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Cyprus
Health system review

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European Observatory on Health Systems and Policies
a partnership hosted by WHO

Gemma A Williams (Editor) with Anna Maresso (Series co-ordinator)
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Editorial Board

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PREFACE

The Health Systems in Transition (HiT) series consists of country-based reviews 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 review is produced by country experts in collaboration with the Observatory's staff. In order to facilitate comparisons between countries, reviews are based on a template prepared by the European Observatory, which is revised periodically. The template provides detailed guidelines and specific questions, definitions and examples needed to compile a report.

HiTs seek to provide relevant information to support policy-makers and analysts in the development of health systems in Europe and other countries. 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;
- describe the institutional framework, process, content and implementation of health care reform programmes;
- highlight challenges and areas that require more in-depth analysis;
- 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
- assist other researchers in more in-depth comparative health policy analysis.

Compiling the reviews 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 data from national statistical offices, the Organisation

for Economic Co-operation and Development (OECD), the International Monetary Fund (IMF), the World Bank's World Development Indicators and any other relevant sources considered useful by the authors. Data collection methods and definitions sometimes vary, but typically are consistent within each separate review.

A standardized review 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. HiTs can be used to inform policy-makers about experiences in other countries that may be relevant to their own national situations. 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 contact@obs.who.int.

HiTs and HiT summaries are available on the Observatory's website (www.healthobservatory.eu).

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This 2024 edition was written by Mamas Theodorou (Open University of Cyprus) and Chrystala Charalambous (European University of Cyprus). It was edited by Gemma Williams (European Observatory on Health Systems and Policies) from the Observatory's team at the London School of Economics and Political Science, working with the support of Anna Maresso from the European Observatory on Health Systems and Policies.

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The HiT uses data available in May 2024, unless otherwise indicated. The HiT reflects the organization of the health system, unless otherwise indicated, as it was in January 2024.

The European Observatory on Health Systems and Policies is a partnership, hosted by the WHO Regional Office for Europe that includes the Governments of Austria, Belgium, Finland, Ireland, Netherlands (Kingdom

of the), Norway, Slovenia, Spain, Sweden, Switzerland, the United Kingdom and the Veneto Region of Italy (with Agenas); the French National Union of Health Insurance Funds (UNCAM); the Health Foundation; the European Commission; the London School of Economics and Political Science (LSE); and the London School of Hygiene & Tropical Medicine (LSHTM). The Observatory is composed of a Steering Committee, core management team, research policy group and staff. Its Secretariat is based in Brussels and it has offices in London at LSE and LSHTM and in Germany at the Berlin University of Technology. The Observatory team working on HiTs is led by Josep Figueras (Director); Elias Mossialos, Martin McKee, Reinhard Busse (Co-directors); Ewout van Ginneken and Suszy Lessof. The Country Monitoring Programme of the Observatory and the HiT series are coordinated by Anna Maresso. The production and copy-editing process of this HiT was coordinated by Jonathan North, with the support of Lucie Jackson, Alison Chapman (copy-editing) and Sharon McTeir (layout).

LIST OF ABBREVIATIONS

A & E	Accident and Emergency
ADHD	attention deficit hyperactivity disorder
ADL	activities of daily living
AIDS	acquired immune deficiency syndrome
ALOS	average length of stay
AMIF	Asylum, Migration and Integration Fund
AMR	antimicrobial resistance
CHE	current health expenditure)
CMP	capacity master planning
CPD	continuing professional development
CPI	Corruption Perception Index
CT	computerized tomography
CUT	Cyprus University of Technology
DG SANCO	Health and Consumer Protection Directorate General
DPhS	Department of Pharmaceutical Services
DRG	diagnostic-related group
ECDC	European Centre for Disease Prevention and Control
EEA	European Economic Area
EU	European Union
FFS	fee for service
GDP	gross domestic product
GeSY	General Healthcare System
GMDP	Good Manufacturing and Distribution of Pharmaceutical Products
GMI	guaranteed minimum income
GP	general practitioner
HAI	health care-associated infection
Hib3	Haemophilus influenzae type b
HIF	Health Insurance Fund
HIO	Health Insurance Organization
HIV	human immunodeficiency virus

HMU	Health Monitoring Unit
HPV	human papillomavirus
HRH	human resources for health
HTA	health technology assessment
ICT	information and communication technology
ICU	intensive care unit
IT	information technology
LTC	long-term care
MHS	(Department of) Mental Health Services
MLSI	Ministry of Labour and Social Insurance
MoF	Ministry of Finance
MoH	Ministry of Health
MoU	memorandum of understanding
MP	Member of Parliament
MPHS	Department of Medical and Public Health Services
MRI	magnetic resonance imaging
NGO	non-governmental organization
NHS	national health system
OECD	Organisation for Economic Co-operation and Development
OOP	out-of-pocket
OSAK	Federation of Patient's Associations
PASIKAF	Cyprus Association of Cancer Patients and Friends
PASIKY	Association of Government Doctors
PDS	Public Dental Services
PEO	Pancyprian Federation of Labour
PET	positron emission tomography
PIS	Cyprus Medical Association
PPP	purchasing power parity
RRP	Recovery and Resilience Plan
SDR	standardized death rate
SEK	Cyprus Workers Confederation
SHSO	State Health Services Organisation
SIS	Social Insurance Services
SWS	Social Welfare Services
THEMEA	Therapeutic Unit for Addicted Persons
VHI	voluntary health insurance
WBAS	Welfare Benefits Administration Service
WHO	World Health Organization

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ABSTRACT

The analysis of the Cyprus health care system reviews all developments related to the newly introduced General Healthcare System (GeSY), in particular in relation to its organization and governance, financing, physical and human resources, provision of service and its performance after 4 years of operation. The implementation of the GeSY created a completely new health care environment, bringing together the public and private sectors into a single and competitive quasi market. Major and fundamental changes are being recorded in all health system areas (including administration, financing and remuneration of providers, coverage, access, freedom of choice, benefits, and financial protection) compared to the old system.

The main characteristics of the GeSY are the universality of coverage, funding from contributions levied on people's income and the state budget, the provision of an integrated benefits package, including personal and family care through the introduction of general practitioners (GPs)/personal doctors with a gatekeeping role and a referral system to access specialties and hospitals. The GeSY has improved coverage, the available benefits package, access, freedom of choice and financial protection of beneficiaries compared to the previous system. The population of Cyprus has a relatively good health status with high life expectancy, while few older people relative to the European Union (EU) average report having chronic conditions. There are also low levels of unmet need, and the indexes for both preventable and treatable mortality are well below the EU averages. Diabetes, obesity and smoking remain the main health risk factors.

Main challenges and areas for development are: a) the reorganization and reform of public hospitals in order to compete with private ones; b) the introduction and use of e-health, including electronic health records, the regulation of data storage and use of bio information; c) the implementation of university clinics in public hospitals; d) the integration of quality and performance indicators into the compensation mechanisms of GeSY providers; and e) the introduction of medical and therapeutic protocols and

guidelines. Finally, a major challenge is the financial sustainability of the system in the long term.

EXECUTIVE SUMMARY

The population in Cyprus is among the healthiest in Europe, but risk factors, including smoking and childhood obesity, pose challenges

Life expectancy at birth in Cyprus has increased over the last three decades, reaching 81.7 years in 2022, 1.0 year higher than the EU average. However, life expectancy fell by more than a year in 2021 as a result of the COVID-19 pandemic and there has been a slowdown in gains in life expectancy since 2010, partly as a result of increased mortality rates from some respiratory diseases. Despite a substantial decline in circulatory disease deaths over the past two decades, they remained the primary cause of death in 2021, accounting for a quarter of all deaths, followed by cancer (22%). After COVID-19 infection (8.4% of all deaths), ischaemic heart disease was the second leading individual cause of mortality in 2021 (7.8 % of all deaths), followed by diabetes (6.8%). In 2022, over three-quarters of the population (78%) reported good health, higher than the EU average (68%), and Cyprus had the lowest mortality rate from preventable and treatable causes in the EU. Nevertheless, almost 40% of the population live with a chronic disease, with people on higher incomes more likely to report good health than those on lower incomes. Major risk factors such as tobacco smoking, obesity and low physical activity remain to be addressed. Smoking-related deaths (19% of all deaths in 2019) exceed the EU average, with high rates in particular among men. Adult obesity rates align with the EU average, but childhood obesity is high and a cause for concern.

The health care system in Cyprus has been transformed by the new, comprehensive General Healthcare System (GeSY)

Cyprus introduced a comprehensive General Healthcare System (Geniko Systima Ygeias, GeSY) in June 2019, which provides universal coverage and free access to all beneficiaries. The new health care system is a mixture of a National Health Service and a Social Health Insurance scheme, funded by beneficiaries' and employers' contributions and the state budget. Providers come from both the public sector and the contracted private sector. The system's fundamental principles are universal coverage, financial sustainability, equal access, free provision of care, freedom of choice and increased financial protection for beneficiaries.

The main actors in the new system are the Health Insurance Organization (HIO), which is responsible for the administration and financial operation of the GeSY, the State Health Services Organisation (SHSO) tasked with the management, control, supervision and development of public hospitals and health centres, and the Ministry of Health (MoH), which has a more strategic role and overall oversight of the health system. The MoH is also responsible for cross-sectoral cooperation with other Ministries and agencies in the context of 'Health in All policies' and remains the competent authority for public health issues. While the GeSY is structured and organized centrally, the establishment of HIO and SHSO outside the structure of the government and the delegation of administrative authority to them, brings some element of decentralization to the health care system. Responsibility for the regulation and governance of provision rests primarily with the HIO and secondarily with the SHSO.

Extended coverage under the GeSY and new financing arrangements have contributed to increased accessibility and reduced out-of-pocket spending

The GeSY extends coverage to the entire population and provides a comprehensive benefits package that includes a wide range of health services. Revenues come from health contributions of employees, retirees, employers and the state, which are collected and transferred to the Health Insurance Fund (HIF) and managed by the HIO, the sole purchaser of services within the GeSY. The financing arrangements of the current system are

now proportional to income and fairer than the previous system. The GeSY aims for high financial protection, with low co-payments and annual caps on spending, and almost all costs of statutory benefits covered by the HIF. These reforms are expected to have a positive impact on the health status of citizens by increasing access, coverage, affordability and quality. Current purchasing and payment arrangements do not adopt any strategic purchasing and payment approach, in part due to the current lack of institutional capacity and data to undertake needs assessment and capacity planning, or to assess the quality and effectiveness of services provided.

Health expenditure as a share of gross domestic product (GDP) (9.4%) in 2021 was above the averages of the WHO European Region and the EU. Health expenditure per capita (US$ 4206) in 2021 was above the WHO European Region average, but below the EU average. Steady overall economic growth in recent years, combined with the introduction of the GeSY and an expected increase in investment in health, will likely contribute to a further rise in health expenditure in the coming years. The previous lack of a national health care system caused Cyprus to have the second highest share of out-of-pocket (OOP) payments in total health expenditure in the EU in 2018 (45%), increasing the risk of catastrophic spending, especially for low-income quintiles of the population. The extension of coverage and increased availability of health providers under the GeSY has seen OOP spending decline substantially, to 18% in 2020 and 10% in 2021.

Cyprus has a physician-centred system with a comparatively high number of doctors and low number of nurses

The number of practising doctors in Cyprus has nearly doubled since 2000, reaching 467 per 100 000 population in 2020, above the EU average. Shortages are recorded in the number of general practitioners (GPs) in the new health care system, as well as in some 'rare' specialties, such as allergists, endocrinologists, cytologists. The number of nurses has not increased at the same rate as physicians, and stood at 498 per 100 000 population in 2021, well below the EU average. Moreover, the number of nursing professionals graduating from local universities has decreased substantially in the last 5 years. There are serious workforce imbalances between the public and private sectors, as doctors primarily work in the private sector and nurses in the public sector.

Major imbalances in the distribution and availability of Human Resources for Health (HRH) are expected to change with the ongoing Capacity Master Plan (CMP) project. One of the pillars of this project is to strengthen HRH Planning, which will allow the MoH to define the current HRH capacity of the system with the aim of developing an HRH plan and workforce planning models to determine a future workforce that will meet expected demand.

The implementation of the GeSY has led to several changes in the organization and provision of primary care levels

Cyprus has a well-developed network of health facilities, facilitating good access to health care services. Under the GeSY, personal doctors are now the patient's first point of contact with health services and have a gatekeeping role, with access to specialists only possible via referral. However, data show a relatively high rate of specialist referrals, posing financial and operational challenges. Patients can now choose personal doctors from both the public and private sectors, with doctors receiving per capita remuneration based on the age group of registered beneficiaries.

Personal doctors provide general medical care, medicines prescriptions, care for chronic illnesses, vaccinations, prevention and promotion activities (e.g. smoking cessation, nutrition, exercise), home care, health services for pre-school children, maternal health services, health education, referrals to specialists and diagnostic services, and certifications. The introduction of the personal doctor is significant as it facilitates beneficiaries' access to their own doctor, and has substantially reduced waiting lists and the need for patients to identify health services and specialists. The introduction of personal doctors also has been a contributing factor to a large reduction in unmet needs – from 1.4% in 2018 to 0.4% in 2020 and 0.1% in 2022.

Capacity constraints in hospitals that existed under the old health care system have been reduced under the GeSY

During the period 2012–2019 the number of beds in acute hospitals in Cyprus decreased by 10%, following the general trend of decreasing beds in most Organisation for Economic Co-operation and Development (OECD)

and EU countries. In 2021, international databases put the total number of public and private beds in Cyprus at 312 per 100 000 population. This is lower than the EU average (483 per 100 000) but is considered sufficient to cover patients' hospitalization needs. An indicative element of acute hospital bed adequacy is the bed occupancy rate in public general hospitals, which was 79.8% in 2018 and 64.1% in 2020, which is below the 85% maximum occupancy rate that is generally considered safe.

Under the GeSY, the HIO is able to contract with private providers. This has considerably reduced some of the previous capacity constraints in inpatient care and the backlog of patients on waiting lists. The GeSY has brought together the public and private sectors into a single and competitive quasi market, where the two sectors compete for patients. It is still unclear if the competition between public and private sectors will work in practice and whether public hospitals will be able to compete with private ones to achieve financial autonomy and be financially self-sufficient. A major challenge for the GeSY is the overuse of medical imaging for diagnostics, with guidelines and protocols for medical diagnostics insufficient.

Access to dental care has expanded under the GeSY, but many patients seek care in the private sector

Dental care is provided by the Public Dental Services (PDS) and the private sector. The PDS is also responsible for planning and implementing preventive programmes, mainly in schools, to tackle oral health inequalities and reduce treatment needs, and for undertaking oral health surveys and monitoring the level of oral health in Cyprus.

Although the number of practising dentists in Cyprus is comparatively high (119 per 100 000 population in 2021), only 3.8% work in the public sector, providing dental care to approximately 10% of the population, mainly to people on lower incomes. The fees/co-payment per visit is just €3 regardless of the provision of service. The limited working hours of public-sector dentists, as well as the limited range of services provided – they do not provide fixed prostheses and implants – are some of the reasons why citizens visit the private sector. As of December 2020, some preventive dental care has been included in the package of health care services that are reimbursed by the HIO.

Cyprus currently lacks a comprehensive and integrated system of long-term care services, despite having an ageing population with increasing health and social care needs

The long-term care (LTC) system in Cyprus is fragmented and services are provided by the public, private and community sectors, while the role of informal carers is substantial. Total public LTC expenditure as a percentage of GDP is among the lowest in the EU Member States, resulting in high OOP payments. The lack of an integrated institutional framework, fragmentation in provision, insufficient coverage and the inadequacy of LTC facilities force many families to seek services in the private sector. Within the national social policy context, LTC focuses on the support of people with high levels of dependency, including the oldest age group with physical/mental disabilities, those with chronic diseases and people with learning disabilities. The administration of LTC services and relevant measures is the responsibility of the MoH, while the Ministry of Labour and Social Insurance (MLSI) is responsible for benefits in cash and in kind, through the department of Social Welfare Services (SWS). The national Recovery and Resilience plan contains some measures and funding targeting the improvement of LTC care facilities and services.

The introduction of the GeSY is the most significant health reform implemented in Cyprus since its independence in 1960

The GeSY replaced an outdated publicly funded system, which remained unchanged for many years and faced many challenges. These included long waiting times, which often forced patients to seek health services in the private sector, contributing to very high OOP payments and unmet needs for those unable to pay. Alongside limited financial protection, the old system did not ensure universal coverage, as about a quarter of the population were uninsured.

The implementation of the GeSY has led to major changes in all health system areas, including administration, financing, coverage, access, choice, benefits package, financial protection and remuneration of providers. The universality of the new system, combined with several other factors (such as the range of services provided, relatively few problems in accessibility

and availability, and low co-payments with annual caps) ensure increased financial protection to all beneficiaries, minimizing financial hardship and catastrophic health spending.

Lack of data currently does not allow the assessment of quality and effectiveness of the new health care system in detail

Data on preventable and treatable mortality indicate good results for health outcomes in Cyprus and suggest that Cyprus provides a good level of health care overall. However, smoking, obesity (especially among children), dangerous driving and various unhealthy lifestyles remain risk factors and require further attention.

Overall, the performance of the health system cannot yet be evaluated, as data on quality of care are not systematically collected. Cyprus lags behind in comparison with other European countries on certain quality indicators such as health care-associated infections (HAIs) and antimicrobial resistance (AMR). Efforts are being made to develop and implement clinical guidelines or to introduce other measures that will lead to the improvement of the quality of services provided and the effectiveness of medical procedures. There is an increased awareness of patients' rights but comparative information on hospital outcomes, quality of care and medical errors is not yet available. Better data that can be used to assess the quality of health care services should nevertheless be available in the future following the implementation of the integrated information system of the GeSY.

Other future challenges and areas for development related to the new system include: the reorganization and reform of public hospitals that will lead to their administrative and financial autonomy; the implementation of university clinics in public hospitals; the introduction and use of e-health, including electronic health records, the regulation of data storage and use of bio information; the establishment and operation of a CMP for Health; the integration of quality and performance indicators in the compensation mechanisms of GeSY providers; and the introduction of medical and therapeutic protocols and guidelines.

1

Introduction

Summary

- Cyprus is the third largest Mediterranean island, and an EU and Eurozone country covering an area of 9250 square kilometres, with a population of 918 100 (2021) in the government-controlled area.
- Cyprus is a presidential democracy with a centralized system of government and a clear separation of powers, provided by the constitution. Traditionally, the two major parties, DISY and AKEL, take the first two places in the parliamentary elections, but the proportional electoral system facilitates multipartyism, with the President-elect's party usually allying with other smaller parties to form a coalition government.
- Cyprus recorded strong economic growth and rising prosperity from 2001 to 2010, mainly due to a growth in services including tourism, construction and real estate. However, the country was severely affected by the global financial crisis in 2009 and signed a memorandum of understanding (MoU) with the European Commission, the European Central Bank and the International Monetary Fund for financial assistance, which required specific structural and fiscal measures to be taken across almost the entire public sector including health. While the COVID-19 pandemic has had a negative impact on Cyprus's economy, the country was less severely affected than many other EU countries and showed signs of recovery in 2021.
- In 2022, life expectancy at birth in Cyprus stood at 81.7 years, 1.0 year higher than the EU average, with women living an average of

more than 4 years longer than men. While life expectancy did not fall during the first year of the pandemic, it dropped by a year in 2021, before rebounding in 2022.

- The leading causes of death in Cyprus are diseases of the circulatory system and malignant neoplasms. Overall, the Cypriot population report good health and Cyprus has among the lowest level of preventable mortality among EU countries. Despite the relatively good health status of the population in Cyprus, several major risk factors, such as tobacco smoking, dietary risks, alcohol consumption and low physical activity, require attention.

1.1 Geography and sociodemography

Cyprus is the third largest Mediterranean island after Sicily and Sardinia, and is located 60 km south of Türkiye and 300 km north of Egypt. Situated at the intersection of important transport and communication routes linking Europe to the Middle East and Asia, it has historically been influenced culturally and economically by its geographic location.

The island consists of a large central plain (Messaoria plain) and two mountain ranges (the Pentadaktylos range along the north coast and the Troodos massif in its central and south-western parts). It has approximately 648 kilometres of Mediterranean coastline. Its capital and largest city is Nicosia. Administratively, the country is divided into six districts: Nicosia, Famagusta, Kyrenia, Larnaca, Limassol and Paphos. Approximately two-thirds of the population reside in urban areas, below the EU-27 average of 75.0% (World Bank, 2021), with an average household size of 2.6 persons (Eurostat, 2021b). Cyprus has a Mediterranean climate with hot, dry summers and mild, rainy winters separated by short autumn and spring seasons.

Cyprus has been a divided island since 1974; in-depth discussion of this issue is not appropriate for this report. In general, the government of the Republic of Cyprus has no access to information concerning the northern part of the island. Consequently, unless otherwise stated, all figures and discussions in this report refer to those areas of the Republic of Cyprus in which the government of the Republic of Cyprus exercises effective control. From 2010 to 2021, the total population of Cyprus increased by 12.7% from 819,140 to 923,381 (Table 1.1). There has nevertheless been

FIG. 1.1 Map of Cyprus

Source: United Nations, 2019.

a steady decline in the annual population growth rate, which has fallen from 2.2% in 1995 to 1.0% in 2021. According to Eurostat data in 2023 an estimated 80.1% of the total population were Cypriot citizens, with the remaining comprised of EU citizens (10.1%), and other country nationals (9.8%) (European Commission, 2023).

Since the mid-1980s, the total fertility rate has declined substantially, from a peak of 2.46 children per woman in 1982 to 1.8 in 2000 and 1.39 in 2021. The crude death rate in 2019 was 7.1 per 1000 inhabitants (7.6 for men and 6.6 for women) (European Commission, 2023).

Demographically, Cyprus exhibits the typical characteristics of an ageing population with a declining rate of population growth, a declining proportion of the population aged less than 15 years and an increasing proportion of the population aged over 65 years (Table 1.1). Although the population in Cyprus is still relatively young in comparison to other EU countries, the proportion of the population over 65 years of age has steadily increased from 11.2% in 2000 to 16.4% in 2020. This creates a need for more primary care centres, chronic disease management programmes and other community services, in addition to policies that support young couples to address the declining fertility rate.

TABLE 1.1 Trends in population/demographic indicators, selected years

	1995	2000	2005	2010	2015	2020	2021
Population, total	645 399	690 497	733 067	819 140	847 008	888 005	923 381
Population ages 0–14, total	25	22.8	19.9	17.2	16.4	16.0	15.4
Population ages 65 and above (% of total population)	11.0	11.2	12.1	12.5	14.6	16.3	17.2
Population density (people per km²)	70.4	75.0	79.8	90.0	92.0	95.7*	–
Population growth (annual growth rate)	2.2	1.8	1.7	1.3	0.8	0.8	3.98
Fertility rate, total (births per woman)	2.0	1.6	1.5	1.4	1.3	1.36	1.39
Distribution of population (% rural/urban)	31.9/68.1	31.2/68.8	31.7/68.3	32.5/67.5	32.8/67.2	32.2/67.8	33.3/66.7

*2019.

Sources: Cystat, undated; Eurostat, 2024a; World Bank – World Development Indicators Database, 2024

Cyprus has a high level of educational attainment. Census data show that in 2021, 36.6% of people 15 years of age and over were graduates of secondary education and 27.6% graduates of tertiary education. In contrast, the percentage of those who did not attend or dropped out of primary education was only 2% (Government of Cyprus, 2024). In 2021, 58.3% of people aged 25-34 had completed tertiary education in Cyprus, compared to an EU average of 41.2% (European Commission, 2022).

The higher education system is shaped by the European higher education area as outlined by the Bologna process. It consists of three public universities (University of Cyprus, Open University of Cyprus and Cyprus University of Technology) and seven private universities (European University, Frederick University, University of Nicosia, Neapolis University, Philips University, American University of Cyprus and University of Central Lancashire, Cyprus (UCLan Cyprus)). The increase in the number of universities in Cyprus over the last decade has led to a rise in the number of students remaining on the island for their studies, while also attracting growing numbers of students from abroad.

1.2 Economic context

Cyprus joined the EU as a full member on 1 May 2004 and the Eurozone on 1 January 2008, introducing the Euro as its official currency. During that period the economy grew rapidly until the onset of the global financial crisis in 2008, after which a steady decline in GDP was seen from 2009 to 2014, before growth resumed. In 2007, the first signs of an impending financial crisis began to appear, with a bank credit boom (Clerides & Stephanou, 2009). This financial crisis eventually led to an economic crisis, which culminated in 2013 when the government requested financial assistance from the European Financial Stability Facility. A memorandum of understanding (MoU) was signed with the European Commission (also acting on behalf of the Eurogroup, European Central Bank and International Monetary Fund), which provided for specific structural and fiscal measures across the public sector. In the field of health, the memorandum underscored the need for implementation of a national health system (NHS), providing universal coverage "*without further delay by end-2015, ensuring its financial sustainability*" (Government of Cyprus, 2014). Cyprus satisfied the terms of the memorandum and within 5 years exited the bailout programme, with its economy on a recovery trajectory.

The adverse impact of the financial crisis is clearly visible when looking at both total GDP and GDP per capita, which declined between 2009 and 2014, and have yet to recover to pre-crisis levels. The unemployment rate also rose considerably, from 5.4% in 2009 to 16.1% in 2014, before declining to 7.1% in 2019. In 2020, the COVID-19 pandemic and measures taken to address it had further negative consequences for the economy, with GDP falling by 5% in 2020 (OECD & European Observatory on Health Systems and Policies, 2021). This was nevertheless below the average decline in the EU of 6.5% and the Cypriot economy has since shown signs of recovery. It should be noted that full implementation and operation of the new health care system did not seem to be significantly affected by the outbreak of the pandemic, with the crisis rather hastening implementation (see Chapter 6). The impact of the Russia–Ukraine war and the international sanctions against Russia has created conditions of global economic instability which may substantially affect Cyprus due to an expected reduction in tourism, an important source of employment and revenues for the island.

