995). *Ενιαίος Φορέας Υγείας: Η οργάνωση του συστήματος χρηματοδότησης και η αποκέντρωση των υπηρεσιών υγείας [Unified Sickness Fund: The organization of the financing system and the decentralization of health services]*. Athens, Ministry of Health and Welfare.
- Ministry of Health and Welfare (2000). *Σχέδιο μεταρρύθμισης: “Υγεία για τον πολίτη” [Reform plan: “Health for the citizen”]*. Athens, Ministry of Health and Welfare.
- Niakas D, Petsetakis E (1995). Problems and perspectives in health care policy in Greece. *Public Budgeting and Financial Management*, 7(2):251–278.
- Nikolentzos A, Mays N (2008). Can existing theories of health care reform explain the Greek case (1983–2001)? *Journal of European Social Policy*, 18(2):163–176.
- Petmesidou M, Guillén A (2008). “Southern-style” national health services? Recent reforms and trends in Spain and Greece. *Social Policy and Administration*, 42(2):106–124.
- Tountas, Y, Stenansson H, Fryssiras S (1995). Health reform in Greece: Planning and implementation of a national health system. *International Journal of Health Planning and Management*, 10:283–304.
- Tountas Y et al. (2005). The “unexpected” growth of the private health sector in Greece. *Health Policy*, 74:167–180.
- Tsalikis G (1988). Evaluation of the socialist health policy in Greece. *International Journal of Health Services*, 18(4):543–561.
- Venieris D (1997). *The history of health insurance in Greece: The nettle governments failed to grasp*. London, London School of Economics and Political Science.
- WHO Regional Office for Europe (1996). *Health care systems in transition: Greece*. Copenhagen, WHO Regional Office for Europe.
- WHO Regional Office for Europe (1998). *Highlights on health in Greece 1998*. Copenhagen, WHO Regional Office for Europe.
- WHO Regional Office for Europe (2004). *Highlights on health in Greece 2004*. Copenhagen, WHO Regional Office for Europe.

10.3 Useful web sites

Association of Hospital Doctors of Athens and Piraeus

<http://www.eiaa.gr>

Centre for Planning and Economic Research

<http://www.kepe.gr>

Centre for the Control and Prevention of Diseases

<http://www.keel.org.gr>

Federation of Hospital Doctors' Unions

<http://www.oenge.gr>

Foundation for Economic and Industrial Research

<http://www.iobe.gr>

General Secretariat for Research and Technology

<http://www.gsrt.gr>

General Secretariat of Social Security

<http://www.ggka.gr>

Health Care Organization for Civil Servants

<http://www.opad.gr>

Hellenic Accreditation System

<http://www.esyd.gr>

Hellenic Centre for Mental Health and Research

<http://www.hcmhr.gr>

Hellenic Nurses' Association

<http://www.esne.gr>

Hellenic Organization for Standardization

<http://www.elot.gr>

Hellenic Pasteur Institute

<http://www.pasteur.gr>

Hellenic Society for the Protection and Rehabilitation of Disabled Children

<http://www.elepap.gr>

Hellenic Society of General Medicine

<http://www.elegeia.gr>

Hellenic Society of Palliative and Symptomatic Care of Cancer and Non-Cancer Patients

<http://grpalliative.org>

Institute for Child Health

<http://www.ich.gr>

Institute of Biomedical Technology

<http://www.inbit.gr>

Institute of Medicinal Research and Technology

<http://www.ifet.gr>

Institute of Social Protection and Solidarity

<http://www.ikpa.gr>

Managing Authority of Operational Programme Information Society

<http://www.infosoc.gr>

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National Kpukwkwqp'hqt'yj g'Tgj cdkkcvkqp"qh'F kucdrf "Rgqr rg

<http://y y y QkccG t>

National Uej qqn'qh'Rwdrke"J genj

<http://y y y Qpur j G t>

National Vtepur rpv'Qti cpk cvkqp

<http://www.nsph.gr>

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<http://y y y Qdugtxcvqt{ G t>

Operational Programme Health–Welfare 2000–2008

<http://www.ygeia-pronoia.gr>

Organization Against Drugs

<http://www.okana.gr>

Pan-Hellenic Federation of Public Hospital Workers

<http://www.poedin.gr>

Pan-Hellenic Medical Association

<http://www.pis.gr>

Pan-Hellenic Pharmaceutical Association

<http://www.pfs.gr>

Public Enterprise for the Construction of Hospital Units

<http://www.depanom.gr>

Research Centre for Biological Materials

<http://www.ekevyl.gr>

Social Insurance Fund

<http://www.ika.gr>

Social Insurance Organization for Farmers

<http://www.oga.gr>

Social Insurance Organization for Self-employed Professionals

<http://www.oaee.gr>

Therapy Centre for Dependent People

<http://www.kethea.gr>

3rd Health Region Administration of Macedonia

<http://www.bdype-cm.gr>

4th Health Region Administration of Macedonia and Thrace

<http://www.adype-cm.gr>

5th Health Region Administration of Thessaly and Central Greece

<http://www.dypethessaly.gr>

7th Health Region Administration of Crete

<http://www.hc-crete.gr>

10.4 Principal legislation

Law 3934/1911: Health and safety at work and working hours

Law 281/1914: Establishment of mutual societies

Law 551/1915: Responsibility for the protection against working accidents

Law 748/1917: Establishment of the Ministry of Hygiene and Social Welfare

Law 2868/1922: Obligatory social insurance for employees

Law 6298/1934: Establishment of the Social Insurance Organization (IKA)