TABLE 1.2 Macroeconomic indicators, selected years

	1995	2000	2005	2009	2020	2022
GDP per capita (current US$)	15 261.4	14 388.3	24 959.2	32 109.2	27 527.8	32 048.2
GDP per capita, PPP (current international $)	17 087.0	21 288.5	27 763.2	33 884.9	39 452.9	53 786.7
GDP growth (annual %)	8.36	5.96	4.85	-2.01	-5.23	5.1
Public expenditure (government expenditure as % of GDP)	30.42	34.97	39.69	41.89	40.06 (2019)	39.81
Government deficit/surplus (% of GDP)*	-0.7	-2.7	-2.2	5.4	-5.7	3.1
General government gross debt (% of GDP)*	49.0	55.7	63.4	54.3	115.3	85.6
Unemployment, total (% of labour force)	3.36	4.97	5.30	5.36	7.21	6.81
Poverty rate (people at risk of poverty or social exclusion by age and sex as % of total population)**	–	–	25.3	23.5	21.3	16.7
Income inequality (Gini coefficient of disposable income)	–	–	30.3 (estimate)	32.1 (estimate)	32.7 (2018 estimate)	31.3 (2021)

Notes: * Eurostat.

** For 2005, this is the percentage of the population that has income below €7894. For 2009, it is the percentage of the population with income below €10 459.

Source: World Bank – World Development Indicators Database, 2024, unless otherwise stated.

1.3 Political context

Cyprus is a democracy with a presidential system of government. The Constitution provides for a clear separation of powers. Executive power is exercised by the President of the Republic and the Council of Ministers; judicial power lies with the courts and legislative power is exercised by the House of Representatives. The President of the Republic, elected by universal direct suffrage for a 5-year term, is also the Head of State and of the Government and chairs the Council of Ministers. The proportional electoral system for the House of Representatives facilitates multipartyism, with the President-elect's party usually allying with other smaller parties to form a coalition government.

Executive and legislative powers are fully centralized, with all decisions at the executive level taken by the President of the Republic and the Council of Ministers and then legislated and voted on by the House of Representatives. The few responsibilities assigned to municipalities relate to minor issues of local interest. To ensure checks and balances on executive-level decisions, Parliament can reject a bill, asking for changes before voting. Cyprus harmonizes its policy decisions with the obligations of being a member of the EU, the European Economic Area (EEA) and the World Health Organization (WHO).

Legislative power is exercised by the 59 members of the House of Representatives, elected every 5 years by universal direct suffrage, where 56 members are elected based on proportional representation and three observer members are elected by minority groups, representatives of the Armenian, Maronite and Latin religious groups. All citizens over the age of 18 years have the right to vote. In the last elections held in 2021, 15 parties participated, with seven returning elected members to Parliament, including: the current President's Conservative party Democratic Rally (DISY) with 27.8% of the vote and 17 elected members of the Parliament (MPs); the communist party (AKEL) with 22.34% and 15 MPs; the centrist Democratic Party (DIKO) with 11.29% and 9 MPs; the National Popular Front (ELAM), a far right party with 6.78% and 4 MPs; the Socialist party (EDEK) with 6.72% and 4 MPs; the liberal Democratic Party (DIPA) with 6.1% and 4 MPs; and the Greens with 4.41% and 3 elected MPs. Over the past 50 years, the two major parties, DISY and AKEL, each with electoral percentages of between 25% and 30%, have taken the first two places in the parliamentary elections and have formed coalitions with smaller centrist parties.

1.4 Health status

Overall and based on several health indices, the population in Cyprus is among the healthiest in Europe (OECD & European Observatory on Health Systems and Policies, 2023). The introduction of the new comprehensive General Healthcare System (GeSY), which was completed in June 2020, is a huge social reform which has transformed the health care environment in Cyprus. Although there are not yet enough data available for a definitive analysis of the impact of these reforms, they are expected to have a positive impact on the health status of citizens by increasing access, coverage, affordability and quality.

In 2022, life expectancy at birth was 81.7 years, which is 1.0 year higher than the EU average, with women living an average of more than 4 years longer than men (Table 1.3). While there was little change in life expectancy in 2020 as a result of the COVID-19 pandemic, it fell by more than a year between 2019–2022 before rebounding (OECD & European Observatory on Health Systems and Policies, 2023). There has been a slowdown in gains in life expectancy since 2010, partly as a result of increased mortality rates from some respiratory diseases.

Circulatory diseases were the leading cause of death in 2021, accounting for a quarter of all deaths, followed by cancer (22%). Mortality rates from cancer have remained stable over the past 20 years, but there has been a substantial decline in deaths from circulatory diseases (OECD & European Observatory on Health Systems and Policies, 2023). COVID-19 was the leading individual cause of mortality in 2021 (8.4% of all deaths), followed by ischaemic heart disease (accounting for 7.8% of all deaths) and by diabetes (6.8%), for which the mortality rate is the highest in the EU. Lung cancer remains the most frequent cause of death by cancer, followed by breast and colorectal cancers. Cyprus has been almost free of many common infectious and parasitic diseases for the past 20 years and has achieved significant progress in communicable disease control. Overall, Cyprus had the lowest level of mortality from preventable and treatable causes in 2020 out of all EU Member States (OECD & European Observatory on Health Systems and Policies, 2023).

More than three-quarters of the population in Cyprus (78%) reported being in good health in 2022, higher than the EU average (68%) (OECD & European Observatory on Health Systems and Policies, 2023). Nevertheless, almost two out of five individuals live with a chronic disease, while people on higher incomes are more likely to report good health than those on lower incomes.

Despite the good health status of the population in Cyprus (OECD & European Observatory on Health Systems and Policies, 2023), several issues and major behavioural risk factors, such as tobacco smoking, obesity and low physical activity, remain to be addressed (Fig. 1.2). According to estimates from the Global Burden of Disease Study 2019 (IHME, 2020), behavioural risk factors, including dietary factors, tobacco smoking, alcohol consumption and low physical activity, were attributed to 38% of all deaths in Cyprus in 2019, similar to the EU average. Tobacco use (including passive

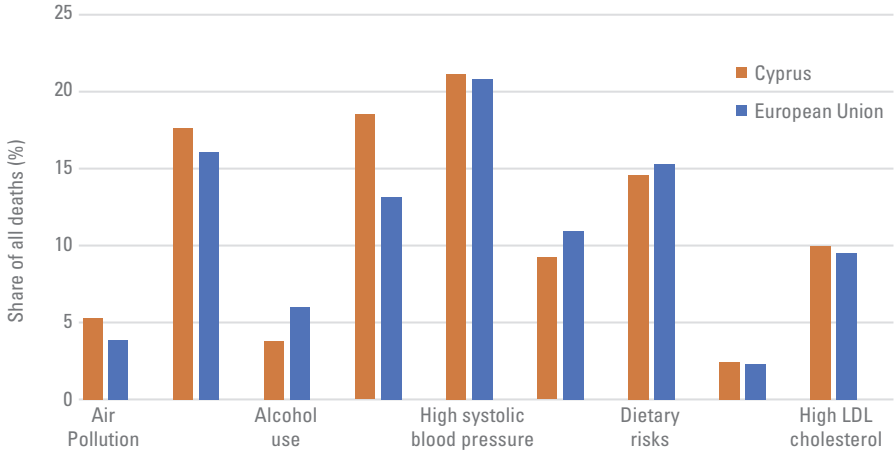
TABLE 1.3 Mortality and health indicators, selected years

	1995	2000	2005	2010	2015	2020	2022
LIFE EXPECTANCY (YEARS)							
Life expectancy at birth, total	77.4	77.7	78.7	81.5	81.8	82.3[a]	81.7[a]
Life expectancy at birth, male	75.1	75.4	76.5	79.2	79.9	80.3[a]	79.9[a]
Life expectancy at birth, female	79.6	80.1	80.8	83.9	83.7	84.3[a]	83.6[a]
Life expectancy at 65 years, male	15.8	15.9	16.7	18.3	18.4	18.9[a]	19.1[a]
Life expectancy at 65 years, female	18.4	18.3	19.0	21.0	20.8	21.4[a]	21.5[a]
MORTALITY (SDR PER 100 000 POPULATION)							
Circulatory diseases	–	–	510.70	386.50	372.76	292.68	280.80[b]
Malignant neoplasms	–	–	206.4	197.1	206.72	204.56b	213.2[b]
Certain infectious and parasitic diseases	–	–	11.40	11.30	25.77	27.5b	27.5[b]
External causes of morbidity and mortality	–	–	66.3	44.8	41.2	45.2b	45.2[b]
All causes of death	–	1240.0	1226.0	979.6	1047.48	944.02B	944.02[b]
Infant mortality rate	8.5	5.6	4.6	3.2	2.7	2.6[c]	2.6[c]
Maternal mortality rate	–	–	–	–	–	–	–
modelled estimate, per 100 000 live births	–	14	12	8	7	6[d]	6[d]
national estimate, per 100 000 live births	–	–	0	8	0	0[e]	0[e]

Notes: [a]estimated provisional, [b]2021 provisional, [c]2019, [d]2017, [e]2016; SDR: standardized death rate.
Sources: Eurostat, 2024a; World Bank – World Development Indicators Database, 2024.

smoking) was the largest behavioural risk factor contributing to mortality, accounting for 18% of deaths (Fig. 1.2), above the EU average (16%). Dietary risks were the second highest behavioural risk, accounting for 15% of all deaths, followed by alcohol use (4% of all deaths) and low physical activity (2%).

FIG. 1.2 Risk factors affecting health status in Cyprus, 2019



Source: IHME, 2021

2

Organization and governance

Summary

- Cyprus introduced a comprehensive General Healthcare System (Geniko Systima Ygeias, GeSY) in June 2019, which provides universal coverage and free access to all beneficiaries. The two main actors in the new system are the Health Insurance Organization (HIO), which is responsible for the administration and financial operation of the GeSY, and the State Health Services Organisation (SHSO), which is tasked with the management, control, supervision and development of public hospitals and health centres. The Ministry of Health (MoH) has a more strategic role.
- Although the MoH has shifted some of its responsibilities to the HIO and SHSO, it continues to have overall oversight of the health system and major reforms. It also remains the competent authority for public health issues, with no separate Directorate or Agency, or Department for Public Health, and is responsible for cross-sectoral cooperation with other Ministries and agencies in the context of 'Health in All Policies'.
- Responsibility for the regulation and governance of health care provision rests primarily with the HIO and secondarily with the

SHSO. Efforts are being made to develop and implement clinical guidelines or to introduce other measures that will lead to the improvement of the quality of services provided and the effectiveness of medical procedures. Further strengthening of governance and regulation of the provision of services by the GeSY is needed.

- There is no integrated information system that covers all issues in the new health care system. Specific information systems are being used by the HIO and public hospitals. The HIO's Integrated Information System has a well-organized data collection system that contains various information for HIO, contracted health care providers and the beneficiaries of the GeSY.
- Cyprus has incorporated EU regulations and directives into national legislation concerning professional qualifications of health care personnel, medical equipment, pharmaceuticals, voluntary health insurance (VHI) and cross-border health care.
- There is an increased awareness of patients' rights but comparative information on hospital outcomes, quality of care and medical errors is not available. Patients' choice is linked to the choice of their personal doctor, who acts as the gatekeeper to outpatient services.

2.1 Historical background

There are written sources that confirm the existence of 'doctors' and 'medicines' in Cyprus from as far back as 2500 years ago. Notable examples of early medical approaches are shown by the bronze Tablet of Idalion[1], Aristotle's reference to different kinds of plant in Cyprus that were useful for the art of medicine (4th century B.C.) and a visit of the great Greek doctor Galenos (129–216 A.D.) to collect medicinal herbs and mineral medicines (Chrysanthis, 1991). During the Ottoman rule (1571–1878), health and sanitation conditions were poor and infectious diseases, such as plague, cholera and malaria, were endemic in the island. Outbreaks of cholera,

[1] According to this tablet, inscribed with signs of the Cypriot syllabary (480–470 B.C., housed in the Bibliothèque Nationale, Paris), the doctor Onasilos and his brothers made an agreement to look after the wounded during the siege of Idalion city by the Persians and the Kitians. As a reward, the King of Idalion Stasikypros agreed to give the brothers land and money.

malaria, leprosy, meningitis, smallpox and typhoid were also common during British colonial rule (1878–1960). However, during this time, the first steps were taken to establish basic health infrastructure, including pharmacies and clinics staffed by British and Cypriot doctors, as well as the establishment of the Nursing School. By the end of British rule, small public hospitals were established in the six major cities of Cyprus, as well as health centres and community clinics in large villages. In addition to public health centres, the two major trade unions, the Pancyprian Federation of Labour (PEO) and the Cyprus Workers Confederation (SEK) established their health centres in Nicosia (1943) and Limassol (1963).

Until the end of colonial rule, state hospitals operating in the island's six cities, plus health centres and community clinics in large villages, were mostly financed by the British government as well as by the municipalities, but also by those patients who could pay for services received in hospitals. This network provided services free of charge to the poor, based on poverty certificates issued by community authorities, while the rest of the population either visited the private sector, which began to be organized and expanded throughout Cyprus (Theodorou & Athanasakis, 2021) or public hospitals, bearing the full cost. This system, with some changes and improvements, remained in operation for almost six decades, until the implementation of the GeSY in 2019.

Since independence in 1960, labour unions, organized groups and the public in Cyprus had called for a national universal and free health care system. Toward this end, at least five proposals and studies for the introduction of a public health care system were prepared on behalf of Cypriot governments (ILO, 1966; WHO, 1972; Zollner, 1980; WHO, 1982; Llewelyn-Davies Weeks, 1988). All experts who analysed the situation in Cyprus from 1966 onwards suggested that an insurance-based scheme would be most suitable.

The most serious effort towards a major health reform began in 1991; this led to the preparation of a document one year later by a team of academics from the universities of Leeds, York and Harvard called 'Proposals for a National Health Insurance Scheme' (Consultancy Team, 1992). After a long period of dialogue and negotiations with all relevant stakeholders and interest groups, the Founding Law of the GeSY was passed by Parliament in 2001 and the HIO was established in law (Founding Law 89(I)/2001). Nevertheless, implementation was delayed for another 18 years. Finally, in June 2019, the first phase

of the new system was implemented – and completed with the second phase in June 2020. More information on the implementation procedures and the politics behind this delay can be found in Chapter 6.

2.2 Organization

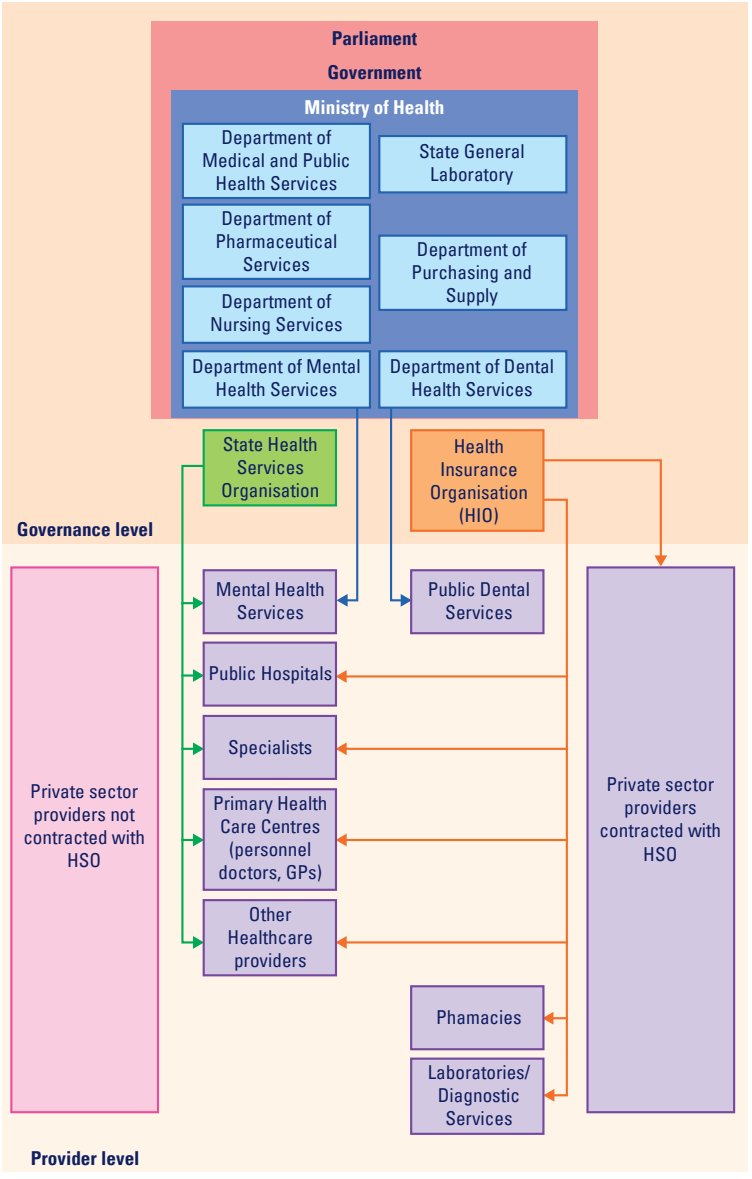
The new health care system is a mixture of a National Health Service and a Social Health Insurance scheme, funded by beneficiaries' and employers' contributions and the state budget. Providers come from both the public sector and the contracted private sector. The main actors are the HIO, the SHSO and the MoH, as shown in the organizational structure in Fig. 2.1.

In addition to the MoH, two other Ministries have a substantial role in the promotion of health and social protection. Firstly, the Ministry of Finance (MoF), as it prepares and controls the national budget and consequently decides on the amount of money allocated to the MoH. Secondly, the Ministry of Labour and Social Insurance (MLSI), which is responsible for social welfare, improving the standard of living and quality of life of the population. A good example is the introduction of a national minimum wage by the MLSI (€940 gross for full-time employment), recently approved by Parliament. It concerns workers who are not protected by collective agreements and has been in force since 1 January 2023.

The implementation of the GeSY brought significant changes to the organization of the health care system. The previous system was fully centralized, with the MoH having all organizational and administrative responsibilities. This quite simple administrative model has been replaced by a more complex one, with two independent public legal entities, the HIO and the SHSO established. However, the MoH, which continues to have overall responsibility for health care, now has a more strategic role on issues of health policy. In addition, policy stewardship for the Department of Public Dental Services (PDS), Department of Mental Health Services, Department of State General Laboratory, Department of Pharmaceutical Services, Department of Nursing Services and the Department of Medical and Public Health Services (MPHS) remain under the responsibility of the MoH. The MoH is also responsible for the management of patients who need certain specialized treatment abroad, which is not provided by GeSY hospitals. All other responsibilities of the MoH have been delegated by law to the newly created HIO and SHSO.

The roles of the Departments of Nursing Services and of Medical and Public Health Services, have changed significantly in the context of GeSY. The MPHS focuses on monitoring population health, identifying risk factors and public health needs, implementing screening and prevention programmes, and taking measures in the broader public health field (see

FIG. 2.1 Organizational relationships of the key actors in Cyprus's health care system.



Source: Authors

Chapter 5). Cooperation between these services and the SHSO was very important in the effective management of the COVID-19 pandemic. The role of the Department of Mental Health Services is mainly focused on the development and monitoring of national and other strategies related to mental health issues, as well as legislation, EU issues, and representation of the MoH at the national, international and European levels. The pharmaceutical services of the MoH have the substantive competence in matters of pharmaceuticals and drugs, as provided for in the relevant legislation of the Republic of Cyprus.

The second important actor in the GeSY is the HIO, a public legal entity established in accordance with the Founding Law of the GeSY. According to this law, HIO is responsible for: i) managing the Fund of health contributions; ii) ensuring equal access to and providing beneficiaries with health care services; iii) contracting with health care providers; iv) monitoring the activity of health care providers; v) checking the claims and arranging for their payment; vi) carrying out annual actuarial reviews on the financial condition of the Fund; vii) distributing money for purposes of research, information, education and training; and viii) keeping records and statistical data regarding contracted providers and the services reimbursed. HIO is accountable to the MoH and the MoF.

The third main actor in the organizational structure of the GeSY is the SHSO, a legal entity established in 2017 under public law. According to the relevant law 73(I)/2017, SHSO is responsible for the operation, management, control, supervision and development of public hospitals and primary health care centres. It is the largest health care provider of the GeSY with 9 hospitals and 38 health centres in all districts of Cyprus. Its basic objectives are to: (i) ensure access and provision of health care services, as provided by the Law of the GeSY; (ii) develop research, educational and academic activities in the field of health sciences; (iii) issue protocols, guidelines and anything else aimed at promoting good practices in public hospitals; (iv) develop business activities related to health services in order to use SHSO property in the best and most profitable ways.

SHSO's revenue comes from the health care services provided. This means public hospitals need to be financially and administratively autonomous, so that they can compete with private ones and become financially sustainable. This is also another challenging responsibility of the SHSO and more needs to be done to achieve this goal.

Finally, the Cyprus Medical Association (PIS), the Cyprus Association of Private Hospitals, the Federation of Patient's Associations (OSAK), the trade unions, as well as the Cyprus Employers and Industrialists Federation are important stakeholders with an influence, to varying degrees, on health policy issues, especially in planning and regulation. The OSAK, bringing all patient organizations together under one umbrella, has given patients particular power and influence in decision-making. Its strong support of the new health care system, along with the support of media, were important drivers of GeSY implementation. The OSAK as well as the trade unions and the Cyprus Employers and Industrialist Federation are members of the HIO's Board. In contrast, private doctors, private hospitals and health insurance companies created a major anti-reform alliance, which prevented and postponed the introduction of the GeSY for many years.

2.3 Decentralization and centralization

While the GeSY is structured and organized centrally, the establishment of the HIO and SHSO outside the structure of the MoH as well as their delegated administrative authority bring some elements of decentralization to the health care system. In addition, the government is planning for public hospitals to have administrative and financial autonomy by 2026. This could also be considered as a form of decentralization, with their administration and sustainability eventually transferred to the hospitals themselves.

2.4 Planning

Under the GeSY, some responsibilities of the MoH have been delegated to the HIO and SHSO. However, the MoH sets the strategic direction for the health sector and remains the competent authority for planning and introducing major reforms, developing and monitoring the implementation of policies for health promotion and disease prevention, developing intersectoral collaboration with other Ministries and engaging them in taking a 'Health in All Policies' approach, as well as representing Cyprus in European and International forums.

BOX 2.1 Is there sufficient capacity for policy development and implementation?

Traditionally, governments in Cyprus have tried to find a balance between the health needs of citizens and the interests of the private health sector. This is one reason why the introduction of a universal coverage system was considerably delayed. The situation seems to have improved significantly with the creation of the HIO and SHSO, two independent organizations that have responsibility for the effective operation and development of the overall health system, and the operation and development of public sector health infrastructure, which will lead to the administrative and financial autonomy of hospitals. A key issue for the HIO is the financial sustainability of the GeSY in the long term and for the SHSO to develop public hospitals, so that they can compete with private hospitals. In both cases, effective management and sufficient capacity for policy development is needed. For more details on the Capacity Master Plan (CMP) project, see Section 6.2.

During the COVID-19 pandemic, the MoH planned the strategy and guided the country's response by issuing decrees and regulations, creating new health services and regulating the operation of health services in both the public and private sectors, among other responsibilities. It is now responsible for planning and implementing the Cyprus Recovery and Resilience Plan (RRP), which provides for projects in the field of health of €74.1 million (Cyprus Recovery and Resilience Plan, 2021–2026). More information on the Cyprus RRP can be found in Section 6.2.

In addition to the MoH, the HIO also has a substantial role in health care planning, in line with the priorities set by the MoH. As previously mentioned, the HIO is the competent authority for the administration of the GeSY and is responsible for handling the revenue of the system, contracting with and remunerating providers for the services they provide to beneficiaries. There is currently insufficient evidence on the extent to which GeSY principles and objectives have been achieved. However, a patient satisfaction survey conducted in April 2024 found that 92% of the respondents agreed that the quality of services provided by GeSY had improved while 86% consider that GeSY has reduced their health care costs (Cyprus Mail, 2024)

2.5 Intersectorality

The MoH cooperates with other Ministries and different agencies, as well as with non-governmental organizations (NGOs) that have mutual interest and expertise, and can contribute to planning and/or implementation of health prevention and promotion programmes. There are several cases of intersectorality among different Ministries, government departments, universities, NGOs and other agencies of the private sector. The cooperation of the MoH and the Ministry of Education for the introduction of health education in primary schools and the vaccination of children are typical examples. Another example is the cooperation of the MoH with the MLSI for setting the safety and health standards that workplaces should meet, as well as implementing risk assessment and risk management, protecting workers and limiting risk factors by issuing notifications for work accidents and occupational diseases.

There is also cross-sectoral cooperation with both the Ministry of Defence and the Civil Defence for emergency plans in case of natural disasters (earthquakes, forest fires, etc.), as well as in war situations. Moreover, the Department of Public Health Services of the MoH, as the competent authority for the implementation and control of the new European Commission Harmonized Legislation for foodstuffs, in cooperation with all other stakeholders, has developed a uniform and integrated policy for food safety in Cyprus.

Several intersectoral programmes and policies have been developed and measures taken to reduce the exposure to risk factors such as smoking, alcohol consumption and road accidents. In January 2010, Cyprus banned smoking in all enclosed public places and hospitality venues. There is also a complete ban on advertising cigarettes, either directly or indirectly, in mass media, as defined in the 'Protection of Health Laws 2002–2009' and the 'Cyprus Broadcasting Corporation Law of 1959–2010'. However, there is scope to strengthen these policies and their enforcement as 23% of the Cypriot population continued to smoke daily in 2019, a proportion higher than the EU average of 20% (OECD & European Observatory on Health Systems and Policies, 2021). With respect to alcohol, stricter legislative measures have been taken, such as preventing the sale of alcoholic beverages to those under the age of 18, conducting regular checks to prevent illegal trade, and the introduction of a taxation system for alcoholic beverages based on alcohol type and volume. Road safety is an important factor affecting health and mortality in Cyprus. For example, from 2018 to 2020, Cyprus recorded the

second highest death rate in the EU of motorcyclists involved in accidents who did not wear a helmet. Campaigns have therefore been organized by the Ministry of Transport, Communications and Works to enforce the use of seat belts and child safety seats in cars, helmets for motorcyclists and to combat drink-driving. A new road safety strategy for 2021–2030 aims to reduce road deaths by half, with the introduction of harsher penalties and traffic cameras. The strategic plan for the next decade will focus on five main pillars: effective road safety management, safe roads and mobility, safe vehicles, safe road users and effective post-collision response (Ministry of Transport, Communications and Works, 2020).

2.6 Health information systems

The integrated information system of the GeSY is the backbone of the new system and the basic tool for collecting, reporting, monitoring and analysing its activity (https://www.gesy.org.cy/launchpad.html). It consists of two subsystems, the Beneficiary Portal and the Provider Portal, which are available online via the GeSY website to beneficiaries and providers respectively. On the Beneficiary Portal, beneficiaries can: i) open an account as a GeSY beneficiary and register on the list of the personal doctor of their choice; ii) submit questions and lodge complaints; iii) have access to their personal information; iv) have access to their medical record and the medical record of their children under the age of 18; v) have access to directories of providers; vi) view their open referrals, prescriptions and lab orders; vii) view their co-payments information.

Providers can use the portal to: i) apply for enrolment and contracting; ii) have access to their personal information; iii) manage the beneficiaries list (for personal doctors); iv) issue all referrals; v) issue prescriptions for pharmaceutical and consumable products; vi) issue referrals for lab and diagnostic tests; vii) submit lab and diagnostic tests results; viii) access and update beneficiaries' electronic files; ix) submit payment requests; x) submit questions and lodge complaints; xi) receive automated reminders and announcements.

The GeSY information technology (IT) system is a tool for collecting, reporting and analysing data. It supports all internal processes of the HIO including the Fund's claims management, payments and all relevant subsystems required for the proper functioning of the health care system. Being a

new system, it has the potential to be further developed by linking spending to quality indicators and performance monitoring.

The information systems of the MoH, used for public health monitoring and surveillance, have been shown to be robust and responsive; for example, real-time data were available for the development of COVID-19 response policies and decision-making. Improving data completeness and data quality will support more in-depth health system performance assessment. It would also enable Cyprus to engage more fully with the European Health Data Space initiative, which aims to promote health data exchange and support research on new preventive strategies, as well as on treatments, medicines, medical devices and outcomes (OECD & European Observatory on Health Systems and Policies, 2021).

Since 2007, a Health Information System has been in operation in two public hospitals (General Hospitals of Nicosia and Famagusta). It consists of 13 subsystems and deals with operational procedures such as electronic patient records, patient billing, managing e-prescriptions, laboratory tests, etc. A survey in 2017 revealed that users' opinions of the system were moderate across five categories (satisfaction, collaboration, system quality, safety and procedures), indicating the need for further improvement (Stylianides et al., 2019). In September 2022, an agreement was signed between the SHSO and a private company (OTE Group) for the development and operation of the new Integrated Health Information System for all public hospitals and health care centres (see Section 4.1.3). In addition, from March 2024, the project for the 'Digitization of Medical Records' began to be implemented, by the project contractor who won the relevant tender. It is worth mentioning that technology played an important role during COVID-19. Only a few weeks after the onset of the pandemic, the University of Cyprus, along with the Deputy Ministry of Research, Innovation and Digital Policy, created a portal recording all confirmed COVID-19 cases in real time along with their geographical distribution, the number of tests that had been performed, patients that were hospitalized with COVID-19, and deaths. The portal provides information about other countries as well and facilitates comparisons (University of Cyprus, KIOS Research and Innovation Centre of Excellence, undated). Also created was the CovTracer app, which allowed people to trace their location and notify people in case the user tested positive. Moreover, throughout the COVID-19 pandemic, various information and communication technology (ICT) systems were developed to support the MoH in effectively managing

the crisis. These systems were designed to seamlessly record, manage and monitor several crucial aspects such as: a) suspected cases that were reported to first responders of the emergency response hotline 1420 (operated during the early pandemic period; b) COVID-19 diagnostic tests; c) confirmed cases with hospitalization and disease outcome data; d) essential epidemiological information crucial for outbreak investigations; and e) the administration of COVID-19 vaccinations. Additionally, the country introduced complementary systems, such as an EU digital COVID certificate issuance platform and a contact-tracing application. Many of these systems remain operational, playing a pivotal role in ongoing COVID-19 surveillance efforts.

2.7 Regulation

The government exercises its regulatory role at the national level through health legislation, as well as through the HIO and SHSO. In some cases, other Ministries, such as the Ministry of Finance and Ministry of Education, or the Parliament may also have some regulatory function in the field of health. The EU has a regulatory role through its directives, which Cyprus has incorporated into national legislation, in many issues related to public health, such as professional qualifications of health personnel, quality of water for human consumption, medical equipment and pharmaceuticals.

2.7.1 *Regulation and governance of third parties*

The HIO and the SHSO are the third-party payers within the new health care system, as are the private insurance companies which provide VHI coverage outside and beyond the GeSY. The HIO and the SHSO are public legal entities, governed by boards of directors, with relatively high autonomy in their activity.

The HIO, responsible for the implementation and management of the new system, is managed by a 13-member board of directors. Similarly, the SHSO, which is responsible for the organization and operation of public hospitals and health centres, is managed by a nine-member board of directors. In both cases, the members of the board of directors are appointed by the Council of Ministers, following a proposal by the MoH. For more information about HIO and SHSO see Chapter 6.

Finally, private insurance companies are under the supervision and control of the Insurance Companies Audit Service of the Ministry of Finance, with their activity regulated by the Law 38(I) of 2016 and its amendments (The Insurance and Reinsurance Business and Other Related Issues Law of 2016).

2.7.2 *Regulation and governance of provision*

Responsibility for the regulation and governance of provision rests primarily with the HIO and secondarily with the SHSO. The HIO has the overall regulatory role for the system at the national level, while at a lower level, this role for public hospitals and health centres rests with the SHSO. In practice, as expected, the GeSY as a newly introduced system, has gaps and shortcomings, especially in the fields of regulation and governance. For example, there are currently no statutory mechanisms to ensure that providers achieve minimum standards of competence, governance and management arrangements or quality assurance systems in place to ensure and monitor the quality of care provided.

Nevertheless, efforts are being made in the right direction, either by developing and implementing clinical guidelines or by looking for ways that will lead to the improvement of the quality of services provided and the effectiveness of medical procedures. A relevant example is the ongoing dialogue between the HIO and contracted public and private hospitals for a different way of reimbursement, incorporating quality and efficiency indicators (see more details in Section 7.4). Also worth mentioning is the SHSO's recent agreement with a Canadian organization for the accreditation of public hospitals, starting with the Nicosia General Hospital and the Makarion Hospital for Children and Women. Finally, the establishment of a National Centre on Clinical Documentation, the accreditation of provided health care services, and the upgrading of medical technology and medical devices in hospitals, provided by the Cyprus National Recovery and Resilience Plan 2021–2026, is expected to have significant added value in the quality and effectiveness of services provided. More actions will nevertheless be needed in terms of governance and regulation for better quality and effectiveness of services provided.

An overview of the regulation of providers is presented in Table 2.1.

TABLE 2.1 Overview of the regulation of providers

	LEGISLATION	PLANNING	LICENSING & ACCREDITATION	PRICING & TARIFF SETTING	QUALITY ASSURANCE	PURCHASING/ FINANCING
Public health services	MoH	MoH, HIO	n/a	HIO (for vaccines)	Not yet	MoH (MoF), HIO
Ambulatory care (primary and secondary care)	GeSY Founding Law 89(I) of 2001	None	Medical Council	HIO	Not yet	HIO
Inpatient care	GeSY Founding Law 89(I) of 2001	None	MoH (Private Hospital Act)	HIO	Ongoing	HIO
Dental care	Dentists' Registration Law 1962 (N.76/1962	None	Dental Council	HIO	Not yet	HIO and households)
Pharmaceuticals (ambulatory)	GeSY Founding Law 89(I) of 2001	None	Pharmaceutical Council	HIO	Not yet	HIO
Long-term care	GeSY Founding Law 89(I) of 2001	None	MoH	HIO	Not yet	HIO and households
University education of personnel			Ministry of Education	Set by providers	Cyprus Agency of Quality Assurance and Accreditation of Higher Education	Households

Note: n/a: not applicable.

Source: Authors.

2.7.3 *Regulation of services and goods*

THE BASIC BENEFIT PACKAGE

The Founding Law 89(I)/2001 of the GeSY and its amending Law 74(I) (Law of 74(I)/2017), explicitly define the medical and other health care services that are provided and reimbursed within the new system. The procedures and the relevant details, including the amount and the method of reimbursement, are then reflected in internal regulations and decisions issued by the HIO after discussion and consultation with professional associations or representatives of health care providers, with the consent of the MoH.

In addition, an advisory Scientific Committee of doctors supports the HIO's Board on issues of protocols, restrictions on medical procedures and best practices. Following the opinion of the above-mentioned medical Committee, the Board may reject the provision of health care services of limited or uncertain effectiveness, or health care services whose cost is too high and may jeopardize the sustainability of the system. The cost of any health care service is always adjusted accordingly so that the total cost does not exceed the expenditure set out in the global budget for the health care group to which it corresponds.

Under the GeSY, the responsibilities of the MoH regarding the reimbursment of pharmaceuticals have shifted to the HIO. Following the implementation of the new system, any medicinal product manufactured or imported, for which a marketing authorization is in force in accordance with the provisions of the 'Medicinal Products for Human Use (Quality Control, Supply and Prices) Law' (70(I)/2001) can be included in the list of reimbursed pharmaceutical products by the HIO, provided that a positive decision is granted by the Council of the HIO following the relevant scientific committee's recommendations. The criteria used as a basis for decision-making is determined by HIO internal regulations. Clinical evidence with respect to comparative effectiveness, evidence-based clinical guidelines and existing health technology assessments performed by other European decision-making bodies, are deemed important in the process for consideration of drugs for reimbursement. It is worth noting that the decision for the inclusion of pharmaceutical products by the HIO Council is further shaped by the recommendations of the Drug Compensation Advisory Committee appointed by the HIO Council, which advises the HIO Council on compensation for pharmaceutical products that are or will be included in the list of pharmaceutical products.

By law, the role of the MoH in reimbursment decisions is limited to public health issues and the exceptional event of emergencies, such as the COVID-19 pandemic, in which case the cost of vaccines and other pharmaceutical products is born by the MoH. However, the MoH is still responsible for covering the expenses for new and expensive pharmaceutical products due to significant delays in the HIO processes for concluding timely agreements with the marketing authorization holders.

HEALTH TECHNOLOGY ASSESSMENT

Despite extensive health care reforms being put in place, little progress has been made in terms of developing health technology assessment (HTA) capacity. Establishing HTA capacity was a specific engagement under the agreed international financial assistance package covered by the Memorandum of Understanding on Specific Economic Policy Conditionality signed in 2013.

In this context, the Support Group for Cyprus financed consultancy work in 2014 by the London School of Hygiene and Tropical Medicine to support the Cypriot authorities in their efforts to establish HTA capacity, although ultimately, implementation of this initiative did not proceed.

2.7.4 *Regulation and governance of pharmaceuticals*

Ensuring the quality, efficacy, safety and pricing of pharmaceuticals is the responsibility of the Department of Pharmaceutical Services (DPhS), which falls under the MoH. The DPhS acts as the Secretariat of the Drugs Council, providing evaluation services at pre- and post-approval level, as well as inspection and control/supervision services. The activities of the DPhS regarding the licensing and marketing of medicinal products for human use are regulated in accordance with the 'Medicinal Products for Human Use (Control of Quality, Supply and Pricing) Law of 2001 (70(I)/2001)', which is administered by the Drugs Council. This Law is in full harmonization with Community Directive 2001/83/EC. Consequently, medicinal products are marketed in Cyprus either through national procedures, or through cooperation with EU Member States for centralized, decentralized and mutual recognition procedures.

Post-marketing monitoring of the use and safety of medicinal products rests with the pharmacovigilance and clinical trials sectors of the DPhS, which manages the pharmacovigilance system in accordance with Legislation 70(I)/2001 based on the relevant European guidelines.

Patent protection is harmonized with EU legislation under the European Patent Convention and guarantees market protection for original pharmaceuticals including the provision for Supplementary Protection Certificates for patented pharmaceuticals. Finally, it should be noted that the debate on the bill for the establishment of a National Pharmaceutical Authority for the licensing and marketing of medicines is still pending.

REGULATION OF WHOLESALERS AND PHARMACIES

The inspection of all pharmacies, including in the private sector, is carried out by the Good Manufacturing and Distribution of Pharmaceutical Product (GMDP) Inspectorate of the MoH. According to this Law, no person other than a person registered as a pharmacist can operate, either for themselves or on behalf of another, a pharmacy or perform the duties of a hospital pharmacist unless the pharmacies are registered with the Pharmacy Board, which is also responsible for the registration of pharmacists. No person may be the owner of more than one pharmacy, or be the holder or beneficiary of more than 51% of the share capital of more than one company operating a pharmacy business. Neither internet nor mail-order pharmacies are allowed. Although there are no geographical restrictions in operating a pharmacy, most are concentrated in urban areas and the majority of them have joined the GeSY.

The Cyprus Medicines Verification Organization was established in February 2017 as a non-profit legal entity to ensure the implementation of a national medicines verification system that complies with the Falsified Medicines Directive and the Delegated Regulation. This verification system enables health professionals to check the authenticity of medication before these are dispensed to patients, in order to reduce the risk of falsified medicines entering the legal distribution chain of pharmaceuticals.

Within the GeSY context, pharmacists are allowed to dispense the cheapest medicinal product of the same active substance and pharmaceutical form (generic substitution).

PRICING PRESCRIPTION PHARMACEUTICALS

The Medicinal Product Pricing Sector of the DPhS handles all issues and policies governing the pricing of medicinal products for human use upon receipt of a market authorization licence and is responsible for the annual update of the price list of medicinal products and the evaluation of the pricing policy (every 2 years) in accordance with the provisions of the Ministerial Notifications. The price of a pharmaceutical must be set within 90 days of receipt of a fully completed application; otherwise, the applicant may freely set the price.

The pricing policy of Cyprus is included in the provisions of the 'Medicines for Human Use (Control of Quality, Supply and Pricing) Law

70(I)/2001', as well as in the provisions of the relevant Ministerial Notices and Decrees issued by the MoH.

The main role of the pricing policy is to determine the prices of medicinal products (prescription medicines) by comparing the prices in reference countries, or by calculation, up to 80% of the price of the existing reference medicines in the price list in the case of prescription medicines of the same active substance (generics). The reference price is the average wholesale price of a particular medicinal product in the reference countries. For the calculation of the reference price, the wholesale prices in all 10 reference countries are examined and the lowest price from the group of expensive countries (Austria, Germany, Denmark), the two lowest prices from the group of medium countries (Belgium, Spain, Italy, Sweden) and the lowest price from the group of least expensive countries (France, Greece, Portugal) will be taken into account.

Special provisions for imported prescription medicinal products with a maximum wholesale price equal to or less than €6 and annual sales volume less than €25 000 are included in the legislation to prevent radical reductions in the prices of cheap medicines and to ensure their adequate supply in the market. The maximum wholesale selling price of imported prescription medicinal products is determined using the reference price, adding 3% for import costs.

The wholesale price of prescription medicines of the same active substance is calculated to equal 80% of the wholesale price of the respective originals (same form, packaging and content). The price of over-the-counter drugs is completely liberalized and decided between the supplier and the pharmacy.

2.7.5 *Regulation of medical devices and aids*

A Medical and Public Health Services Department in the MoH is the Cyprus Authority for Medical Devices which is the competent Authority responsible for ensuring the safety, performance, and compliance of medical devices within the Republic of Cyprus. It operates under the framework of European Union legislation, specifically the EU Medical Device Regulation (MDR) 2017/745 and In Vitro Diagnostic Medical Device Regulation (IVDR) 2017/746, as well as applicable Cypriot national laws.

The Authority monitors medical devices on the market to ensure compliance with EU and Cypriot regulations, verifying CE markings and proper

labelling. It conducts inspections of manufacturers, importers, distributors, and healthcare facilities to ensure devices meet regulatory and safety standards. The Authority also manages a centralized database for the registration of medical devices placed on the Cypriot market.

In addition, it investigates reports of adverse events or malfunctions involving medical devices through its vigilance system, taking corrective actions to protect patient safety. It ensures compliance with legal requirements and has the power to impose penalties or restrictions when violations occur. Furthermore, the Authority provides information and guidance to businesses and healthcare providers regarding regulatory requirements and compliance.

By aligning its activities with European standards and conducting rigorous inspections and market inspections, the Cyprus Medical Devices Competent Authority plays a critical role in protecting public health and maintaining trust in medical technology.

2.8 Person-centred care

2.8.1 *Patient information*

The GeSY portal (https://www.gesy.org.cy/launchpad.htm) provides patients with access to information regarding enrolment processes, health care providers and services covered by the system, costs of treatments and co-payments, their rights and obligations, relevant legislation, annual reports, as well as access to their medical record and the medical record of their children until the age of 18. This information is provided in both Greek and English; however, the beneficiary must have the necessary digital skills to access it.

There is also a telephone line which provides immediate assistance and support to citizens. Information regarding the contracted HIO providers, as well as working hours and days can also be found on the website of both public and private hospitals. Information on waiting lists is only available through personal communication with the doctors or hospitals. No official information is available on hospital clinical outcomes or medical errors.

Challenges in accessing information can exist for third-country nationals. This is especially so for those who do not speak or read English as the language barrier makes it difficult for them to access all relevant health information and to communicate with providers (Kantaris, Theodorou &

Kaitelidou, 2019; Panayiotopoulos, Apostolou & Zachariades, 2019). There is also no official information on hospital clinical outcomes, waiting lists and medical errors, as shown in the Table 2.2 below.

TABLE 2.2 Patient information

TYPE OF INFORMATION	IS IT EASILY AVAILABLE?	COMMENTS
Information about statutory benefits	Yes	Usually provided by the website of the competent Ministry or organization
Information on hospital clinical outcomes	No	
Information on hospital waiting times	No	This information can be attained only though personal communication with the doctor or the hospital
Comparative information about the quality of other providers (for example, GPs)	No	
Patient access to own medical record	Yes	Provided that he/she has digital skills and access to technology
Interactive web or 24/7 telephone information	Yes	
Information on patient satisfaction collected (systematically or occasionally)	Yes	Occasionally at the moment; under the new agreement between providers and HIO this is expected to be collected systematically
Information on medical errors	No	

Source: Authors.

2.8.2 *Patient choice*

Within the GeSY, beneficiaries have more choice from a much larger number of providers, in both the public and the private sectors. In addition, they have the right to choose their personal doctor, who they can change after the completion of 12 months if desired (see Table 2.3), stating the reason for the change. Beneficiaries can also choose a hospital or visit a specialist of their choice, following a referral from their personal doctor. Patient choice is facilitated by sufficient information on the HIO website, ensuring good knowledge of the system by beneficiaries.

2.8.3 *Patient rights*

The basic rights of patients within the GeSY – namely rights to health care and treatment, freedom of choice and equal access to all legal residents – have been achieved to a great extent. Nevertheless, there remains room for improvement in issues such as confidentiality, quality of services, safety, avoidance of suffering and pain, making a complaint and compensation.

TABLE 2.3 Patient choice

TYPE OF CHOICE	IS IT AVAILABLE?	DO PEOPLE EXERCISE CHOICE? ARE THERE ANY COMPLAINTS?
Choices around coverage		
Choice of being covered or not	No	Coverage is mandatory
Choice of public or private coverage	No	Coverage is universal only through the GeSY
Choice of purchasing organization	No	HIO is the sole purchasing organization of the GeSY
Choices of provider		
Choice of primary care practitioner	Yes	Both personal doctor and specialist
Direct access to specialists	No	Visits without referral are actively discouraged and incur a patient charge of €25
Choice of hospital	Yes	
Choice to have treatment abroad	Yes	In line with the EU Directive on cross-border care or in cases where the health problem cannot be treated in Cyprus
Choices of treatment		
Participation in treatment decisions	Yes	Patients are informed about alternative treatment options and participate in the final treatment decision
Right to informed consent	Yes	There is a standardized form from the Cyprus Medical Association, which is compulsorily completed by all doctors who perform surgery on patients; the completed form is then placed in the patient's file
Right to request a second opinion	Yes	The referral of the personal doctor allows patients to visit, if they wish, a second specialist for a second opinion
Right to information about alternative treatment options	Yes	See above – participation in treatment decisions

Source: Authors.

According to the relevant legislation (The Safeguarding and Protection of Patients' Rights Law of 2004), every public hospital is obliged to have a person responsible for patients' rights. Among their responsibilities are sending complaints for further investigation to the Complaint Review Committees, which have been set up in all districts, to defend and promote patients' rights. These committees are responsible for investigating complaints of first and second degree relating to the private sector as well as public hospitals, sent to them either by the Patients' Rights Officer, or complaints from patients who are not satisfied with the Officer's decision. In addition to the above, both the Supervisor Commissioner of the GeSY and the HIO have the authority to deal with complaints. See more details in Table 2.4.

However, the OSAK argues that patients' rights are not fully guaranteed in practice, and there have been several complaints from patients for violating the provisions of the relevant law. For this reason, the MoH is considering the possibility of creating a specific ombudsman for patients, to better inform them of their rights and to more effectively ensure their rights in practice. The introduction of the relevant bill to the Parliament for voting is still.

2.8.4 *Patients and cross-border health care*

Directive 2011/24/EU of the European Parliament *"on the application of patients' rights in cross-border healthcare"* and the respective national legislation, the 'Law for the Application of Patients' Rights in Cross Border Healthcare 2013', provide patients with more cross-border rights and choices, in line with the objectives of the EU Single Market. Both clearly declare that patients have the right to seek treatment abroad and be reimbursed for the amount they would have been reimbursed if they had been receiving the same treatment in their own country. Services of long-term care (LTC) to support people in their activities of daily living (ADL), organ transplants and national vaccination campaigns are excluded.

The patient, prior to their departure from the Republic of Cyprus for cross-border health care in another Member State, is required to submit a request for prior authorization to the National Contact Point. Prior approval can be rejected in the following cases: a) the patient will be exposed to a patient safety risk; b) the public will be exposed to a substantial safety hazard as a result of cross-border health care; c) the health care is to be provided by a provider that raises serious and specific concerns relating to standards and

TABLE 2.4 Patient rights

PROTECTION OF PATIENT RIGHTS	YES/NO	COMMENTS
Does a formal definition of patient rights exist at national level?	Yes	Under The Safeguarding and Protection of Patients' Rights Law of 2004
Are patient rights included in legislation?	Yes	In detail, under the 2004 legislation
Does the legislation conform with WHO's patient rights framework?	Yes	Declaration on the Promotion of Patients' Rights in Europe of the WHO and the European Charter of Patients' Rights
Patient complaint avenues		
Are hospitals required to have a designated desk responsible for collecting and resolving patient complaints?	Yes	Patients' Rights Officer and Complaint Review Committees.
Is a health-specific Ombudsman responsible for investigating and resolving patient complaints about health services?	Yes	The Supervisor Commissioner of the GeSY[1]
Are there other complaint avenues?	Yes	The Commissioner for the supervision of the GeSY, as well as HIO have the authority to deal with complaints.
Liability/compensation		
Is liability insurance required for physicians and/or other medical professionals?	Yes	It is provided by the GeSY Founding Law and is a prerequisite to contract with HIO.
Can legal redress be sought through the courts in the case of medical error?	Yes	
Is there a basis for no-fault compensation?	Yes	
If a tort system exists, can patients obtain damage awards for economic and non-economic losses?	Yes	
Can class action suits be taken against health care providers, pharmaceutical companies, etc.?	Yes	

Note: [1] The 'Patient's Ombudsman Law', which will, among other things, manage patient complaints, is still pending.

Source: Authors.

guidelines on quality and patient safety; d) the health care can be provided on its territory within a time limit which is medically justifiable, taking into account the current state of health and the probable course of the illness of each patient concerned. In 2021, the medical expenses of Cypriots incurred in other EU/EEA Member States came to just over €2 million (Table 2.5).

For health care services that are not provided in Cyprus, the MoH also implements a sponsored patient scheme for treatment abroad. The scheme concerns mainly positron emission tomography (PET) scan examinations, transplants and specialized paediatric cases, and, in 2021, dispersed just over €23 million in sponsorship. The countries to which they are sent for treatment are primarily Greece, Germany and the United Kingdom. The MoH also records the revenues from medical treatments provided in Cyprus for residents of other EU/EEA Member States. The total amount for 2020 was €7 169 089, which increased to €18 422 699 in 2021 (General Treasury, 2021a, 2021b).

TABLE 2.5 Expenses for medical treatment received by Cypriots abroad and revenues for treatment provided in Cyprus for residents of the EU & EEA (2020 & 2021)

	2020	2021
Expenses for Cypriot patients sponsored by the scheme for treatment abroad	€27 039 350	€23 357 079
Medical expenses of Cypriots incurred in other EU/EEA Member States	€2 055 662	€2 094 058
Revenue for medical treatment provided in Cyprus for residents of the EU and EEA	€7 169 089	€18 472 699

Sources: General Treasury, 2021a, 2021b.