Law 965/1937: Organization of public hospitals and sanitary institutions

Law 2769/1941: Establishment of temporary public hospitals

Legislative Edict 2592/1953: Organization of medical assistance

Law 4169/1961: Establishment of Agricultural Insurance Organization (OGA)

Law 1397/1983: Establishment of the national health system (ESY)

Law 2071/1992: Modernization and organization of the health system

Law 2194/1994: Re-establishment of the national health system and other provisions

Law 2519/1997: Development and modernization of the national health system

Law 2889/2001: Improvement and modernization of the national health system and other provisions

Law 2955/2001: Supplies of hospitals and other health units of the regional health authorities (PeSY)

Law 3172/2003: Organization and modernization of public health services

Law 3235/2004: Reorganization of primary health care

Law 3329/2005: National health and social solidarity system and other provisions

Law 3370/2005: Organization and functioning of public health services and other provisions

Law 3457/2006: Reform of the pharmaceutical care system

Law 3580/2007: Supplies of units supervised by the Ministry of Health and Social Solidarity and other provisions

Law 3863/2010: New social insurance system and labour relations regulations

10.5 HiT methodology and production process

The Health Systems in Transition (HiT) profiles are produced by country experts in collaboration with the Observatory's research directors and staff. The profiles are based on a template that, revised periodically, provides detailed guidelines and specific questions, definitions, suggestions for data sources and examples needed to compile HiTs. While the template offers a comprehensive set of questions, it is intended to be used in a flexible way to allow authors and editors to adapt it to their particular national context. The most recent template is available online at: <http://www.euro.who.int/en/home/projects/observatory/publications/health-system-profiles-hits/hit-template-2010>.

Authors draw on multiple data sources for the compilation of HiT profiles, ranging from national statistics, national and regional policy documents to published literature. Furthermore, international data sources may be incorporated, such as those of the OECD and the World Bank. The OECD Health Data contain over 1200 indicators for the 33 OECD countries. Data are drawn from information collected by national statistical bureaux and health ministries. The World Bank provides World Development Indicators, which also rely on official sources.

In addition to the information and data provided by the country experts, the Observatory supplies quantitative data in the form of a set of standard comparative figures for each country, drawing on the European Health for All database. The Health for All database contains more than 600 indicators defined by the WHO Regional Office for Europe for the purpose of monitoring Health in All Policies in Europe. It is updated for distribution twice a year from various sources, relying largely upon official figures provided by governments, as well as health statistics collected by the technical units of the WHO Regional Office for Europe. The standard Health for All data have been officially approved by national governments. With its summer 2007 edition, the Health for All database started to take account of the enlarged EU of 27 Member States.

HiT 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.

A typical HiT profile consists of 10 chapters.

- 1 Introduction: outlines the broader context of the health system, including geography and sociodemography, economic and political context, and population health.
- 2 Organizational structure: provides an overview of how the health system in the country is organized and outlines the main actors and their decision-making powers; discusses the historical background for the system; and describes the level of patient empowerment in the areas of information, rights, choice, complaints procedures, safety and involvement.
- 3 Financing: provides information on the level of expenditure, who is covered, what benefits are covered, the sources of health care finance, how resources are pooled and allocated, the main areas of expenditure, and how providers are paid.
- 4 Regulation and planning: addresses the process of policy development, establishing goals and priorities; deals with questions about relationships between institutional actors, with specific emphasis on their role in regulation and what aspects are subject to regulation; and describes the process of HTA and research and development.
- 5 Physical and human resources: deals with the planning and distribution of infrastructure and capital stock; the context in which IT systems operate; and human resource input into the health system, including information on registration, training, trends and career paths.
- 6 Provision of services: concentrates on patient flows, organization and delivery of services, addressing public health, primary and secondary health care, emergency and day care, rehabilitation, pharmaceutical care, long-term care, services for informal carers, palliative care, mental health care, dental care, complementary and alternative medicine, and health care for specific populations.
- 7 Principal health care reforms: reviews reforms, policies and organizational changes that have had a substantial impact on health care.
- 8 Assessment of the health system: provides an assessment based on the stated objectives of the health system, the distribution of costs and benefits across the population, efficiency of resource allocation, technical efficiency in health care production, quality of care, and contribution of health care to health improvement.

9 Conclusions: highlights the lessons learned from health system changes; summarizes remaining challenges and future prospects.

10 Appendices: includes references, useful web sites and legislation.

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

- A rigorous review process (see the following section).
- There are further efforts to ensure quality while the profile is finalized that focus on copy-editing and proofreading.
- HiTs are disseminated (hard copies, electronic publication, translations and launches). The editor supports the authors throughout the production process and in close consultation with the authors ensures that all stages of the process are taken forward as effectively as possible.

One of the authors is also a member of the Observatory staff team and they are responsible for supporting the other authors throughout the writing and production process. They consult closely to ensure that all stages of the process are as effective as possible and that the HiTs meet the series standard and can support both national decision making and comparisons across countries.

10.6 The review process

This consists of three stages. Initially the text of the HiT is checked, reviewed and approved by the series editors of the European Observatory. The HiT is then sent for review to two independent academic 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 are restricted to checking for factual errors within the HiT.

10.7 About the author

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The Health Systems in Transition (HiT) country profiles provide an analytical description of each health care system and of reform initiatives in progress or under development. They aim to provide relevant comparative information to support policy-makers and analysts in the development of health systems and reforms in the countries of the WHO European Region and beyond. The HiT profiles are building blocks that can be used:

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