3

Financing

Summary

- The new GeSY in Cyprus has significantly changed the financing of health services. The GeSY provides coverage to the entire population regardless of nationality, income and payment of contributions. The benefits package is comprehensive and includes a wide range of health services.
- All revenues of the system come from health contributions of employees, retirees, employers and the state, which are collected and transferred to the Health Insurance Fund (HIF), managed by HIO, the sole purchaser of services within the GeSY. Health providers are remunerated through a range of payment methods and mechanisms, always within global budgets.
- The financing arrangements of the current system are fairer than the previous one, since the payment of contributions is now proportional to income. Those with a higher income pay higher contributions, compared to those with a lower income, resulting in the redistribution of resources in favour of those with low income.
- Although the new system provides good financial protection to beneficiaries, in some cases and for some services there are gaps in coverage, forcing beneficiaries to visit providers outside the system at their own expense. Nevertheless, the reduction in OOP

payments, which were consistently among the highest in the EU under the old system, is a positive development that contributes to the financial protection of the Cypriot population.

- The current purchasing and payment arrangements do not adopt any strategic purchasing and payment approach, in part due to the lack of institutional capacity and data to undertake needs assessment and capacity planning, or to assess the quality and effectiveness of services provided.

3.1 Health expenditure

Cyprus historically spends less on health than most EU countries, despite a steady increase in recent years. Looking at trends in health expenditure (Table 3.1), notable fluctuations in public expenditure and OOP or direct payments in the health sector can be seen. These, respectively, were caused by two key events: the financial crisis of 2012–2016, and the introduction of the new health care system, which provides universal coverage and is funded from the contributions of employees, pensioners, employers and the government.

Health expenditure as a percentage of GDP has increased steadily since 2000: in 2021 it was slightly above the EU average and also above the WHO European Region average (Fig. 3.1). Steady overall economic growth in recent years, combined with the introduction of the GeSY, a focus on service development and capacity planning, and an expected increase in investment in health, are expected to contribute to a further rise in health expenditure as a share of GDP in the coming years.

Figure 3.2 compares Cyprus's percentage share of GDP in current health expenditure (CHE) with six Mediterranean and EU Member States, with similar socioeconomic and cultural elements (Waitzberg et al., 2021). Over time, Cyprus diverged significantly from this cluster of countries in terms of health expenditure as a share of GDP but this changed in the period 2019–2021, when a combination of increased health spending and economic contraction during the COVID-19 pandemic saw a sharp rise in this index for Cyprus.

In 2021, CHE per capita (Fig. 3.3) stood at US$ 4206 (adjusted for differences in purchasing power) and was above the WHO European Region

average but below the average for EU countries. Notably, both per capita health expenditure from public sources and CHE per capita rose steadily between 2000–2010 but recorded a decline of 10.2% and 2.6% respectively in 2015 due to the financial crisis and the restrictions on public expenditure imposed by the international financial assistance MoU signed in 2013 (see Chapter 1). A sharp increase in both publicly sourced health expenditure and CHE was seen from 2015 to 2019 (86.4% and 40.3% respectively) in part due to the introduction of the GeSY. The increases in health expenditure since 2019 coincided with the COVID-19 pandemic, and the increases are due to funding additional health services required during the health emergency (e.g. hospitalizations and intensive care unit (ICU) treatment of COVID patients, vaccination campaigns) as well as to the enhanced access to health services made possible under the (OECD & European Observatory on

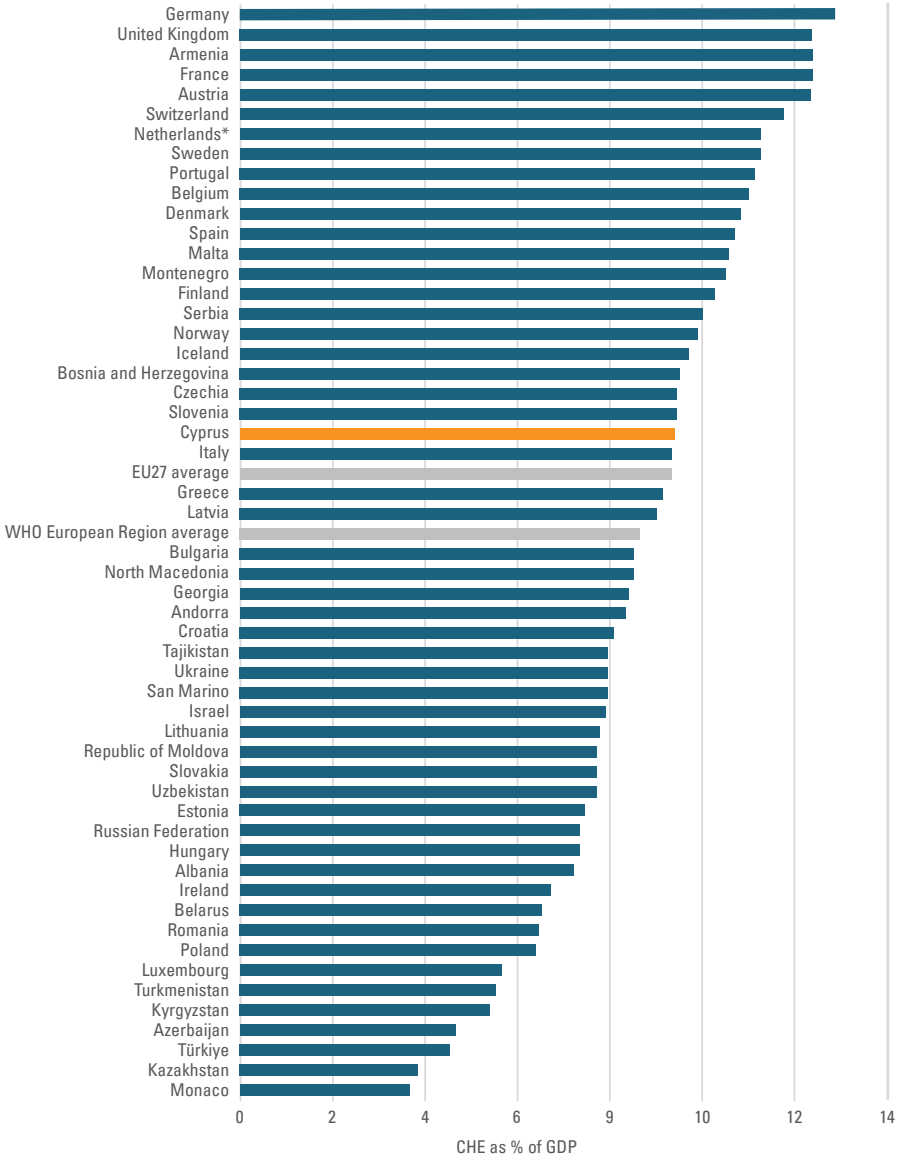
TABLE 3.1 Trends in health expenditure in Cyprus, 2000–2021 (selected years)

EXPENDITURE	2000	2005	2010	2015	2020	2021
Current health expenditure per capita in International US$ (PPP)	1136	1520	2208	2150	3219	4206
Current health expenditure as % of GDP	5.3	5.4	6.5	6.7	8.1	9.4
Public expenditure on health as % of total expenditure on health	41.1	41.8	46.1	42.5	78.3	84.7
Public expenditure on health per capita in International US$ (PPP)	473	631	1018	914	2618	3587
Private expenditure on health as % of total expenditure on health	58.4	58.2	53.5	56.7	21.9	14.7
Public expenditure on health as % of general government expenditure	-	5.8	7.2	7.1	14.1	18.4
Government health spending as % of GDP	2.2	2.2	3.0	2.8	4.0	8.0
OOP payments as % of total current expenditure on health	56.0	49.8	43.1	43.5	14.0	10.0
OOP payments as % of private expenditure on health	-	11.3	17.1	21.4	36.1	-
Private insurance as % of private expenditure on health	-	85.7	80.5	76.7	63.9	-

Notes: GDP: gross domestic product; PPP: purchasing power parity.

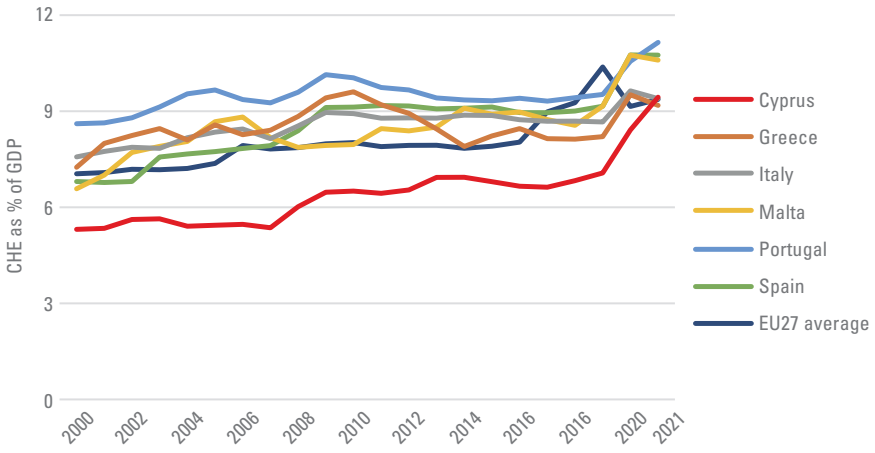
Source: WHO Global Health Expenditure Database, 2024.

FIG. 3.1 Current health expenditure as a share (%) of GDP in the WHO European Region, 2021



Note: CHE: current health expenditure.
*Note that Netherlands (Kingdom of the) comprises six overseas countries and territories and the European mainland area. As data for this Report refer only to the European territory, the Report refers to it as the Netherlands throughout.
Source: WHO Global Health Expenditure Database, 2024.

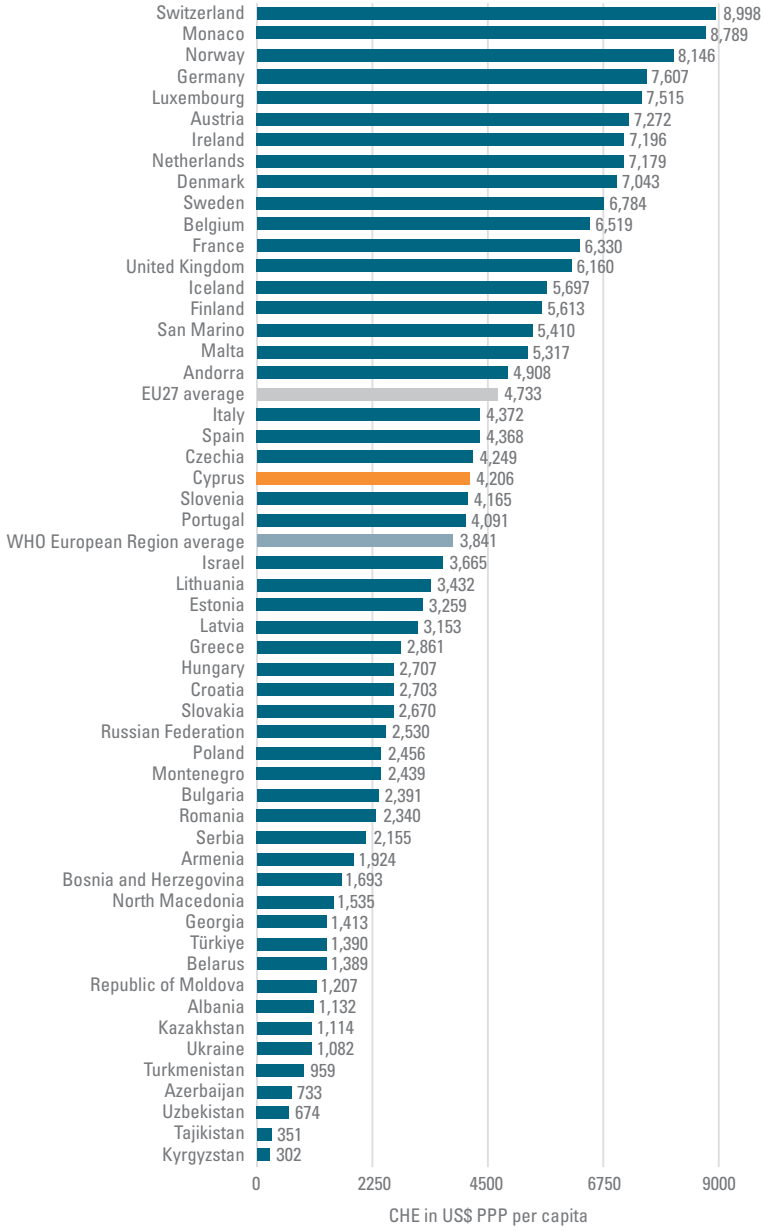
FIG. 3.2 Trends in current health expenditure as a share (%) of GDP in Cyprus and selected countries, 2000–2021



Notes: CHE: current health expenditure; GDP: gross domestic product.
Source: WHO Global Health Expenditure Database, 2024.

Health Systems and Policies, 2023). Since the introduction of the GeSY the public share of health funding has increased substantially, rising from 42% of CHE in 2018 to 84.7% in 2021 (Fig. 3.4). Conversely, the private share of health spending has been reduced dramatically, falling to 14% of CHE in 2021, with the majority (10%) represented by OOP payments and 3% by VHI (see Sections 3.4 and 3.5 below).

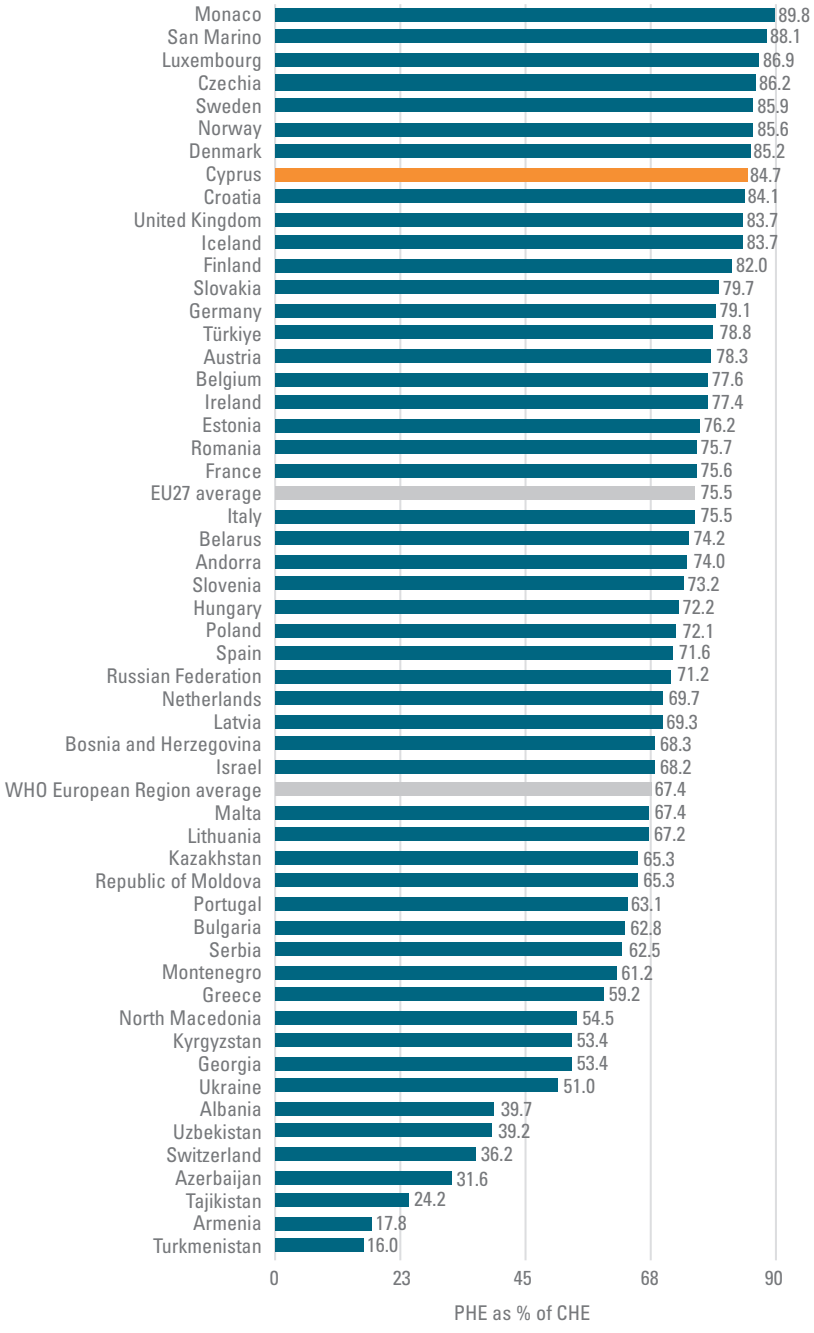
FIG. 3.3 Current health expenditure in US$ PPP per capita in the WHO European Region, 2021



Notes: CHE: current health expenditure; PPP: purchasing power parity.

Source: WHO Global Health Expenditure Database, 2024.

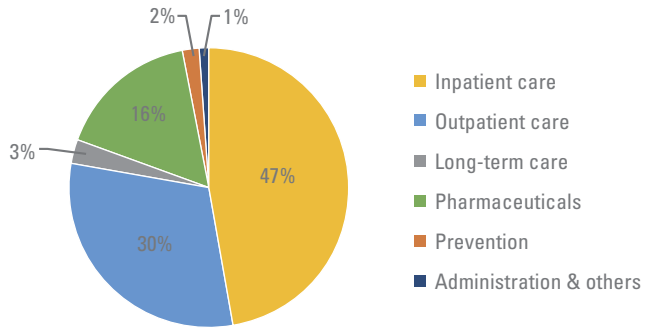
FIG. 3.4 Public expenditure on health as a share (%) of current health expenditure in the WHO European Region, 2021



Notes: CHE: current health expenditure; PHE: public health expenditure.

Source: WHO Global Health Expenditure Database, 2024.

FIG. 3.5 Health spending by function in Cyprus, 2021



Notes: Inpatient care includes curative-rehabilitative care in hospital and other settings; outpatient care includes home care and ancillary services (e.g. patient transportation); pharmaceutical care includes only the outpatient market; long-term care includes only the health component; prevention includes only spending for organized prevention programmes; administration includes health system governance & administration and other spending. The EU average is weighted.

Source: OECD & European Observatory on Health Systems and Policies, 2023.

In 2021, nearly half of health expenditure in Cyprus was spent on inpatient care (both curative and rehabilitative), some of which reflects increased spending in the hospital sector due to the COVID-19 pandemic. In the same year, Cyprus spent very little on preventive services at just 2% (Fig. 3.5). It is expected that with the creation of a formal primary sector and the establishment of the personal doctor, the GeSY will increase the focus on prevention and health improvement in future years. Health spending on LTC is very low at 3% of CHE in 2021.

3.2 Sources of revenue and financial flows

As mentioned earlier, Cyprus was for a long time in the process of transitioning to a new national health care system based on contributions. Roll-out finally began in June 2019, with payment of contributions beginning three months earlier in March 2019. The population paid reduced contribution rates due to the fact that during the first phase of implementation only outpatient services would be provided. The contributions in 2019 were: employees, pensioners and income-earners 1.70%, self-employed 2.55% on their gross income, employers 1.85%, and the state/government contributed an amount corresponding to 1.65% of the gross income of the beneficiaries. Since 1 July 2020, the system has been financed by full health contributions based on the income of public and private sector salaried employees, self-employed, income-earners and pensioners, as well as on the contributions of employers and the state budget (Law 74(I)/2017) (see Section 3.3.2). Contributions for the second phase, originally scheduled to start on 1 March 2020, were suspended for three months due to the fiscal support measures implemented in response to the economic impact of the COVID-19 pandemic.

The bodies responsible for certifying and collecting contributions are the Tax Department, the Social Insurance Services (SIS) and the Treasury. As far as employees are concerned, it is the statutory obligation of employers to collect contributions and transfer them to the HIF. The HIF is managed by the HIO and has been established for pooling contributions and for remunerating all contracted providers (Fig. 3.5).

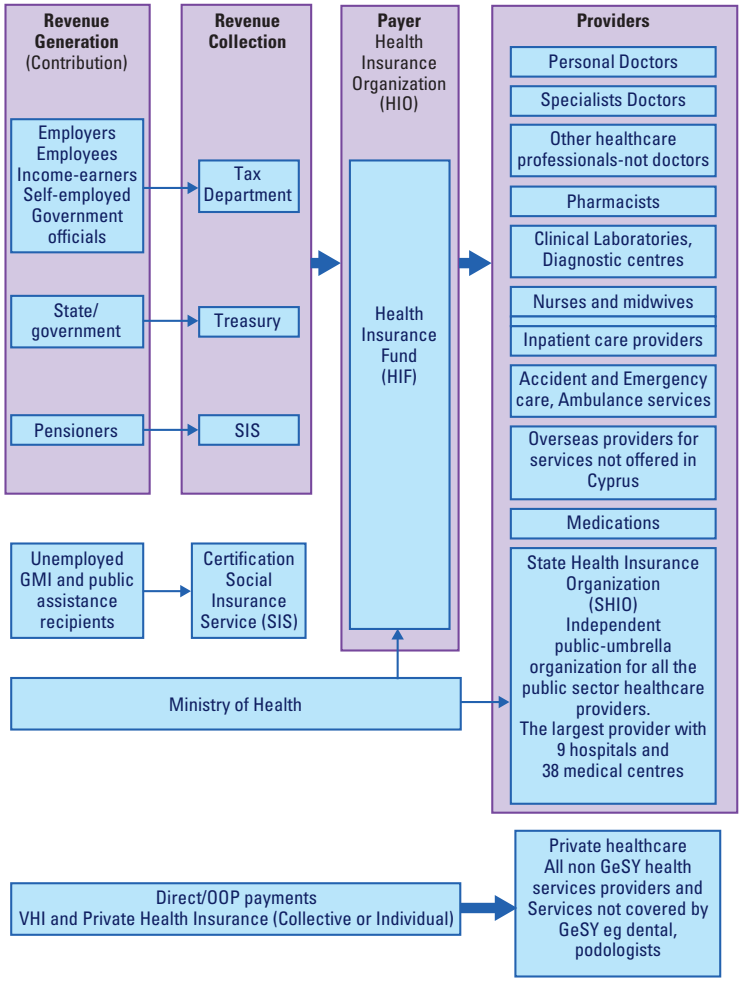
All providers that have joined the GeSY are not allowed to hold a contract with private health insurers or to work at the same time as freelancers in the private sector. In turn, individuals who are not beneficiaries of the GeSY have access only to non-GeSY providers and pay either OOP or through VHI. GeSY beneficiaries can also visit non-GeSY providers, particularly for services that are not included in the GeSY benefit package or have limited coverage, such as dental care, long-term care, rehabilitation and palliative care, at their own expense.

The HIO, as the unique purchaser within the system, buys services from the contracted providers and compensates them accordingly. The case of SHSO is somewhat different, since it is a provider – indeed the largest contracted on behalf of all health professionals with the HIO – as well as an employer who compensates all personnel working in public hospitals and health centres. HIO

transfers the corresponding revenues to the SHSO, who pays all employees, doctors and other staff of public hospitals and health centres (Fig. 3.6).

The MoH is required by law to cover any financial deficits of SHSO that may arise within the first 5 years of full operation of the GeSY (2020–2025). This aims to give public hospitals time to reorganize and modernize to compete with private ones in the new health system. Within this period, public hospitals must gain administrative and financial autonomy. This 5-year grace period is expected to be extended by at least 2 years due to the COVID-19 pandemic, which was entirely undertaken and managed by public hospitals.

FIG. 3.6 Financial flows within the GeSY



Notes: GMI: guaranteed minimum income; OOP: out-of-pocket.

Source: Authors.

3.3 Overview of the statutory financing system

The financing of the GeSY is tripartite, based on health contributions from beneficiaries, employers and the state. A very low percentage of funding comes from co-payments, as well as EU grants. Contributions are compulsory for all beneficiaries if they have a declared annual income.

3.3.1 *Coverage*

BREADTH: WHO IS COVERED?

Coverage is universal and entitlement is based on legal residence, being no longer linked to citizenship, income or payment of contributions. Thus, the vast majority of the population is covered, including EU and non-EU citizens, refugees and people with subsidiary or international protection, as well as their families and dependants (GeSY, 2024a). Unemployed persons and recipients of the Guaranteed Minimum Income (GMI) benefit[2] or public assistance (including disability) are also covered free of formal contributions, provided their status is certified by the Welfare Benefits Administration Service (WBAS) and the Social Welfare Services of the Ministry of Labour, Welfare and Social Insurance (MLSI). The family and dependants of beneficiaries are also covered without obligation to pay formal contributions. There are no potential beneficiaries of the new system who opt for alternative forms of coverage. What every beneficiary needs to do to be able to visit any system's provider is to register and open an account at the GeSY beneficiary portal (GeSY, 2024a).

Asylum-seekers are not covered by the GeSY. Instead, they are entitled to free care from the SHSO and have access to all public hospitals and

[2] The Guaranteed Minimum Income aims to ensure a minimum socially acceptable standard of living for individuals and their families legally residing in the Republic of Cyprus, as long as they meet the necessary conditions. In particular, any person whose income and other financial resources are not sufficient to cover their basic and special needs, as defined by the relevant legislation, may request the granting of the minimum guaranteed income, which is provided in the form of financial support and/or services. The allowance varies according to the applicant's income. When the applicant's income increases, the allowance decreases. The total amount the applicant receives varies depending on the members of their family and their special needs. See: https://www.wbas.dmsw.gov.cy/dmsw/ydep.nsf/grands01_el/grands01_el?OpenDocument

health centres. More specifically, they are entitled to free medical care, which includes emergency medical services and basic treatment of diseases in public medical institutions. The MoH grants free access to all asylum-seekers, regardless of whether they are supported by the Social Welfare Services, provided they apply to confirm their residence status and then receive their medical card, which is valid for one year.

Undocumented migrants and non-EU students are not covered by the GeSY. The first category includes all asylum-seekers whose applications have been rejected, migrants whose visas and work permits have expired and who have nevertheless remained in Cyprus without official documents, and other undocumented migrants. Nevertheless, it is common practice that they are accepted for examination and basic treatment in the accident and emergency departments of public hospitals. There have also been a few cases where the HIO, exercising its statutory discretion, has authorized the care of undocumented migrants on the basis of an urgent and life-threatening medical need.

Students from non-EU countries who wish to study in Cyprus are required by law to pay for VHI from their own funds. Such insurance is a prerequisite for the necessary registration with the Civil Registry and Migration Department. This private annual insurance allows them to use private or, in some cases, public sector health care services, for which a fee is charged, which is then reimbursed by the insurance company.

SCOPE OF COVERAGE

The benefit package of the new health care system is quite comprehensive and uniform for the entire insured population. The benefits provided are explicitly set out in national legislation (Law 74(I)/2017), and in regulations and guidelines issued by the HIO from time to time as required. All services are provided by health care professionals contracted with the HIO, while the beneficiaries are free to choose their providers in accordance with the provisions of the above law.

Health services covered under the GeSY include care by personal and specialist doctors, laboratory tests and diagnostic examinations, and necessary medicines, medical devices and medical supplies provided on medical or dental prescription, which must be included in the positive list

of reimbursable medicinal products or the positive list of medical devices and medical supplies. Under the conditions set out in the HIO's internal regulations, the administration of medicines, medical devices and medical supplies not included in the two lists above may be permitted in some cases. The package of services also includes health care services provided by nurses and midwives, and care by other health professionals (who are not doctors); palliative care; inpatient health care; limited preventive dental care; medical rehabilitation, including the supply, maintenance and renewal of orthopaedic and orthotic items and prostheses; home care; and emergency care (including ambulance services). The package of services does not include chronic psychiatric institutional or compulsory care provided under the provisions of the 'Law on Psychiatric Care of 1997', substance abuse rehabilitation services or mental health rehabilitation services such as day care centres (Law 77(I)/1997).

The contents of the two positive lists (the list of medicinal products and the list of medical devices and medical supplies) are defined and regularly reviewed by the HIO as new items and products are added or removed[3]. Over the period 2021–2022, key patient organizations, namely the OSAK and the Cyprus Alliance for Rare Diseases, have consistently reported that a large gap exists in access to new and innovative medicines under the GeSY, mainly due to deficiencies in HTA procedures (see also Section 2.7.3).

Even though the GeSY Founding Law clearly mentions all the services covered, in practice the timely access to some services such as palliative or rehabilitation services is not easy due to the small number of contracted providers, which in some cases leads to the creation of waiting lists.

Under the GeSY, almost all costs of statutory benefits are covered by the HIF. This, combined with low co-payments and annual caps, aims to ensure a high level of financial protection without any serious financial barriers to access. Problems with the financial burden on beneficiaries may arise in cases where there are gaps in coverage and difficulties in access and availability of services, as described in Box 3.1.

[3] For information on the lists of medicines within GeSY, see gesy.org.cy.

BOX 3.1 What are the key gaps in coverage?

Although the benefits package is quite comprehensive, there are several challenges, especially in relation to access to innovative medicines and therapies, exclusion of chronic psychiatric institutional care and access to LTC. In addition, access to some services, such as physiotherapy, speech therapy and home care, is similarly problematic, as the number of visits under the benefits package appears to be insufficient to meet the needs of some patients, especially those with chronic conditions. In such cases, beneficiaries are forced to visit the private sector and bear the costs themselves. There is also limited access and restricted scope of community nurses, mental health nurses and midwives.

Finally, even though rehabilitation and palliative care services are covered by law, access in practice is hampered by the limited availability of these services. The provision of preventive services is also a rather weak point of the new system. Communicating information about the importance of prevention and health education should be a priority of the new health care system.

3.3.2 *Collection*

Since 1 July 2020, when the new health care system was fully implemented, income-based contributions are set as follows: i) employees, pensioners, government officials and income-earners, 2.65% of their gross income; ii) employer for each employee, 2.90% on their gross income; iii) self-employed 4.00%; and iv) state/government contributing 4.7% for each employee, self-employed person, government official and pensioner. The maximum annual amount of gross income on which contributions are paid is €180,000 (GeSY, 2024b).

Employers are required by law to deduct contributions from their employees' salaries. The SIS is responsible for collecting contributions from employees, employers and the self-employed based on insurable income in accordance with the 'Law on Social Insurance'. For the self-employed, contributions in excess of insurable income are collected by the Tax Department. The state's contribution is paid by the Treasury. Finally, pensioners' contributions are deducted from pensions and collected by the SIS and the Treasury. The contributions are then transferred to the HIF by these three designated authorities. The HIF is administered exclusively by the HIO, which is also the sole contracting and purchasing authority for GeSY services.

Contribution rates are prescribed by law and must be approved by the House of Representatives. Setting them was part of the creation of the GeSY legislation and the outcome of a continuous dialogue between all social partners and the state (see also Box 3.2).

BOX 3.2 Is health financing fair?

The financing arrangement under the new system is fairer than under the previous system, since the payment of contributions is now proportional to income. Those with higher income pay higher contributions compared to those with lower income, without excluding low-income persons, such as the unemployed and recipients of the guaranteed minimum income. This arrangement results in the redistribution of resources in favour of those with low income; it supports broader coverage including for populations at increased risk of poverty or material deprivation, and who cannot contribute to the financing of the system. It also facilitates the transition to a more consolidated welfare state, as government contributions for each beneficiary are quite high and are only now being reflected in the relevant statistics for public health expenditure per capita (Table 3.1). The positive effects of the reform can also be seen in the declining trend of OOP payments, which under the previous system proportionally burdened more low-income households.

3.3.3 *Pooling and allocation of funds*

ALLOCATION FROM COLLECTION AGENCIES TO POOLING AGENCIES

Pooling takes place after the collection and transfer of all revenues from contributions into the HIF managed by the HIO (see Fig. 3.6 and Section 3.3.2). This means that the allocation of pooled funds is done by the HIO, which is the sole purchaser of services. Risk pooling serves the fundamental principles of "*the healthy subsidising the sick and the young subsidising the old*" and meets the objectives of financial protection and equitable access based on need.

ALLOCATING RESOURCES TO PURCHASERS

Within the GeSY, the pooling and purchasing functions are integrated under the umbrella of the HIO. The fact that the HIO also acts as the single

purchaser reduces the fragmentation of pooling and purchasing, and helps to keep the associated administrative costs lower. According to the law, the administrative costs of the HIO must not exceed 5% of its annual budget.

In addition, there is more room for effective monitoring of providers regarding abuses of the system (see Section 7.6.2). Institutionally, the power lies with the single purchaser and not with the providers. However, financial resources do not seem to be directed in a way that explicitly promotes efficiency and quality. The HIO has begun to consider these issues, but so far the measures taken have been limited (Box 3.3).

BOX 3.3 Are resources put where they are most effective?

The current purchasing and payment approach is rather passive and does not consider effectiveness and quality indicators relevant to provider performance and output. It lies with the HIO to create, integrate and consolidate appropriate control systems and frameworks that will monitor the performance and output of all providers across the different levels of care. In this respect, there have been plans by the HIO to introduce key performance indicators, such as data on hospital-acquired infection rates, readmission rates, treatment for older people and patient satisfaction. This has already been applied in the case of the remuneration of personal doctors and paediatricians; since 1 June 2022, 20% of their payment is based on quality and effectiveness indicators.

The single-purchaser and single-payer system of the GeSY uses a payment method with a balanced incentive structure that allows providers to compete for patients based on quality, not price. Payment uses a mix of mechanisms for different levels of care. At primary care level, personal doctors are remunerated per capita, based on the number of patients registered on their list, while at the secondary level, hospitals and contracted specialties of the private sector are paid based on activity, within a framework of hard global budgeting (see Section 3.7). Nevertheless, the system is still far from adopting a strategic purchasing and payment approach, which would require indicators for needs assessment, capacity planning and quality of service provision to be included in the process of allocating pooled funds.

3.3.4 *Purchasing and purchaser–provider relations*

The organizational relationship between providers and the HIO is formalized through a contract. For public sector providers, the contract is between the HIO and the SHSO, on behalf of providers. For the private sector, a contract is signed between the HIO and each provider, which can be either a doctor, a hospital, a polyclinic or any other provider. In the first case, the communication is between the purchaser and the SHSO, and in the second, between the purchaser and the provider, if required. A common subject of a communication relates to the claims of private providers (unjustified claims, suspicion of supplier-induced demand, etc.). For issues related to changes in the nature of remuneration (for example, incentives and indicators of efficiency and quality, the introduction of protocols and guidelines, the operation of afternoon surgeries and university clinics in public hospitals, etc.), communication is with the medical associations (Cyprus Medical Association (PIS), Association of Government Doctors (PASIKY) and Association of Private Doctors Contracted with the GeSY). At present, there is limited monitoring and enforcement of the contract, with only claims currently being sample checked.

In the first 4 years of operation of the GeSY, there is still a lack of specific mechanisms and monitoring frameworks that create incentives to improve quality and make efficiency gains. According to the Auditor General, "*the introduction of effective retrospective audit procedures to monitor the quality and appropriateness of care is urgently needed*" (Audit Office of the Republic of Cyprus, 2022a).

3.4 Out-of-pocket payments

Historically, OOP payments in Cyprus were very high, and always well above the EU average (Table 3.1). In 2019, OOP payments accounted for 30.6% of CHE. This translated into an increased risk of catastrophic spending, especially for the low-income quintiles of the population, which was exacerbated in the years of the financial crisis (Kontemeniotis & Theodorou, 2020). The burden of OOP payments in the pre-GeSY period was high, especially for low- and middle-income households, as people opted for private sector services even if they were entitled to free access in the then public health care

system. Research by Kontemeniotis & Theodorou (2020, prepared for the WHO Regional Office for Europe), provides a comprehensive picture of the financial protection of the old health care system in Cyprus, the distribution of OOP payments across the population, and their impact on catastrophic household spending and poverty levels. The share of OOP payments has, however, decreased substantially due to the implementation of the GeSY. OOP payments as a share of CHE decreased from 34% in 2019 to 14% in 2020 and 10% in 2021 (see Table 3.1).

3.4.1 *Cost sharing (user charges)*

Cost sharing was first introduced in August 2013, in the midst of the financial crisis, as a condition placed on Cyprus under the terms of its international financial assistance MoU, which explicitly referred to the need for the "introduction of disincentives in the form of co-payments" (Theodorou, 2014). These charges have been streamlined under the GeSY and divided into two different categories – co-payments and personal contributions – which are direct methods of cost sharing. For each category, annual caps are set, which are lower for low-income groups to facilitate access to services and provide additional financial protection to low-income individuals (see Table 3.2). In addition, certain vulnerable groups are fully exempted from user charges. User charges have been set relatively low and aim to contribute to reducing unnecessary use of health services rather than generating additional revenue. The body responsible for monitoring the implementation and effectiveness of user charge measures is the HIO.

3.4.2 *Direct payments*

Data on direct payments are scattered across different agencies and government departments and are therefore difficult to analyse and assess. However, a sizeable proportion of these payments are for services which are either not provided by the GeSY (see Section 3.3.1), or for services only available to a limited extent, such as dental care, LTC, palliative care, rehabilitation, home care, preventive services; or for payments to compensate for the cost difference between generic and branded medicines when beneficiaries request it, and for over-the-counter medicines.

TABLE 3.2 User charges for health services

HEALTH SERVICE	TYPE OF USER CHARGE IN PLACE	EXEMPTIONS AND/ OR REDUCED RATES	CAP ON OOP SPENDING	OTHER PROTECTION MECHANISMS
Primary care	Co-payment: €15 if the maximum number of annual visits per age group* is exceeded	Unemployed, GMI and public assistance recipients; family and dependants of beneficiaries	None	
Outpatient specialist visit	• Co-payment: €6 with referral • Personal contribution: €25 with no referral	Unemployed, GMI and public assistance recipients; family and dependants of beneficiaries	• €75 per year for GMI recipients, low-income pensioners, and people under 21 • €150 per year for all other beneficiaries	–
Outpatient prescription drugs	• €1 per pharmaceutical product • €1 per lab test/ group of lab tests (limit of €10 for each group	Unemployed, GMI and public assistance recipients; family and dependants of beneficiaries	• €75 per year for GMI recipients, low-income pensioners, and people under 21 • €150 per year for all other beneficiaries	–
Inpatient stay	None	n/a	n/a	n/a
Dental care	• €3 per visit to dental clinic of public hospitals • €100 for a partial or full acrylic denture and €175 for every metallic denture	GMI recipients and recipients of the Social Welfare benefit	Both do not account for the caps of €75 and €150	–
Medical devices	€1 per medical device or supplies	Unemployed, GMI and public assistance recipients; family and dependants of beneficiaries	• €75 per year for GMI recipients, low-income pensioners, and people under 21 • €150 per year for all other beneficiaries	–
Other services provided by: **• health professionals (not doctors)** **• radiology/ diagnostic radiology specialist doctors** **•nurses/midwives**	• €10 per visit to health professionals (not doctors) or per service by radiology/ diagnostic radiology specialists • €6 per nurse or midwife visit	Unemployed, GMI and public assistance recipients; family and dependants of beneficiaries	• €75 per year for GMI recipients, low-income pensioners, and people under 21 • €150 per year for all other beneficiaries	–

Notes:Age group/maxiumum number of annual visits: 0–1yrs/10 visits; 1–3 yrs/8 visits; 3–6 yrs/7 visits; 6–11 yrs/4 visits; 11–18 yrs/3 visits; 15–18 yrs/3 visits; 18–41 yrs/4 visits; 41–51 yrs/6 visits; 51–65 yrs/8 visits; >65 yrs/10 visits.
GMI: guaranteed minimum income; n/a: not applicable as no user charges. *Source*: Authors.

In research by Kontemeniotis and Theodorou (2020), for example, it was found that about 60% of direct payments in 2015 were for over-the-counter medicines, medical products and outpatient care. Coverage of allied health services such as physiotherapy and speech therapy are also limited, especially for beneficiaries with chronic conditions and disabilities, which may lead to sizeable direct payments for these services.

There are no estimates of the current and projected size of direct payments for LTC and rehabilitation services, and there is no clear information on the way in which different population groups are affected by the costs incurred through direct payments. However, it is likely that these payments will be high even within the GeSY, given the very low public expenditure on LTC and the high reliance on informal care, particularly for low-income people living with disabilities (Theodorou, Kantaris & Koutsampelas, 2018).

3.4.3 *Informal payments*

Informal payments have not been a serious problem in either the previous health system or under the GeSY. This is in part due to providers' remuneration being sufficient and the fact that any complaint against a provider for informal payments that is upheld can lead to the termination of its contract. According to the 2019 *Eurobarometer* survey on corruption, 2% of respondents in Cyprus reported having made an informal payment for health care, a decrease of 1 percentage point compared to the corresponding report of 2017 and below the EU28 average of 5% (Eurostat, 2019).

3.5 Voluntary health insurance

In 2021, VHI accounted for approximately 5% of health expenditure. According to the Insurance Association of Cyprus, private accident and health insurance accounted for 24% of all non-life insurance revenues in 2023, while premiums were reduced by 9.7% compared to 2020 (from €153.6 million to €140.1 million) after the new health care system was fully introduced (Insurance Association of Cyprus, 2022). Under the previous system, the role of the VHI for individuals entitled to public coverage was duplicated, covering services typically covered by the public system. For individuals

without public coverage, VHI was substitutive and was proven to reduce the likelihood of catastrophic expenditure, especially for the low-income groups; however, low-income groups were less likely to hold VHI compared to higher-income groups (Kontemeniotis & Theodorou, 2020).

Group health insurance, which was mainly purchased by medium to large private and semi-public organizations, was either discontinued once contributions to the new health system were introduced, or it was tailored as a supplement for services that were not provided by the public sector or only covered to a limited extent. Many purchasers of VHI were reluctant to cancel their contracts until they were convinced of the efficiency and sustainability of the new health care system. There are no tax incentives or disincentives to take up VHI in Cyprus.

3.6 Other financing

The GeSY Founding Law stipulates that, in addition to health contributions and co-payments, other sources of funding are "*donations, income from the HIO's assets and other revenue arising from its activities*" (Founding Law 89(I)/2001). The increased needs of the health care system during the COVID-19 pandemic prompted donations from many private companies and individuals, in particular to increase the capacity of intensive care units and to protect health professionals by purchasing the necessary personal protective equipment during the first and second waves of the pandemic.

3.6.1 *Parallel health systems*

Following the full implementation of the GeSY, the parallel systems that previously existed alongside the public and VHI sectors have shrunk in size and activity. Workers' union schemes that provided a range of medical services, but mainly primary care and medicines, have ceased to exist. Employer- and employee-funded schemes, especially those of semi-public organizations, have taken over their systems to supplement the new health system for services not covered by it.

Nonetheless, along with GeSY, there is the private sector with a limited number of doctors and a few hospitals and clinics, which have chosen to

remain outside the new system, providing services mainly to non-GeSY beneficiaries as well as GeSY beneficiaries who opt to pay through private insurance or privately, if they can afford to, either to avoid waiting lists and/or because they perceive these services to be of better quality.

3.6.2 *External sources of funds*

In 2021, the Mental Health Services Directorate of the SHSO received a grant from the EU Asylum, Migration and Integration Fund (AMIF) for the project "*Provision of mental health services in the reception and accommodation centre for applicants for international protection in Kofinou and in the detention centre for undocumented migrants in Menogia*". The project concerns the provision of mental health services by clinical psychologists with the aim of alleviating psychological pain and mental health problems and improving the quality of life and health of migrants (Ministry of Interior, 2022). In addition, the Department of Mental Health Services received approval in 2019 for funding from the Norwegian Funds amounting to €680,000 with the aim of creating a Centre for Children with Neurodevelopmental Disorders, until April 2024.

Cyprus's Recovery and Resilience Plan 2021–2026 was approved by the EU in December 2023. Under this funding, Cyprus will receive €74.1 million to help increase the readiness, resilience and quality of GeSY services. By creating the necessary infrastructure, equipment and procedures, the focus will be on strengthening the SHSO's public hospitals to make them more competitive with the private sector and to be able to cope with future health crises. The focus of investments will be to strengthen disaster management, in particular the use of smart technologies to effectively manage emergencies (Cyprus Recovery and Resilience Plan, 2021–2026).

3.6.3 *Other sources of financing*

A large part of LTC in Cyprus is financed separately from general medical services. The LTC system is divided into two different sectors, one under the MoH and the other under the MLSI. Prior to the introduction of the GeSY, the MoH was responsible for the provision of health services through the

then public health sector, including health-related LTC. The MLSI continues to be responsible for the governance of the social protection system and the administration of most benefits (majority cash benefits), while some services relevant to LTC, such as home care, rehabilitation and palliative care, are covered by the new health care system (see also Chapter 5).

Regarding the field of health and social care, there are more than 100 voluntary, philanthropic and charitable organizations, most of which are non-profit and non-governmental. Some of them are known for their significant social and philanthropic work, especially in the areas of palliative care, rehabilitation services, specialized laboratory tests and diagnostic investigations. Apart from government subsidies, these organizations generate income from donations, telethons, festivals, shows and other philanthropic, social and sporting events.

3.7 Payment mechanisms

As noted previously, the pooling and purchasing function under the GeSY is performed by the HIO. The transactions shown in Figure 3.6 are processed electronically via the GeSY portal. All contracted providers submit their claims online for the services they provide and the HIO pays them the following month after a random sampling check of 3% of the total claims submitted. For providers working in the public sector infrastructure, the transaction is between the HIO and the SHSO, which then pays the providers.

As described below and outlined in Table 3.3, different payment methods are used, with the payment amount depending on the characteristics of the health professionals, their specialization and area of work. Health professionals working in public hospitals and health centres are compensated with a monthly salary, with some incentives for increased activity built in.

3.7.1 *Paying for health services*

All services provided within the framework of the GeSY are paid by the HIO, through the contributions transferred to the HIF. Services provided in the context of public health and dental care are paid from the budget of the MoH. Public Health Services focus on monitoring the health of the

TABLE 3.3 Provider payment mechanisms

PAYERS/ PROVIDERS	MINISTRY OF HEALTH & STATE HEALTH SERVICES ORGANISATION	OTHER MINISTRIES	HEALTH INSURANCE ORGANIZATION	PRIVATE/ VOLUNTARY HEALTH INSURERS
Personal doctors	–	–	80% capitation and 20% by certain selected services and activity behaviours	FFS
Ambulatory specialists	–	–	FFS within global budgets per specialty	FFS
Other ambulatory provision	–	–	FFS within global budgets per specialty	FFS
Acute hospitals	–	–	Combination of DRGs and global budgets (blended payment)	FFS
Other hospitals, including rehabilitation and palliative care centres	–		FFS and per diem	FFS
Hospital outpatient	–	–	FFS	FFS
Dentists	Salary		FFS	FFS
Pharmacies	–	–	FFS	FFS
Public health services	Salary	–	–	FFS
Social care	–	Salary	–	FFS

Notes: DRG: diagnostic-related group; FFS: fee for service.

Source: Authors.

population, identifying risk factors and health needs, promoting screening and preventive programmes, and implementing health policies. This is done in collaboration with the State General Laboratory, the official government laboratory and main laboratory for the surveillance and monitoring of food-stuffs, pharmaceuticals and cosmetics, and environmental monitoring and pollution control (see more details about Public Health Services in Chapter

5). Dental clinics of the public hospitals continue to provide services under the regulations of the old system, and dentists of these clinics are civil servants who are paid a monthly salary (see Chapter 5).

For all other services provided under the GeSY, purchasing arrangements and remuneration methods of health workers vary depending on the service provided and the type of provider. Private providers contracted with the HIO are remunerated in a different way to those working in the public health sector under the umbrella of SHSO, namely through fee-for-service (FFS) tariffs.

3.7.2 *Paying health workers*

All services provided under the GeSY are paid for according to the payment regulations of HIO. Apart from an annual cleaning, which is provided under the GeSY free of charge, all other dental services are excluded, and there is a FFS payment system that is not linked to the GeSY payment mechanisms. Dentists employed by the government are public sector salary employees. Public health services (including the services that were provided in response to the COVID-19 pandemic), are centrally managed by the MoH and public sector employees and other government officials.

The way providers are paid by VHI or in the private sector depends on the terms of the insurance policy, but the predominant method is FFS based on market prices, with patients choosing their own providers.

PROVIDERS CONTRACTED WITH THE HIO

Until recently, personal doctors and paediatricians contracted with HIO were exclusively paid on a capitation basis, which entails the payment of a fixed annual amount, depending on the age of the beneficiary registered in the patient list. Since 1 June 2022, 80% of personal doctors' remuneration comes from capitation payments for general services and 20% from certain selected services and activities that promote the health of patients and efficiency of the system. The fixed capitation fee is calculated based on the age group to which the respective beneficiary belongs. The older the beneficiary, the higher the capitation fee.

Ambulatory/outpatient specialists have, since the start of the GeSY, been paid by FFS within a global budget per specialty. The calculation is based on a unit price for medical activities and services, as defined in the service

catalogue for the respective specialty. The unit price fluctuates according to the total number of services provided, to ensure that at the end of the month the total remuneration cost of the specialty will not exceed the predicted amount of the global budget. Global budgets are annual budgets set by the HIO after consultation with health provider representatives and approved by the House of Representatives for the provision of health services to GeSY beneficiaries in the following year.

Inpatient care is remunerated through case groupings based on the German Diagnostic Groupings (blended payment). For health professionals other than doctors (physiotherapists, clinical psychologists, speech pathologists, nurses, midwives, etc.), there is a FFS payment based on a price per unit for the services and activities provided. The FFS is defined in the service catalogue for each category of health professional. A FFS is also received for accidents and emergencies, ambulance services and preventive dental services.

Clinical laboratories are paid with a fee per laboratory test or group of laboratory tests performed, based on a point price; pharmacists are paid with a fee per dispensed pack based on a point price, while pharmaceutical products, medical devices and consumables are reimbursed per item based on a fixed price. If a pharmaceutical product is interchangeable and the patient chooses a product that is more expensive than the one fully covered by the GeSY (generic vs brand name), they must pay the pharmacist an amount equal to the difference between the price of the cheapest generic pharmaceutical product fully covered by the GeSY and the price of the pharmaceutical product chosen by the patient. This amount is paid in addition to the co-payment of €1 per pharmaceutical product.

SHSO HOSPITAL AND HEALTH CENTRE PROVIDERS

Personal doctors and paediatricians working in health centres receive a monthly salary based on their seniority and years of experience, as well as an additional amount related to the number of beneficiaries registered on their list. Specialists working in public hospitals also receive a monthly salary adjusted according to their seniority and years of experience, plus an additional amount as long as their hospital department is profitable. All other health professionals and administrative staff receive a monthly salary adjusted according to their seniority and years of experience.

4

Physical and human resources

Summary

- Cyprus has a well-developed network of health facilities, the vast majority of which have joined the GeSY, reducing social inequalities, facilitating good access to health care services, and reducing the long waiting lists that existed under the previous health care system.
- Although health facilities are mainly concentrated in urban areas, this is not a serious problem for access due to the short distances on the island, and the good road network and transportation system.
- In 2021, the total number of public and private beds in Cyprus was 312 per 100 000 population. This is lower than the EU average (483 per 100 000) but is considered sufficient to cover patients' hospitalization needs. An indicative element of the adequacy of acute hospital beds is the bed occupancy rate in public general hospitals, which was 79.8% in 2018 and 64.1% in 2020.
- The number of practising doctors has rapidly increased, from 259 per 100 000 population in 2000 to 467 in 2020, above the EU average (397 per 100 000 in 2021). While the number of practising

nurses has increased to 498 per 100 000 population in 2021, it is still well below EU average of 750 per 100 000 population in 2021. There are serious workforce imbalances between the public and private sectors, as doctors primarily work in the private sector and nurses in the public sector.

4.1 Physical resources

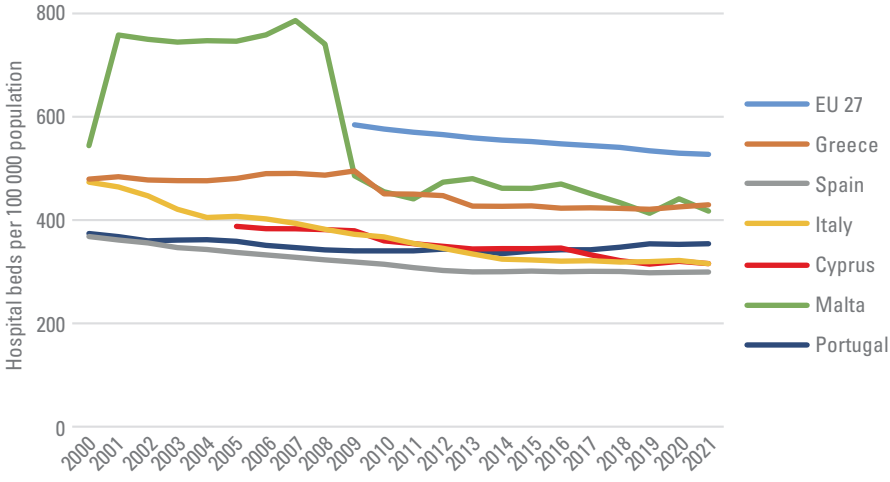
4.1.1 *Infrastructure, capital stock and investments*

INFRASTRUCTURE

According to international data, in 2021 there were 312 acute hospital beds per 100 000 population in Cyprus, below the EU average of 483 beds, but more than Spain with 297 beds and Italy with 259 beds per 100 000 population (Fig. 4.1).

During the period 2012–2019, the number of beds in acute hospitals in Cyprus decreased by 10%, following the general trend of decreasing beds in most OECD and EU countries. In the public sector, a small decrease was

FIG. 4.1 Beds in acute hospitals per 100 000 population in Cyprus and selected countries, 2000–2021



Source: Eurostat, 2024a.

recorded in the period 1990–2015, and a marginal increase in the period 2016–2018. Similarly, in the private sector, a slight decrease was recorded in the period 1990–2005, while there were no significant changes between 2010 and 2018. According to the Statistical Service of Cyprus, the total number of hospital beds, public and private, was 3077[4] in 2020 (which translates to 343 per 100 000), with an average length of stay (ALOS) of 5.1 days in 2021 (see Section 5.4.3).

Despite these fluctuations, the total number of public and private beds in Cyprus is considered sufficient to cover patients' hospitalization needs. An indicative element of the hospital beds adequacy is the bed occupancy rate in public general hospitals, which was 79.8% in 2018 and 64.1 in 2020. This is below the 85% maximum occupancy rate that is generally considered safe (NICE, 2018). The corresponding figures from the private sector are not available.

CURRENT CAPITAL STOCK

Physical resources are split between hospitals and health care centres of the public sector and hospitals, polyclinics, clinic diagnostic centres, laboratories and pharmacies of the private sector. Physical access to hospitals and health centres is good for both rural and urban residents (Box 4.1).

BOX 4.1 Are health facilities appropriately distributed?

Cyprus is a small island with a good road network and well-organized transportation system; therefore, access to health care facilities is not difficult for most of the population. The only tertiary hospital is in Nicosia, the capital of the island, but a general hospital is available in all five districts of Cyprus and facilitates access for the population. Apart from health centres, which are usually located in rural and semi-urban areas, most other health providers (e.g. private doctors) are located in urban areas, but without creating serious access problems. Accessibility has significantly improved with the operation of the new health care system, since most private sector providers have contracted with the HIO and all beneficiaries can visit these services almost free of charge.

[4] This total includes the 103 beds of the Athalassa mental health hospital. Excluding these beds, the total number of public and private acute hospital beds was 2974 in 2020 (331.9 per 100 000 population).

All publicly owned health capital stock in Cyprus is under the administrative responsibility of the SHSO, which runs the five district general hospitals, two small rural hospitals and all health centres, as well as the Makarion Hospital for children and women, and the Athalassa mental health hospital, which are both in Nicosia. The general hospital of Nicosia is the largest hospital on the island (Table 4.1) and is considered to be the reference hospital for tertiary care, despite the fact that university clinics have not yet been established.

TABLE 4.1 Capital stock under the responsibility of the SHSO

	YEAR ESTABLISHED	NO OF BEDS (2020)
Nicosia General Hospital	2006	533
Limassol General Hospital	1993	381
Larnaca General Hospital	1984*	190
Paphos General Hospital	1984	164
Famagusta General Hospital	2008	100
Makarion Hospital for children and women	1984	202
Athalassa mental health hospital	1964	103
Rural Hospital of Troodos	1942	40
Rural Hospital of Polis Chrysochous	1957	11
35 health centres	–	–
		1724

Note: * In 2022 a new wing was opened, increasing the capacity of the hospital by 10 beds.
Source: Cystat, 2023.

In addition to the infrastructure managed by the SHSO in Table 4.1, the wider public sector includes the Bank of Cyprus Oncology Centre, established in 1998, with 32 beds; the Cyprus Institute of Neurology & Genetics, established in 1995, with 14 beds; and the Thalassaemia Centre, all located in Nicosia.

Regarding the health infrastructure of the private-for-profit sector, 75 licensed health facilities were operating in all districts of Cyprus in 2020, with a total of 1353 beds. Of these, 59 have joined the GeSY, including most hospitals, polyclinics, clinics, maternity hospitals, medical and diagnostic centres. It is estimated that the contracted private hospitals added more than

1000 hospital beds to the GeSY for beneficiaries, in addition to the beds of the public sector. An important private asset in the provision of high-quality services for oncology patients is the German Oncology Centre with 27 beds, which started operating in 2017 in the district of Limassol and has also joined the GeSY.

REGULATION OF CAPITAL INVESTMENT

All regulations for capital investment in private health facilities are determined by the 'Private Hospitals (Establishment and Operation Control) Law 90(I) of 2001' and its subsequent amendments (Law 90(I)/ 2001). This law specifies in detail all the prerequisites for the licensing of four different categories of health infrastructure: i) a day care clinic with one medical specialty; ii) a clinic with two medical specialties; iii) a polyclinic with three to five medical specialties; and iv) a hospital with more than five specialties and at least 30 beds.

Furthermore, the law determines in detail the needs for personnel, required space and equipment, as well the necessary organization and operation to ensure the safety and quality of services for patients. Any health facility must be developed in an independent building and on an independent plot. Monitoring of compliance with the law is carried out by inspectors of the MoH.

INVESTMENT FUNDING

According to the law, the responsible body for the planning of infrastructure and capital investments in public facilities is the SHSO (Founding Law of SHSO, No 73(I)/2017). More specifically, the SHSO "*carries out business activities related to health services with the aim of exploiting the property that belongs to it or that has been granted to it for use in the best and most profitable way*".

The Cyprus Recovery and Resilience Plan 2021–2026, which is funded by the EU Recovery and Resilience Mechanism and the state budget, will see major increases in capital investment for the public health care sector, with a total budget of €74.1 million (6.1% of the total capital budget). The Health Axis includes measures that will contribute to increasing the readiness, resilience and quality of the services of the GeSY. By creating the necessary infrastructure, equipment and processes, emphasis will be placed on

strengthening public hospitals to become more competitive and able to deal with future health crises. The Axis also includes investments to strengthen civil protection and, in particular, the use of smart technologies to effectively handle emergency situations.

In the private sector, capital investments are usually funded either by investment funds and/or individuals. There are no cases of public–private partnership in capital investments in Cyprus, and public investments are not associated with reimbursement for service delivery.

4.1.2 *Medical equipment*

EQUIPMENT INFRASTRUCTURE

In the public health care sector, major pieces of medical equipment are funded from the SHSO budget, while in the private sector it is from the budget of the private entity. In both cases, a tender is issued, which details the specifications of equipment and also includes requirements for maintenance and correction of any future faults and problems.

The availability of high imaging medical equipment is high in Cyprus (Table 4.2). In 2020, Cyprus recorded the sixth highest availability of both computerized tomography (CT) scanners in hospitals (3.81 per 100 000 population) and magnetic resonance imaging (MRI) units (2.02 per 100 000 population), with the vast majority in the private sector. The oversupply of this high-cost medical equipment can be considered an inefficient use of resources for the health care system (see Section 7.6.1).

TABLE 4.2 Items of functioning diagnostic imaging technologies (MRI units, CT scanners) per 100 000 population, 2020

	CT	MRI
Cyprus	3.81	2.02
Italy	3.75	3.12
Malta	1.94	1.16
Spain	2.00	1.82
Greece	4.37	3.35

Note: * CT: computerized tomography; MRI: magnetic resonance imaging.
Source: Eurostat, 2021a.

4.1.3 *Information technology and e-health*

In Cyprus, e-health is at very early stages, despite the fact that the first important steps have been taken with the operation of the integrated information system of the GeSY. For now, patients' medical records are generally paper based and highly fragmented, which leads to duplication of tests. The new health care system indicates promising positive changes as it will be fully e-based. This will allow transparency, better control and enhance communication across and between providers and the HIO. More details about the information technology of GeSY can be found in Sections 2.6 and 6.2.

The MoH has started to take advantage of e-health standardization processes (to create infrastructure for electronic health records) at the two large hospitals (Nicosia General Hospital and Famagusta General Hospital), as well as the effective management of electronic materials and electronic prescription. On 12 September 2022, an Agreement was signed between the SHSO and a private company for the creation and operation of the new Integrated Health Information System for all public hospitals and health care centres. This is a project with an estimated cost of €46 million, which is expected to be completed by the end of 2025. It aims to upgrade, simplify and automate the processes and health services provided to all citizens, with the help of technology. The project includes the functional, operational and technological modernization of all public hospitals and health centres of the SHSO.

The system will serve operational functions, such as the management of clinical laboratories, the intensive care unit, the Blood Bank, and also administrative functions, such as the management of human resources, control of expenses, and management of medical stocks and supplies within health facilities.

4.2 Human resources

4.2.1 *Planning and registration of human resources*

There is currently no workforce planning in terms of the numbers of health care professionals needed or the balance between specialties, or between medical and nursing personnel. As a result, Cyprus has major imbalances in the distribution and availability of human resources for health (HRH). However,

this is expected to change with the ongoing Capacity Planning Project (see Section 6.2). One of the pillars of the project is strengthening HRH planning, which will allow the MoH to define the current HRH capacity of the system with the aim of developing an HRH plan and workforce planning models to determine a future workforce that will meet expected demand.

As part of the Capacity Planning Project, the MoH is aiming to develop a process for the evaluation of the available workforce and HRH planning through a series of actions, including a continuous mapping exercise of workforce supply and demand; and the development of a workforce database to facilitate the capture of nationally consistent information relating to the health care workforce, enabling automation, instant accessibility and simple reporting for workforce-related data.

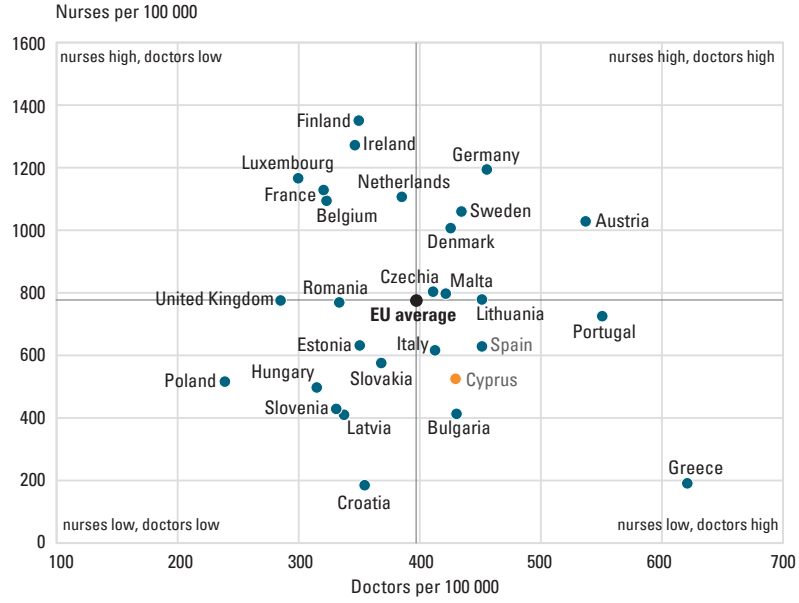
Three medical schools operate in Cyprus Universities (University of Cyprus, University of Nicosia and European University) and four universities offer bachelor's and master's level studies for nursing and midwifery, in recent years with constantly decreasing numbers due to a lack of candidates. Three public universities, as well as six private ones, offer undergraduate and postgraduate programmes in health sciences for all professionals, which allow graduates to work professionally. However, the system still relies on medical graduates who have studied abroad in other EU countries returning to Cyprus to practise under Directive 2005/36/EC, which provides mutual recognition of professional qualifications in EU Member States.

All health care professionals in Cyprus must be registered, licensed and relicensed for practice by their respective professional registry. In addition to registration and licensing, the registry verifies the continuing professional development (CPD) of its members, where applicable, and whether the requirements for relicensing are met.

4.2.2 *Trends in the health workforce*

Cyprus, like most Southern European countries, has a comparatively high number of doctors and low number of nurses (Fig. 4.2), highlighting a rather physician-centred system. The number of practising physicians has rapidly increased in Cyprus, from 259 per 100 000 population in 2000 to 467 per 100 000 population in 2020, an overall increase of 80.0% and the largest among the countries shown in Fig. 4.3. In 2019, 909 out of 3768 physicians

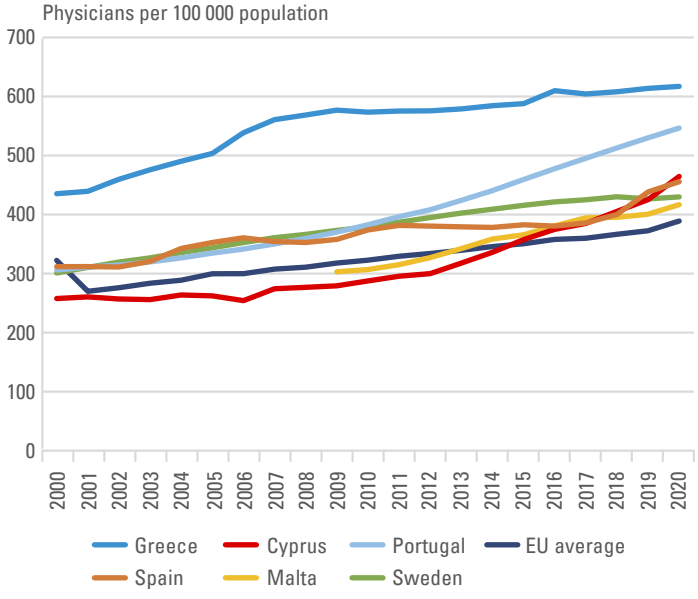
FIG. 4.2 Practising nurses and physicians per 100 000 population, 2021 (or latest available year)



Notes: Data on physicians for Cyprus is from 2020.

Source: Eurostat, 2024a.

FIG. 4.3 Number of physicians per 100 000 population in Cyprus and selected countries, 2000–2020

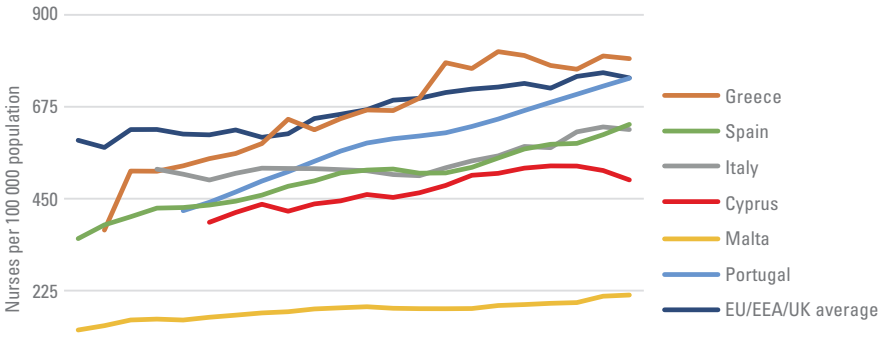


Source: Eurostat, 2024a.

(24.1%) were between 55–64 years old, while 2329 (61.8%) were male. As in other EU countries, there are more specialist physicians than GPs. More specifically, in 2019, there were 3768 registered doctors in Cyprus, with 842 (22.3%) registered as GPs[5], 278 as paediatricians, 202 as gynaecologists and obstetricians, 113 as psychiatrists, and 1257 registered as other specialists, while 1076 belonged to the surgical group of specialists.

The ratio for nurses per 100 000 population was 498 per 100 000 population in 2021, recording an increase of 26.0% compared to 2005, when the corresponding ratio was 394 per 100 000 population (Fig. 4.4). Generally, in most EU countries, the number of active nursing professionals in relation to the population has increased over the last decade. However, in Cyprus, a gradual decline can be seen since 2020. Moreover, the number of nursing professionals graduating from local universities has decreased substantially in the past 5 years: 144 graduates in 2021 (16.1 per 100 000 population) compared to 266 in 2015 (31.38 per 100 000 population).

FIG. 4.4 Number of nurses per 100 000 population in Cyprus and selected countries, 2000–2021



Source: Eurostat, 2024a.

In Cyprus, there are serious workforce imbalances between the public and private sectors, as doctors primarily work in the private sector and nurses in the public sector. Prior to the implementation of the GeSY, many doctors in the public system switched to work in the private sector, before being contracted to work in the new system. During the COVID-19 pandemic, this contributed to a shortage of doctors in public hospitals, and new doctors and other health professionals had to be recruited from elsewhere in the public system to respond to increased demand (OECD & European Observatory on Health Systems and Policies, 2021).

[5] Although this might not be their specialization.

In relation to other categories of health professional, Cyprus has an oversupply of dentists, numbering approximately 1020 (119 per 100 000 population) in 2021. In the same year, Cyprus had 94.6 pharmacists and 116.5 physiotherapists per 100 000 population; in comparison, the majority of Member States reported between 67 and 107 pharmacists per 100 000 inhabitants, and an average of 133 physiotherapists per 100 000 inhabitants.

BOX 4.2 Are health facilities appropriately distributed?

Although the number of doctors per 100 000 population is above the EU average, shortages are recorded in the number of GPs with the specialization of general medicine in the new health care system, as well as in some 'rare' specialties such as allergists, endocrinologists, cytologists, etc., for which there have been waiting lists since the start of operation of the GeSY. In general, shortages of doctors exist mainly in the public sector of the GeSY, while in the private sector there are shortages of nurses. The distribution of health providers between urban and rural areas is uneven but, as previously mentioned, this does not create serious access problems, due to the short distances on the island, the good road network and the good transportation system. Since the beginning of the new system, no serious access problems have arisen due to the unequal distribution of health professionals between urban and rural areas..

4.2.3 *Professional mobility of health workers*

The vast majority of health professionals in Cyprus, either within the GeSY or exclusively in the private sector, are foreign-trained Cypriot citizens. Increased mobility of doctors from Greece to Cyprus has been recorded since 2019 due to the GeSY and its attractive compensation compared to Greece.

However, a significant number of Cypriots, after their medical studies in universities abroad, choose to stay and work outside Cyprus. This happens mainly in Greece and the United Kingdom, and to a lesser extent Germany and the USA. The establishment of three medical schools in Cyprus in recent years aims to gradually reduce the number of Cypriots studying medicine abroad.

As regards nurses, the only significant mobility recorded over time is from the private sector to the public sector, due to better pay and guaranteed professional development.

4.2.4 *Training of health care personnel*

TRAINING OF PHYSICIANS

The undergraduate programme provided by medical schools in Cyprus is a 6-year programme, divided into three phases. Phase I includes 1 year of preparatory studies (basic exact and pure sciences); Phase II includes 2 years of interconnected studies in basic medical and clinical sciences, including the study and analysis of behaviour; and Phase III involves 3 years of clinical studies.

Regarding postgraduate studies, based on the Bilateral Agreement between Cyprus and Greece in the field of Public Health, Cypriot, Greek and EU citizens can be trained as resident doctors (full specialty or part of the specialty) in hospitals in Cyprus, accredited by the MoH. The selection of candidates for the residency positions takes place annually, according to the respective Regulation, with an announcement for the available positions for the year to follow, after a written and oral examination. The training language and also for the examination (written and oral) is Greek. Prerequisites for the application are: (a) registration with the Cyprus Medical Council; and (b) a certified copy of the medical degree by the Greek authorities.

The medical profession is subject to a voluntary CPD framework (150 credits over 3 years recommended), based on the ethical obligation of physicians and sustained in a code by the professional body. CPD activities are mainly provided by professional organizations and scientific societies. Physicians' compliance is monitored by the Cyprus Medical Association and the Medical Council. No mandatory CPD is in place for dentists, although a voluntary framework is currently in a trial period.

TRAINING OF NURSES AND MIDWIVES

Undergraduate training for nurses and midwives leads to a 4-year bachelor's degree. In addition, postgraduate programmes available are:

1) MSc in Advanced Nursing and Health Care Practice: which is a 2-year programme, offered only by the Cyprus University of Technology (CUT) with five main pathways:

A) Advanced Nursing and Health Care in Emergency and Intensive Care
B) Cardiac Intensive Care
C) Community Nursing
D) Oncology Nursing
E) Mental Health.

2) MSc in Midwifery (2-year course)

Additionally, CUT is in the process of accreditation for new MSc programmes in Paediatric Nursing and Palliative Care.

Mandatory CPD is provided for nursing and midwifery staff. To renew the licence to practice, 20 credits or 32 hours of continuous education are required every 4 years. The training is provided by various organizations and is monitored by the Nursing and Midwifery Councils.

All health professionals can further their education through postgraduate training towards master's and doctorate degrees. They can also qualify in a number of specialities through courses offered by the MoH (WHO Regional Office for Europe, 2020).

4.2.5 *Physicians' career pathway*

There are two categories of physician in the public health care sector. The first category, which is the largest, comprises personnel that have been recruited by the SHSO based on their previous status as civil servants. They are salaried professionals, and their career pathway follows that of other civil servants. The second category is physicians that have been hired by the Board of Directors of the SHSO. The newly employed personnel are hired based on a 3-year contract. The renewal of their contract as well as any salary increases are decided by the Board of Directors based on their performance.

4.2.6 *Other health workers' career paths*

Dentists of the public sector are also civil servants, under the administration of the MoH. Therefore, their career path is the same as for any other civil servant. Vacancies are published in the Cyprus Gazette, and selection and

recruitment are carried out by the Civil Service Committee after a first shortlist is drawn up by the MoH. Other health workers, including nurses, paramedical and administrative personnel, all are hired by the SHSO Board of Directors, on a 3-year contract, since 2019.

5

Provision of services

Summary

- The provision of health services under the GeSY ensures better access for beneficiaries, higher financial protection and greater freedom of choice from a much larger number of providers, both from the public and private sectors.
- Primary care provision within the GeSY marked a huge change with the introduction of the personal doctor, who provides a wide range of health services to registered beneficiaries. Primary care services are also provided by 38 public sector health centre.
- Specialized ambulatory care is provided by public sector specialists as well as by contracted specialists in the private sector. Public sector specialists receive their patients in the outpatient departments of public hospitals, while contracted specialists from the private sector provide their services either in the outpatient departments of private hospitals and polyclinics or in their own clinics.
- In the field of public health, Cyprus records good results in children's vaccinations, successful thalassaemia prevention and progress in the control of infectious and parasitic diseases. However, Cyprus remains far behind in tobacco control, childhood obesity, and controlling the spread of human immunodeficiency

virus (HIV)/acquired immune deficiency syndrome (AIDS) and hospital-acquired infections. Additionally, public health activities in the community are currently limited to a few distinct professions (e.g. hygiene inspectors, school health visitors, community nurses), which do not cover all essential public health operations or settings. Furthermore, there seems to be a mismatch between the education model and public health roles in the community.

- Cyprus currently lacks a comprehensive and integrated system of LTC services. The system is fragmented and services are provided by the public, the private and community sectors, while the role of informal carers is also substantial.
- Despite the positive steps made in the context of the GeSY in Palliative care, Urgent and Emergency care, Rehabilitation/ Intermediate care and Dental care, there are still issues to be resolved, since coverage of needs is limited.

5.1 Public health

Public health services remain the responsibility of the MoH under the GeSY, which to some extent signifies the importance of these services to the Ministry and the health of the population. There is no separate Directorate or Agency for Public Health. The services are distributed across several entities and settings, and fall within the responsibilities of different health care workers (such as hygiene inspectors, school nurses/health visitors) with no clear structure. The MPHS is the competent department for delivering and monitoring most public health activities. In the majority of cases, various scientific bodies, as well as NGOs, local authorities and other Ministries, support and complement the MoH's efforts for prevention and health promotion activities in Cyprus (see Section 2.5). In this context, the Ministry prepares and implements national strategies related to major public health problems, such as diabetes, cancer, tuberculosis, rheumatic diseases, rare diseases, dementia, etc., as well as strategies against major public health risk factors, such as smoking, road accidents, child accidents and poisonings (Ministry of Health, 2023).

The MPHS is also responsible for delivering a wide range of public health activities including:

i) epidemiological surveillance and control of infectious diseases
ii) immunization services
iii) school health services
iv) control of environmental and communicable diseases
v) health education and promotion
vi) control of sexually transmitted diseases.

Public health services are mainly delivered by health professionals in public primary health centres and hospitals, in close cooperation with the State General Laboratory. The State General Laboratory also monitors food and water safety, and controls pharmaceuticals and illegal drugs, cosmetics, children's toys and other industrial products. It collaborates with the competent authorities for the implementation of official monitoring and control programmes, and conducts applied research to ensure the safety of the above, as well as for the control and prevention of environmental pollution. It plays a pivotal role in disease prevention through controlling public exposures to chemical and biological hazards. It engages with European efforts to develop and apply new risk assessment methodologies, including human biomonitoring. It also supports law enforcement through the provision of forensic and toxicological analytical services to the police. To a lesser extent, some public health services are delivered by the private sector, local authorities, non-profit organizations and other Ministries.

Finally, it should be mentioned that a WHO Country Office in Cyprus was officially opened in March 2023. The Office is expected to be active in public health issues, and specifically in strengthening and upgrading preparedness against emerging and epidemic infectious diseases, through the promotion of innovative actions aimed at prevention, as well as collection, dissemination and evaluation of epidemiological data. In addition, the WHO Country Office will support the development of policies in the field of communicable diseases and zoonoses, and promote related actions, response mechanisms and preparation of cooperation tools, including the preparation of a National Strategy for Mental Health in Cyprus.

5.1.1 *Epidemiological surveillance and control of infectious diseases*

The competent authority in this area is the Epidemiological Surveillance and Control Unit for Infectious Diseases of the Department of MPHS. This unit has responsibility for monitoring, collecting and analysing data as part of the effort to prevent and control infectious diseases, and for providing data to the competent authorities of the EU Member States. For this reason, the Unit cooperates with international organizations such as the WHO and the European Centre for Disease Prevention and Control (ECDC). It is also competent for the supervision and coordination of clinical labs, the timely identification of new and emerging infectious diseases in the country, and the rapid response to such outbreaks.

During the COVID-19 pandemic, the Unit was at the forefront of identifying and recording new cases, tracing contacts of confirmed cases, and ensuring their isolation to control the spread of the virus in the community. In addition, demographics, epidemiological and other relevant data of SARS-CoV-2 cases were collected and posted to the publicly available electronic platform of the Unit for the better surveillance of the pandemic.

5.1.2 *Immunization Services*

The child vaccination programme is an important task of the Immunization Services and has been highly successful to date (see Box 5.1). It is planned in accordance with the recommendations of the WHO, available data on communicable diseases, and relevant international scientific developments. According to the programme, preschool and school-aged children are provided with vaccines against communicable diseases that can pose a serious threat to public health. Vaccination is done either by paediatricians or health visitors at health centres and school premises and is free of charge, with expenses reimbursed by the HIO. Children are required to be vaccinated in order to enrol in school. At the beginning of the school year, health visitors check that all children are vaccinated, thus ensuring universal immunization.

Child vaccination rates in Cyprus are in most cases higher than EU averages. Vaccination coverage in Cyprus in 2021, according to the latest WHO/UNICEF Estimates of National Immunization Coverage, is shown in Table 5.1. Vaccination rates have remained stable over the past decade,

with small changes of just one or two percentage points. Due to the high vaccination rates, the reported cases of vaccine-preventable disease up to 2021 in most vaccination categories were zero (WHO, 2023b).

TABLE 5.1 Vaccination coverage in Cyprus, 2021

	HAEMOPHILUS INFLUENZAE TYPE B (HIB3)	DTP-CONTAINING VACCINE, 3RD DOSE	HEPATITIS B VACCINATION COVERAGE (3RD DOSE)	POLIOMYELITIS (IPV) 3RD DOSE
Cyprus	92%	96%	94%	96%
EU average	81%	94%	91%	94%
	PNEUMO -COCCAL (PCV) 3RD FINAL DOSE	**MEASLES 2ND DOSE**	**RUBELLA 1ST DOSE**	**HUMAN PAPILLOMAVIRUS (HPV) LAST DOSE**
Cyprus	81%	88%	86%	64% women
EU average	82%	91%	94%	27% women; 10% male

Source: WHO, 2023a; WHO, 2023b.

In 2016, the MoH started the free-of-charge vaccination programme against the human papillomavirus (HPV) for girls aged 12 years. In 2020, the programme was expanded to cover both boys and girls aged 11–12 years through the GeSY. Regarding influenza vaccination in people over 65 years, the uptake was only 26% in 2019, which is well below both the EU average (42%) and the recommended WHO target (75%).

In response to the COVID-19 pandemic, Cyprus initiated a vaccination campaign in late December 2020. Residents and staff in nursing homes and LTC facilities, as well as health professionals, were initially prioritized for vaccination. This was followed by those over 80 years, then those over 75 years; people with a high risk for severe disease; followed by the rest of the population. By October 2023, 74.6% of the adult population had been vaccinated with the first dose and 54.3% with the booster vaccine (compared to EU/EEA averages of 75.6% and 54.8% respectively) (ECDC, 2023). Vaccination is voluntary and free of charge for all, even for those not covered by the GeSY.

5.1.3 *Screening programmes*

Several screening programmes have been launched in Cyprus in the last 15 years. Since 2003, a national control programme for early detection of breast cancer has been run by the MoH for women aged 50–69 at specialized health centres operating in each of the major cities. Following a recent decision by the Ministerial Council, since 2023, the age limit for women to participate in the programme has been expanded from 45 to 74 years, as opposed to the previous range of 50 to 69. Even though breast cancer is the leading cause of cancer deaths among women in Cyprus, only 31.4% had undergone mammographic screening in public facilities in 2019 (Eurostat, 2022), a rate below the EU average of 59%. However, it is likely that many women chose to have mammography screening in the private sector, for which data are not available. In contrast to the low rate for breast cancer screening, the rate for cervical cancer is quite high: 69% of women aged 20–60 years in 2019 had been screened for cervical cancer in the previous 2 years, which is higher than the EU average of 58%. It is expected that the introduction of the GeSY will increase the number of screening referrals made by personal doctors or other specialists for both breast and cervical cancer.

In addition to the above, the Ministry is planning to add national screening programmes for prostate, colorectal and cervical cancer. Other available screening programmes include: the National HIV/AIDS programme, antimicrobial resistance and infections screening, hearing tests for all newborns, and the national thalassaemia screening programme.

5.1.4 *Control of sexually transmitted diseases*

Another responsibility of the MPHS is the control of sexually transmitted diseases with an emphasis on HIV/AIDS. The National HIV/AIDS programme provides counselling and information on the disease and its effects by specialized personnel. The therapeutic and social support of people with HIV infection and their families is also a priority of the National Programme against AIDS. Nevertheless, new cases are increasing. The annual incidence in 2010 was 5.0 per 100 000 population, in 2015 it increased to 9.4, in 2020 it reached 11.8, and in 2021 the rate was 16.5. Cyprus had one of the highest rates of newly diagnosed HIV infections in the WHO European Region in

2021, along with the Russian Federation (40.2), Ukraine (37.1), the Republic of Moldova (25.9) and Kazakhstan (18.7). The lowest rates (under 2.0) were reported by Slovenia (1.5), Croatia (1.9) and Norway (1.9) (ECDC, 2022).

5.1.5 Control of foodstuffs and other activities by the Environmental Health Sector

The MPHS, in collaboration with other interested stakeholders and services, is the responsible authority for the elaboration of relevant policies on foodstuff monitoring and control, which should be based on EU requirements and take into account continual food industry developments. The basic principles of this policy are: i) the best possible control of the whole manufacturing procedure and supply chain; ii) informing consumers about the quality of foodstuffs and possible dangers; and iii) the best possible protection of consumers' health. In cases of food poisoning, epidemiological investigations are performed to locate the source and prevent new incidences.

Beyond foodstuff control, the Environmental Health Sector of the Public Health Services is also involved in the:

- monitoring and control of the quality of drinking water for human consumption
- control of insects of medical importance
- audit and control of public and private premises, with special attention on hotels and restaurants, etc.
- inspection of livestock units to avoid any unhealthy conditions
- audit and control of public swimming pools and the quality of their waters
- audit and control of the quality of coastal bathing waters
- audit and control of the quality of the manufacturing and sale of detergents
- investigation of environmental hygiene related complaints
- audit and control of the quality of smoking products and the implementation of smoking related legislation (Ministry of Health, 2017).

5.1.6 *Health Monitoring Unit*

The Health Monitoring Unit (HMU), which is under the administrative responsibility of the permanent Secretary of the MoH, was established in 2004. Its mission focuses on setting up appropriate mechanisms for collection, storage, analysis and dissemination of health information, which should be valid, available in a timely manner, and compatible with information produced by other European countries for comparison purposes. Among other activities, the Unit is responsible for collecting medical data for births, injuries, accidents and diabetes, keeping and updating the Cancer Registry, and coding causes of death.

The knowledge and information generated by the HMU supports the MoH in elaborating the national public health policy and relevant prevention and health promotion activities. In addition, the exchange of information and best practices in public health leads to better cooperation with international organizations, such as the Health and Consumer Protection Directorate General (DG SANCO), EUROSTAT, the WHO and the OECD.

BOX 5.1 Are public health interventions making a difference?

Cyprus has been successful in a number of public health areas. There is high child immunization coverage, while neonatal tetanus, diphtheria and poliomyelitis have been eradicated. The thalassaemia prevention programme has led to almost zero new cases, and annual incidence during the period 1997–2015 was 3.4 births per 100 000. Significant progress in other MoH public health interventions has also been seen in the control of communicable diseases and other common infectious and parasitic diseases. However, there are still public health areas that need more funding, better coordination and tougher measures to achieve meaningful results.

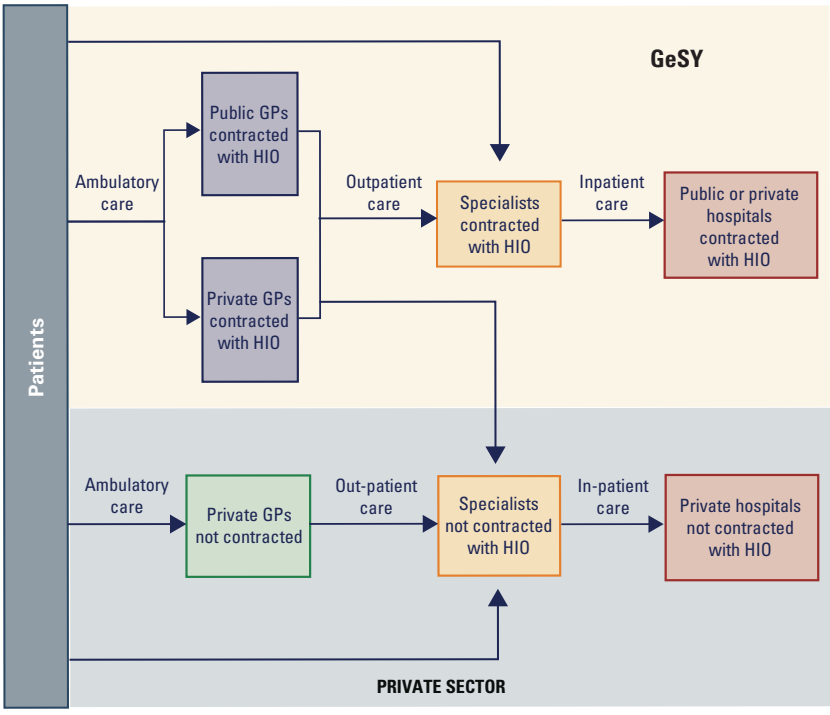
Cyprus still performs relatively poorly in terms of smoking control, despite the ban in closed public places and fines for proprietors and smokers who break the law. Tobacco consumption remains a major public health concern, with 23.5% of Cypriot adults reporting that they smoked daily, a proportion higher than the EU average in 2019. Childhood obesity is also high. In 2018–20, 62% of children aged 6–9 years were overweight – the highest rate among EU countries. The failure to control the spread of HIV/AIDS is also a serious concern. In 2021, Cyprus had the fifth highest annual incidence of newly diagnosed HIV infections per 100 000 population among countries in the WHO European Region.

5.2 Patient pathways

The introduction of the GeSY improved and simplified the patient pathway and the ways beneficiaries move within the new health system. Since June 2019, personal doctors are now the patient's first point of contact with health services. As mentioned in previous chapters, personal doctors have, among other functions, a gatekeeping role, which means that access to specialists is only possible via the personal doctor's referral. Any visit to a specialist without a referral is 'penalized' with a €25 OOP payment for the patient. The need to refer a patient to a hospital is judged and decided by the specialist.

However, there is also a very small private sector of specialists and clinics that have chosen to stay outside the GeSY, to which beneficiaries can turn directly without any referral or intermediary. In these cases the cost is either borne by the patient, or by their VHI, if covered. Figure 5.1 depicts the typical pathways applying to non-emergency care.

FIG. 5.1 Patient pathway



Source: Authors.

5.3 Primary care

The implementation of the GeSY has led to several changes in the organization and provision of primary care in Cyprus. Within the new system, patients now have the option to choose their personal doctor from a list of about 800 contracted doctors from both the public and private sectors. According to the HIO's data, by 23 October 2022, 592 doctors had joined the GeSY as GPs for adults and 201 as personal paediatricians. Of this total of 793 doctors, 118 are in the public sector working in public health centres, and the rest are in the private sector, mostly working in their solo practices. Private personal doctors generally work in solo practices with no support staff (practice assistants/nurses) or sharing of tasks, apart from a secretary to manage the appointments.

Personal doctors receive visits from those who have chosen to register on their lists, with a limit of 2500 beneficiaries per doctor. Beneficiaries can only change their personal doctor when they have previously completed 12 months of being on a doctor's list, stating in writing the reason for this change. Personal doctors' remuneration is per capita per year (based on the number of registered patients on their list) and according to the age group to which the beneficiary belongs (see Section 3.3).

Personal doctors must provide general medical care, medicine prescriptions, care for chronic illnesses, vaccinations, home care, health services for pre-school children, maternal health services, health education, referrals to specialists and diagnostic services, and certifications. Personal doctors are available on weekends and public holidays. The introduction of the personal doctor is considered a huge change in health services provision, since it facilitates the beneficiaries' access to their own doctor, and has significantly reduced waiting lists and other inconveniences of the previous system, such as the patient needing to identify health services and specialists. Even the large reduction in unmet needs for medical care recorded since 2019 can be partly attributed to the operation of the personal doctor. In 2018, the reported unmet need for medical care in Cyprus was 1.4%; in 2020, this dropped to 0.4% and in 2022 it reduced even further to 0.1% (see Fig. 7.1), far lower than the EU27 average of 2.2% (Eurostat, 2024b).

The SHSO has the largest network of personal doctors working in the 38 public sector health centres across Cyprus. In addition to personal doctors, nurses, health visitors and paramedical personnel work in health centres.

All work as a group practice, and usually deal with acute cases, as well as issues of prevention and health promotion, wound changes and removal of stiches, vaccinations, etc. Primary care staff also have a key role in protecting and promoting public health, participating in health education, prevention and promotion activities (e.g. smoking cessation, proper nutrition, exercise), administering vaccinations against flu, COVID-19 and other communicable diseases for children, as well as informing beneficiaries on screening programmes.

Based on the Founding Law of the GeSY, personal doctors should act as gatekeepers of the system, preventing unnecessary visits to specialists, unjustifiable examinations and tests, and use of high-cost health technology, all helping to contribute to the containment of health care expenditure. However, statistics from the first 3 years of the GeSY show that their gatekeeping role has not been so effective. On average, there were about 40 referrals to specialists per 100 visits, which is quite high. The problem is even greater because each referral enables the beneficiary to visit not one but two doctors of the same specialty, burdening the health system both financially and operationally (see Section 6.2).

BOX 5.2 What are the strengths and weaknesses of primary care?

The introduction of the personal doctor is a positive development towards the provision of comprehensive primary care. It also facilitates the continuity of care and a patient's access to their own doctor, while significantly reducing the waiting lists of the previous system. Nevertheless, it is too early for an overall assessment of this new institution that has only been operating since 2019, especially with the COVID-19 pandemic in 2020–2022 derailing its modus operandi. Nevertheless, there is early evidence of an increase in patient satisfaction.

Problems and weaknesses

- The lack of adequate training of some personal doctors in general and in family medicine: only a small number of doctors are trained in the specialty of general medicine. Some have the specialty of pathology and a third group is without any specialty, with the unique 'qualification' of practising medicine for many years before joining the GeSY.
- Increased referrals to specialists, sometimes after 'pressure' from the patient on the doctor.
- Prescriptions and referrals to specialties are often made without the patient visiting the doctor, a practice that escalated during the pandemic.

5.4 Specialized care

Specialized care includes both specialized ambulatory and inpatient care. Secondary care refers to specialized ambulatory medical services and typical hospital services (outpatient and inpatient services). It excludes LTC. Tertiary care refers to medical and related services of high complexity, usually of high cost and provided at university, tertiary or referral hospitals.

5.4.1 *Specialized ambulatory care*

Specialized ambulatory care (both outpatient and inpatient) is provided either by specialists of the public sector or by the contracted specialists of the private sector. Public sector specialists receive their patients in the outpatient departments of public hospitals. Contracted specialists coming from the private sector provide their services either in the outpatient departments of private hospitals and polyclinics with which they have some cooperation, or in their own clinics, which are mostly solo practices. In October 2022, the total number of specialists contracted by the HIO was 2030, of which 1342 are from the private sector and the remaining 688 from the public sector.

The outpatient departments of public hospitals, as well as those of contracted private hospitals, usually provide most specialties, and visits are scheduled by appointment. In terms of accessibility, there are currently no major problems, although some doctors may have waiting lists – but waiting times in most of the cases are currently not very long and are shorter than within the old system. Waiting lists within the GeSY, which appear to be an obstacle to patient access to specialties, are due to many reasons, such as: the popularity and reputation of a doctor; beneficiaries being entitled to several visits under the new health system; inefficient gatekeeping by personal doctors; and patients failing to turn up for scheduled appointments. Currently, there are no data on waiting lists, since the integrated information system of the HIO does not hold data on waiting lists per doctor. Other potential barriers to accessing specialties associated with distance, working hours and choice do not exist. This is partly due to the small size of the island and the good road network that facilitates easy access to health care services. Patients have the freedom of choice to see any specialist, provided they have a referral from their personal doctor. Data published by the HIO for the year of 2022

show that 801,930 beneficiaries visited personal doctors; 608,120 visited specialists; 667,659 received their medicines through the system; 500,075 underwent laboratory tests; 278,911 visited dentists; 155,966 were served by other health professionals; 122,551 visited the accident and emergency departments; and 105,874 beneficiaries received inpatient care services (HIO, 2023b).

5.4.2 *Day care*

From a search of health legislation, no definition of day care in Cyprus was found. Furthermore, relevant data on day care services in Cyprus are very limited. However, it is expected that day care will become a more common practice due to the rapid developments in medical technology, minimally invasive medical devices, and the growing focus on value-based care delivery. Day care services within the GeSY are provided by both public and private hospitals, and polyclinics. The main medical services provided on a day care basis include cataract, hernia, cholecystectomy, haemorrhoids, varicose veils, arteriovenous fistula, kidney lithotripsy and pacemaker placement.

5.4.3 *Inpatient care*

Inpatient care is provided by all public hospitals, private hospitals and polyclinics that have joined the new system and to a lesser extent by a few hospitals and polyclinics that have chosen to remain outside the GeSY. Public hospitals include the five district general hospitals, the Makarion paediatric hospital and the two small rural hospitals in Polis Chrysochous and Kyperounda, with a total of 1621 beds in 2020 (1570 for district hospitals and 51 for rural hospitals) (Cystat, 2023) and 670 specialist doctors (October 2022). The Athalassa mental health hospital has 103 beds (see Table 4.1). The private sector has 1353 acute beds (in 2020) and 1067 specialists (in October 2022). Most of them are contracted with the HIO. Altogether, the total number of public and private hospital beds (excluding mental health beds) was 2974 in 2020 (331.9 per 100 000 population). The ALOS in 2021 was 5.1 days, lower than 6.2 days in 2019, and 7.0 days in 2020 as a result of the pandemic (see Chapter 2 for more information on 'Organization').

The geographical distribution of facilities is good, and the majority of patients can reach the nearest hospital within half an hour. Data on quality are not systematically collected by either the public or private sectors, so the quality of hospital care cannot be assessed. However, the quality of services is expected to improve under the GeSY, because some of the contracted private hospitals have already been accredited, while the SHSO recently signed an agreement with a Canadian Accreditation Body for the accreditation of all public hospitals in the coming years (see Section 7.4).

Implementation of the GeSY facilitated major changes in inpatient care by ensuring better access not only to public hospitals but to private ones too, greater freedom of choice, and financial protection for all beneficiaries. Furthermore, the introduction of the personal doctor defined and simplified the pathway of the patient within the new integrated system, functionally connecting specialized care and inpatient care.

Major and remaining challenges include ensuring the financial sustainability of the new system and the administrative and financial autonomy of public hospitals, enabling them to compete with private ones and to survive financially in the long run (see Chapter 6).

5.5 Urgent and emergency care

According to the Founding law of the GeSY, "'emergency' means a case where a person is threatened by an immediate danger to their life and/or health, or severe irreversible disability if health care services are not provided in good time" (Founding Law 89(I)/2001).

Urgent and emergency care services in Cyprus are provided at all public and some private (contracted with HIO) hospitals' Accident and Emergency (A & E) departments. The staff of A & E departments consists of GPs, pathologists, general surgeons and orthopaedists, nurses with training in relevant accredited programmes in emergencies, and auxiliary personnel (secretaries, telephone operators, cleaners, etc.). In addition, consultation with other specialties is possible if necessary. Emergency departments operate 24 hours a day, seven days a week and their staff work on a rotation basis. There are often reports in the media of very long waiting times in A & E departments. Usually this happens in those cases where the patient needs inpatient care but there are no available beds. The gradual inclusion of the

BOX 5.3 Patient pathway in an emergency care episode

Patients usually arrive at A & E departments by private car, taxi or ambulance. The provision of emergency care begins at the scene of the accident and continues inside the ambulance during transport. Because of the short distances, thrombolysis or other complex medical interventions are not given inside the ambulance. However, simpler interventions, such as fracture stabilization, bleeding control, insertion of endotracheal tube, electric shock, etc., are performed. Upon arrival at the A & E department, triage is performed by a specialized nurse, and the order of priority is decided based on the Emergency Severity Index. This will be followed by any tests the doctors have decided should be done (x-rays, CT or MRI, etc.) or even immediate surgery, and finally it is decided whether the patient can leave or needs to be admitted to the hospital for further treatment.

A & E departments of the private hospitals contracted with the GeSY is expected to address the problem of waiting times. A typical patient pathway in the event of requiring emergency treatment is outlined in Box 5.3.

The normal staffing of an ambulance includes a paramedic and a prehospital care nurse, with suitable training. The ambulance services operationally belong to the SHSO and are provided within the framework of the GeSY, covering the whole of Cyprus and serving incidents after emergency calls to the numbers 112 or 199. More than 95% of emergencies are directed to the A & E departments of public hospitals, with the rest (5%) sent to contracted private sector hospitals with A & E departments.

There are no data on the quality of emergency care available. However, some findings from a recent doctoral thesis at the A & E department of the Nicosia General Hospital on the "clinical management of the seriously injured" showed an increased length of stay in the department, longer stay in the ICU, longer duration of mechanical respiratory support, more days of hospitalization and higher overall mortality, compared to emergency departments from countries with better organized trauma units (Koureas, 2022).

A major change in recent years is the opening of a trauma unit in the A & E department of the Nicosia General Hospital in 2023, which is fully staffed by five surgeons and other trained health professionals. Also, in February 2023, a children's emergency department was launched in Nicosia General Hospital, with three paediatricians.

5.6 Pharmaceutical care

The competent body for ensuring the quality, efficacy, safety and pricing of medicinal products in Cyprus is the Department of Pharmaceutical Services within the MoH. The DPhS also acts as the Secretariat of the Medicines Council, providing evaluation services as well as inspection and control services. Its activities are regulated in accordance with the Medicines for Human Use Law of 2001 (70(I)/2001), which is in full harmonization with the EU Directive 2001/83/EC 'On the Community code relating to medicinal products for human use'. Consequently, medicinal products are marketed in Cyprus either through national procedures, or in cooperation with EU Member States for centralized, decentralized and mutual recognition procedures. The inspection of all pharmacies, including in the private sector, is carried out by the GMDP Inspectorate of the MoH, in accordance with the Pharmacy and Poisons Law of 2013, while the Medicinal Product Pricing Sector handles all issues and policies governing the pricing of medicinal products. For more details on regulation of wholesalers and pharmacies, as well as pricing of medicinal products, see Section 2.7.4.

Based on the relevant legislation, only those with a licence granted by the Medicines Council, following an application by the interested party, are permitted to manufacture pharmaceutical products. According to the DPhS, seven companies have a licence to produce medicines in Cyprus, the largest volume of which is for export.

The value of pharmaceuticals produced in Cyprus in 2020 was €360.21 million, which is about 1.52% of 2020 GDP. Medicines have consistently been at the top of Cyprus's export products in recent years. Pharmaceuticals accounted for the second highest value of exports in 2022, with 20.4% of the total value of Cyprus' exports in 2022 being pharmaceuticals (1.24% of 2022 GDP).

The list of medicines covered by the GeSY is posted on its website, as well as relevant information on when and how much the patient must pay as a co-payment. The administration of a drug that is not included in the list is permitted, subject to certain conditions. Patients' access to medications dispensed through pharmacies has become easier under the new system. GeSY doctors are able to prescribe for patients through the HIO's IT system (e-prescription), and patients can obtain their medication from whichever pharmacy is most convenient. In 2023, all the pharmacies of Cyprus – a

total of 634, of which 615 are private and 19 located in public hospitals or health centres – were contracted with the HIO, ensuring easy and quick access across Cyprus.

Within the GeSY context, dispensing of prescriptions by pharmacists allows for the possibility of substitution with the cheapest medicinal product of the same active substance and pharmaceutical form (generic substitution). The delay in the introduction of innovative and unique medicines in the GeSY list of medicines is an issue frequently raised by the OSAK. Efforts are being made to speed up the introduction of these medicines in the list of pharmaceutical products reimbursed by the GeSY. It is estimated that by the end of 2023 about 200 such medicines were pending for inclusion in the list of medicines covered by the GeSY.

5.7 Rehabilitation/intermediate care

Inpatient rehabilitation care services are currently provided by rehabilitation centres in the private sector and by non-profit organizations. The costs of these services are borne entirely by the patient because these centres are not contracted to the HIO. The only rehabilitation services within the context of GeSY are those provided in ambulatory settings by physiotherapists (860, 93.7 per 100 000)[6], occupational therapists (31, 3.4 per 100 000), speech pathologists (190, 20.7 per 100 000), clinical psychologists (191, 20.8 per 100 000), and clinical nutritionists (206, 22.4 per 100 000), contracted with the HIO. These services are provided after referral by a GeSY specialist doctor, have a limit of sessions per beneficiary, and require a co-payment per session. The absence of the GeSY in the provision of inpatient rehabilitation services is due to the lack of an institutional framework: the passage by the Parliament of the relevant bill "regarding recovery and rehabilitation centres" has been pending since 2020.

Although there are more than 10 private rehabilitation centres, with modern facilities and equipment, and approximately 400 beds for inpatient care, there are no further data on accessibility, adequacy and quality of services provided. These outcomes are likely to vary depending on the provider and the financial capabilities of the patient. It should be noted that VHI does

[6] The numbers in brackets are those contracted with the HIO on 18 October, 2022.

not offer insurance coverage for rehabilitation/intermediate services. Under these circumstances it is likely that much of the rehabilitation needs remain unmet due to high costs, especially for low-income households.

5.8 Long-term care

Cyprus displays all the characteristics of an ageing society with increasing health and social care needs, particularly with respect to dependency ratios. The share of people 65 years and over in the total population is projected to rise from 17.1% in 2024 to 19.1% in 2030 and 24.1% in 2050, while that of people 80 years and over will increase from 4.1% to 5.1% and 8.3% respectively (Republic of Cyprus, 2024). This signals a growing demand for LTC services for people over 65 years of age. In addition, the old-age dependency ratio (people aged 65 and above relative to those aged 15 to 64) is expected to rise from 27.7% in 2024, to 32.1% in 2030 and 42.1% in 2050.

Despite an ageing population, Cyprus currently lacks a comprehensive and integrated system of LTC services. The system is fragmented and services are provided by the public, private and community sectors, while the role of informal carers is substantial in the provision of services. Within the national social policy context, LTC focuses on the support of people with high levels of dependency, including the oldest age group with physical/mental disabilities, those with chronic diseases, and people with learning disabilities.

Total public LTC expenditure, as a percentage of GDP, is among the lowest in the EU Member States, resulting in high OOP payments. The lack of an integrated institutional framework, the fragmentation in provision, insufficient coverage, and the inadequacy of LTC facilities, force many families to seek services in the private sector. The administration of LTC services and relevant measures is the responsibility of the MoH, while the MLSI is responsible for benefits in cash and in kind, through the department of SWS.

ACCESSIBILITY, ADEQUACY AND QUALITY OF SERVICES

The Department of Nursing Services of the MoH provides formal LTC services through a network of community nurses (general nursing community nurses and mental health community nurses) conducting home visits

to people with a mental health condition, disabled people, artificially ventilated patients and older people who live alone and encounter severe health problems. Community mental health nursing, under the responsibility of SHSO, includes involvement in primary prevention and mental health promotion, offering a wide range of services and activities. Community nursing care includes both general and mental health nursing and is provided to all beneficiaries of the GeSY, who are entitled to a maximum of 12 visits a year. LTC services are also provided by private sector health professionals contracted with the HIO (nurses, physiotherapists, speech therapists, occupational therapists, etc.), after a relevant referral from a doctor. These professionals are compensated by the HIO, as is the case with all contracted health professionals. NGOs also play a substantial role in LTC provision, as well as non-profit organizations such as the Cyprus Association of Cancer Patients and Friends (PASIKAF) and the Cyprus Anticancer Society, who provide free psychological and social support, physiotherapy, home and palliative care to patients with cancer.

The MLSI also plays an important role in meeting LTC needs, although it does not provide health services itself. The MLSI mainly provides benefits in cash (a monthly allowance) to meet needs for home care, day care, institutional care and respite care, and, in certain cases, benefits in kind such as the purchase of assistive technologies (e.g. wheelchairs). All persons legally residing in Cyprus, who are recipients of the GMI benefit, and persons not eligible for GMI but with insufficient income or with severe disability (motor/paraplegia/quadriplegia/blindness) are entitled to subsidization, provided they meet all the other criteria specified in the GMI legislation. No qualifying period is defined for LTC eligibility. The SWS collects information on the care needs of the applicant through home visits and specific assessment tools. Additional certificates or reports may be requested from other services, including medical reports. The information collected is assessed by specialized assessment teams and tools, while the results are communicated to the Welfare Benefits Administration Service for their decision. In case of approval, a care plan is developed with the cooperation of the beneficiary and the responsible officers. For persons to become entitled to disability cash benefits, a disability assessment and certification through a disability assessment centre has to be followed.

In addition, the SWS subsidizes social care programmes provided by NGOs and the local authorities. These programmes (home care, day care,

residential care and child care) cover the care needs of older people, people with disabilities and children, as outlined below:

Home care: the GMI sets a ceiling on the fees paid for home care at €400 per month. In some cases, the state may reimburse for home care provided by a domestic third-country (i.e. non-EU citizen) helper. Here, the amount is set at €397.78 (€309 wage and €88.78 social insurance contributions). This can be higher in extraordinary and justified cases (e.g. people with disabilities) where more than one helper is necessary.
Day care is provided by approved adult centres, which may be operated by NGOs, local authorities or the private sector. Day care serves older people and people with disabilities during the day, providing care services, meals, creative activities and entertainment. The SWS may pay a cash benefit to recipients of long term day care of up to €137 per month. The amount of this benefit is defined by an automated analysis of specific assessment tools of day care needs.
Residential care: residential homes may be public, private or run by NGOs. In addition to free residential care in public institutions, the SWS may pay cash benefits for residential care for those that require continuous support but with needs that cannot be met by family members or other supportive services in their environment. The amount of this benefit varies from €625 to €745 per month depending on the needs of the beneficiary. Beneficiaries of residential care may also receive an additional personal comfort benefit of €30 for mobility and €52 for non mobility problems.
Respite care is temporary/short-term care of a person that allows informal carers to have a holiday/break from their care responsibilities, and simultaneously helps the person stay in their home. It is arranged depending on the needs and preferences of the people themselves and is provided through the above types of care. The amount of subsidization from SWS depends on the beneficiary's needs.

There is no relevant information about the quality of the services provided. Since the current public LTC system is a cash benefit-oriented system, there is no information on how and where the money is spent by the beneficiary or by their family members, much less if the services they purchase are suitable for the patient or of good quality.

MAJOR CHANGES, CURRENT CHALLENGES, AND REFORM PLANS

There have been no recent changes in the field of LTC. The last major reform took place in July 2014, by introducing the GMI. The relevant Law (No 109(I)/2014) refers to the care needs of GMI recipients and their family members, where additional assistance can be provided. In this direction, the MLSI issued in August 2014 the decree that incorporates the "*scheme for the subsidization of care services*" for GMI recipients.

Two long-awaited bills for home and community care, and residential and day care are, however, underway (as of March 2024), which also cover community mental health care. These are expected to define more clearly the criteria for the registration as well as the qualifications for formal caregivers, which need to be more comprehensive and focus on contemporary requirements. It is also anticipated that the new legislation will improve the collection of LTC-related data in a systematic and regular way.

The Cyprus Recovery and Resilience Plan 2021–2026 also details plans for investing in the modernization of facilities for adolescents with conduct disorders, persons with disabilities and/or mental health problems, and older people. The plan recognizes that LTC expenditure in Cyprus is very low and only 21% (EU average: 55%) of the dependent population receives LTC (Cyprus Recovery and Resilience Plan, 2021–2026). The creation of modern LTC care structures signifies the path towards a new LTC system with more public infrastructure and fewer cash benefits.

Overall, current LTC policy results in many disparities around coverage, adequacy and access to services, especially for people with disabilities. The implementation of the GeSY is expected to gradually have a positive impact on the accessibility and availability of LTC services, delivering solutions to the problems and shortcomings of the previous system. The new system in its benefit package includes LTC services, such as home care, medical rehabilitation and palliative care, and allows the option of contracting with private providers. The question is whether private sector facilities can meet all the LTC needs of the beneficiaries. A further big challenge in LTC is how to ensure an adequate workforce and support for informal carers. Low pay and poor working conditions, as well as the prevalence of part-time work and temporary contracts, reduce the attractiveness of this sector.

5.9 Services for informal carers

The role of informal carers in the provision of LTC services in Cyprus is substantial. Such roles were previously assumed by patients' family members, mainly spouses, children, grandchildren or other relatives, based on the general values of Cyprus society and the close family bonds. However, the informal care provided by family members is gradually declining, as the number of people in the family is becoming smaller and more people are choosing to work as employees outside the household. That's why, in recent years, family members and relatives are gradually being replaced by paid domestic helpers, providing informal care services to family members who cannot look after themselves due to a reduced degree of physical or cognitive capacity. These domestic workers (informal carers and domestic helpers) are predominantly women immigrants from non-EU countries.

According to the MLSI, the number of migrant women (mainly from the Philippines, Sri Lanka and Vietnam) legally living and working as domestic workers stood at 23 107 in October 2020 (Ministry of Labour and Social Insurance, 2023), while another 10 000 are estimated to remain and work without proper documentation and work permits. Third-country domestic helpers usually reside in the household for which they work. Their monthly gross salary is currently set by law at €460. In contrast to the previous system, third-country domestic helpers legally resident in Cyprus now have the same access to the health services provided by the GeSY as citizens of the Republic of Cyprus.

In those cases where specific criteria are met, the MLSI fully or partially covers the salary of the domestic helper. To alleviate the high dependency on informal care, the MLSI has been providing subsidies for the full employment of 100 trained carers to provide specialized support services to people with severe motor disabilities. This programme began in November 2017 with the aim of subsidizing the Cyprus Paraplegics Organization for the full employment of 100 trained caregivers for a period of 24 months.

One challenge with informal caregivers, whether they are members of the patient's family or paid helpers, concerns the insufficient knowledge and skills they often have regarding the patient's health problems. This highlights the need for support and training in LTC services (the MoH's Department of Nursing Services provides training programmes for health carers).

5.10 Palliative care

Palliative care services are provided by two non-profit entities, PASYKAF and the Cyprus Anticancer Society. These services are offered only to cancer patients, supporting them at all stages of the illness, in a holistic way. Services are provided by multidisciplinary teams of health professionals, including doctors, physiotherapists, psychologists, social workers and nurses, who are remunerated by the two non-profit organizations mentioned above. The involvement of volunteers in palliative care provision is minimal and usually their services are limited to keeping the patient company or transporting them to a hospital.

Palliative care facilities run by the Cyprus Anticancer Society are the Arodaphnousa Palliative Care Centre in Nicosia, with 26 beds for inpatient care, and the Evagorio palliative care unit in Limassol, for day care services. PASYKAF runs two inpatient palliative care centres, one in Paphos with 9 beds (Archangelos Michael) and one in Larnaka (Edem) with 11 beds. In addition to inpatient and day care services, home care services by specially trained health professionals are provided by both non-profit organizations. Home care services include blood drawing, wound care and administration of drugs and serums, etc. It should be mentioned that most patients choose to stay at home within their family. This was especially the case during the pandemic period, during which visits to patients in hospices were prohibited.

All plans related to the care of the patient are drawn up with the participation of family members and the patient. In fact, in many cases, family members are trained by the health professionals on matters of management and behaviour towards patients. In those cases where palliative care professionals need to collaborate with someone who specializes in a specific patient problem (e.g. acute pain management), they usually collaborate either with anaesthesiologists or oncologists, or with any other specialty deemed necessary.

The most important change made in the field of palliative care in recent years is its inclusion in the GeSY benefit package, which now covers a significant part of the cost of care for each patient, up to a ceiling of €350 per night in palliative care facilities. A further important change is the assumption of responsibility for the provision of palliative care exclusively by the two non-profit organizations PASYKAF and the Cyprus Anticancer Society, which have contracted with the HIO. Other agencies, such as the oncology

departments of Nicosia and Limassol General Hospitals, as well as the Bank of Cyprus Oncology Centre, no longer offer palliative care services. Also worth mentioning is the significant increase in the numbers of trained staff, the use of innovative drugs for pain control and the use of modern tools that facilitate the work of health professionals and patients themselves, such as oxygen concentrators.

Despite the positive steps made in recent years, especially the inclusion of palliative care in the GeSY benefit package, there are still challenges for palliative care provision, such as: i) the lack of any institutional framework that defines the provision of palliative care, the specialties and the qualifications of the health professionals involved; ii) although the 46 beds for inpatient care are considered sufficient for Cyprus, more teams with trained health professionals are needed in home care; iii) there are shortages of trained staff and a lack of certified training programmes. This gap may be filled by a new postgraduate programme on palliative care that will soon be offered by the Department of Nursing at the Cyprus University of Technology.

5.11 Mental health care

The SHSO, through the Department of Mental Health Services (MHS) is the largest mental health provider within the GeSY. In October 2022, the total number of contracted psychiatrists with the HIO was 71, of which 32 were from the SHSO and the rest from the private sector. Public services provide both inpatient care and specialized mental health services through their own facilities, while the private sector mainly provides outpatient services through psychiatrists working in their solo practices.

The MHS provides inpatient care through the only mental health hospital in Cyprus for adults (Athalassa hospital) and the Makarion paediatric hospital for minors (the adolescent inpatient unit), as well as specialized mental health services through its health facilities across the island. The Athalassa hospital is the largest unit of mental health services, accepting patients from all districts of Cyprus. It has a total of 103 beds (2020), and patients are mainly admitted on an involuntary basis, after a court order of detention, according to the Law on Psychiatric Care (1997). The hospital has two wards for acute cases, one intermediate closed clinic, one rehabilitation ward and two wards for chronic patients. The hospital management

is currently taking steps to gradually transfer a number of chronic patients to supervised community hospices. The MHS also provides services through two psychiatric clinics in the public general hospitals of Limassol (16 beds) and Nicosia (18 beds). Both clinics provide care to adults with a wide range of mental disorders that need intensive and short-term treatment.

In addition, the MHS provides specialized services in the public sector, such as mental health assessments related to the investigation of general mental health problems or specialized aspects of mental health using psychometric tools and psychodiagnostic systems. The centre for the prevention and treatment of eating disorders is a specialized service at the Makarion Children's Hospital in Nicosia. The centre's multidisciplinary team consists of a child psychiatrist, a clinical psychologist, an occupational therapist and a mental health nurse. The team is specialized in the treatment of eating disorders, with treatment provided through individual and family therapy. In addition, the public MHS provides care for adolescents in an eight-bed clinic of the Makarion Children's Hospital in Nicosia. It accepts adolescents from 12 to 17 years old with serious psychiatric–psychosocial problems. Other specialized services are provided through weekly outpatient clinics for adults with specific psychiatric disorders, such as attention deficit hyperactivity disorder (ADHD) or eating disorders.

Centres of Prevention and Psychosocial Support are another service provided by the MHS in Nicosia, Limassol, Larnaca and Paphos. These are housed in a community space and provide services to children and adolescents up to 17 years of age and their families. Children and adolescents with mild to moderate psychological difficulties are referred to these centres, which intervene in a family and school context. The centres also develop activities in prevention, diagnosis, treatment, education and research.

In the public primary health centres of the SHSO, there are groups of psychiatrists, psychologists, occupational therapists and mental health nurses that provide psychological and counselling interventions, assessment, information and guidance on mental health issues, mental empowerment programmes for the elderly, and community home nursing care for individuals and families. Access to these services requires a referral from the personal doctor.

The day centres in Nicosia and Limassol are community-based structures where people with mental health problems can participate in programmes that aim to provide psychosocial support to enable them to function and adapt in society in a meaningful way.

The Centre for Children with Neurodevelopmental Difficulties began to operate fully in February 2023 and is the first centre in Cyprus to specialize in neurodevelopmental difficulties, providing quality health services and using specialized therapeutic equipment. The primary concern of the centre is the provision of multilevel care to children of early age up to 7 years, but also the support and proper guidance of their families. At the centre, assessments and treatments are offered by specialized staff, who work as a team and collaborate directly within the same space. Each child's case is treated individually in the context of diagnostic procedures and developing a treatment plan in collaboration with the child's parents/caregivers. The Centre for Neurodevelopmental Disabilities initially focuses on autism spectrum disorder.

Services provided in the prison sector are under the responsibility of the MHS in collaboration with the Directorate of Prisons. This department covers the mental health needs of the Cyprus Central Prisons in Nicosia, including problems such as alcoholism and the use of illegal substances. A ward with 24-hour nursing coverage operates within the penitentiary, to accommodate people with acute psychopathology who need further monitoring.

Services for alcohol addiction are mainly provide by the Therapeutic Unit for Addicted Persons (THEMEA). The unit's therapy programmes are provided on an inpatient basis with voluntary hospitalization as well as an outpatient basis. 'Anosis' is a rehabilitation unit providing detoxification from addictive substances. This unit offers short-term hospitalization that covers the medical, psychosocial and social needs of patients. The MHS also runs multiple substitute substance units throughout Cyprus as well as counselling programmes for gambling, alcohol and legal substance addictions that are not included in the GeSY. Treatment of illegal substance use disorders can also be offered privately in therapeutic communities, such as 'Ayia Skepi', which was established as an initiative of the Cyprus Church.

Until 2019, mental health services were mainly provided by the old public system and to a small extent by private doctors (mainly psychiatrists) working in their practices. In these cases, the full cost was borne by the patient. This may to a lesser extent still be the case today for the few psychiatrists who have chosen to remain outside the GeSY. Within the new system, patients need a referral from their personal doctor and to pay an amount, depending on the provided service, ranging from €6 to €10 as a co-payment.

A major challenge for mental health services in Cyprus is to fully meet the needs of an increasing number of refugees and asylum-seekers in need of mental health screening, counselling and psychological support. This situation is made more challenging because asylum-seekers are not covered by the GeSY (see Section 3.3.1). Further challenges for the provision of mental health services in general include bed shortages, improvement of outdated inpatient facilities and a gradual shift away from inpatient care to care in the community.

5.12 Dental care

Dental care is provided by both the PDS and the private sector. The number of practising dentists in 2021 was comparatively high at about 1020 (119 per 100 000 population) but only 3.8% (38) work in the public sector, providing dental care to approximately 10% of the population, mainly people on lower incomes due to the low costs. The fee/co-payment per visit is just €3 regardless of the provision of service. The limited working hours of public sector dentists, as well as the limited range of services offered (they do not provide fixed prostheses and implants) are some of the reasons why citizens visit the private sector. However, the role of the PDS is very important, not only because it meets the needs of low-income people but it is also responsible for planning and implementing preventive programmes, mainly in schools, to tackle oral health inequalities and reduce treatment needs. In addition, the PDS is responsible for undertaking oral health surveys and monitoring the level of oral health in Cyprus. The economic crisis in 2012 had a negative effect on the provision of dental care, with 33.2% of the population aged 35–44, and 37.1% of the population aged 65–74, stating that they visited the dentist less often compared to the past, or that they would postpone their regular visit to the dentist due to the high costs. In the same study, 7.4% of the population aged 35–44, and 17.3% of people aged 65–74, mentioned that they have shifted from the private to the public sector (Charalambous, Theodorou & Eaton, 2020).

Some patients during this time shifted temporarily from the private to the public sector, leading to increased waiting times, a situation that reversed after 2014 with the gradual recovery of the economy (Charalambous, Theodorou & Easton, 2020). As a result, 60% of the population in 2019

reported that they visited a dentist or orthodontist (either in the public or private sector) compared with only 45% in 2014, indicating that citizens had returned to regular visits to the dentist after the economic crisis.

As of 1 December 2020, preventive dental care (one visit per year for oral examination and scaling, and in addition, for children 6–12 years old, one topical application of fluoride), has been included in the package of health care services that are reimbursed by the HIO. Up until the end of November 2022, 707 dentists, or 64.2% of the total number, had contracted with the HIO. This is despite concerns among dentists regarding their participation in the Scheme due to the range of services covered and reimbursement amounts. According to HIO data, during 2022, €10 271 124 of the HIO budget was spent on dental care and 263 455 citizens received free preventive care via the GeSY.

As in many countries, the COVID-19 pandemic and the related restrictive measures that were imposed had a negative impact on the provision of dental care. PDS statistics showed a decline of 41.3% in the number of dental visits in 2020 compared to 2019, and a further decline of 9.6% in 2021. Similarly, there was a 34.7% decrease in work volume (between 2019 and 2020) and a further 2.8% decrease in 2021. The decline in the frequency of dental visits, if it continues, will contribute to a worsening of oral health in Cyprus, and increase the unmet need for dental care.

6

Principal health reforms

Summary

- The need for a modern and integrated health care system has been a long-standing issue in Cyprus. The high costs for such a system played an important role in delaying its implementation, along with negative reactions from some influential stakeholders and interest groups.
- The new GeSY has extended coverage to the whole population and addressed fragmentation and other inefficiencies of the old system, including long waiting times in public hospitals and heavy reliance on OOP payments.
- The new system has brought together the public and private sectors into a single and competitive quasi market, where the two sectors compete for patients. Its fundamental principles are universal coverage, financial sustainability, equal access, free provision of care, freedom of choice and increased financial protection for beneficiaries.
- The implementation of the GeSY has led to major changes in all health system areas, including administration, financing, coverage, access, choice, benefits package, financial protection and remuneration of providers, as well improving public perceptions of the health care system in Cyprus.

- Future challenges and areas for development related to the new system are: a) the reorganization and reform of public hospitals that will lead to their administrative and financial autonomy; b) the introduction and use of e-health, including electronic health records, the regulation of data storage and use of bio information; c) the establishment and operation of a Capacity Master Plan for Health at the MoH; d) the implementation of university clinics in public hospitals; e) the integration of quality and performance indicators in the payment mechanisms of GeSY providers; and f) the introduction of medical and therapeutic protocols and guidelines.

6.1 Analysis of recent reforms

The introduction of the GeSY in 2019–2020 is the most significant health reform, and certainly the most important social policy reform, implemented in Cyprus since its independence in 1960. The GeSY replaced an outdated publicly funded system, which remained unchanged for many years and faced an increasing number of problems. Under the old system, long waiting times often forced patients to seek health services in the private sector, resulting in very high OOP payments and leading to financial hardship for some and unmet need for those unable to pay the full cost OOP (Kontemeniotis & Theodorou, 2020). In addition to limited financial protection, the old system did not ensure universal coverage, as about a quarter of the population were uninsured. More details about the previous system can be found in the Cyprus: Health Systems in Transition report of 2012 (Theodorou et al., 2012). This chapter provides an overview of implementation procedures, the content and the objectives of the GeSY, as well as planned future reforms and areas for development.

THE POLITICS AND LEGAL FOUNDATION OF THE NEW SYSTEM

The planning and implementation of a modern and integrated health care system has been a long-standing policy issue in Cyprus. Despite agreement on the necessity for a new system from most governments, political parties and affiliated trade unions, efforts to implement one have spanned more than

50 years (Alexandrou, Kantaris & Theodorou, 2021). Even after the GeSY Founding Law was agreed and voted for by the Parliament in 2001 (Founding Law 89(I)/2001), the implementation process did not start until almost two decades later. This was despite the fact that a Council Recommendation by the European Commission in 2012 and the international financial assistance agreement (MoU) signed by the Cyprus government in 2013 (see Chapter 1) emphasized the need for the implementation of the National Health System (NHS) "without further delay" (European Commission, 2012; Government of Cyprus, 2014).

The Founding Law of the GeSY refers in detail to the establishment of a new legal entity called the Health Insurance Organization, which is responsible for the implementation and management of the new system (Founding Law 89(I)/2001). Aside from administrative accomplishments such as the creation of the HIO and the elaboration of a strategic implementation plan, little progress was made around operationalizing the new system until 2017. The invocation of high funding costs played an important role in this delay, along with negative reactions from some influential stakeholders and interest groups, primarily private sector doctors, private insurance companies and employers resisting the call to make health contributions for their employees (Theodorou, 2019; Alexandrou, Kantaris & Theodorou, 2021).

At the beginning of 2017 there were signs of progress, with some tangible steps towards the implementation of the new system. On March 2017, the HIO announced the completion of the tendering process for the new integrated information system to support the GeSY, while in June 2017 the Parliament voted in favour of two pending laws (73(I)/2017 and 74(I)/2017), that were a prerequisite for the implementation of the new system.

The purpose of the first law (Founding Law of SHSO, 73(I)/2017) was the establishment of the SHSO, a public law agency, which would take charge of the reorganization and management of all public sector hospitals and primary care units. This law provides that all public hospitals should gain administrative and financial autonomy in order to be competitive with private hospitals and to be financially sustainable in the new environment within the GeSY. According to the provisions of this law, any financial deficits of public hospitals will be covered by the state budget for a transitional period of 5 years. Beyond this 5-year period, public hospitals within the new system should be competitive with private ones and therefore financially sustainable. As a continuation of the enactment of this law, the Council of

Ministers approved the appointment of the 10-member Board of Directors of the newly established SHSO in December 2017.

The second law (Law 74(I)/2017) was an amendment to the GeSY Founding Law. Among other provisions, it determines the services to be provided by the GeSY and sets the rates of health contributions, since the new system will be funded by contributions levied on the income of employees, pensioners, landlords and investors, the self-employed and employers, alongside the contribution from the state budget.

Regulations were also prepared and adopted in 2017, on issues such as: contributions and co-payment rates; procedures for collecting and paying health contributions for the different groups of beneficiaries; how family doctors and specialists will join the system and how their remuneration will be calculated; how pharmacists and laboratories will join and work within the new system; and methods of remuneration.

The enactment of the two laws and the set of regulations put in place the necessary foundations for the phased implementation of the new system. In the face of initial negative reactions from some stakeholders, four key factors proved decisive in facilitating implementation: (i) the supporting position of the President of the Republic in the basic principles of the GeSY, as provided by the Founding Law and his ability to successfully manage different stakeholders; (ii) the determination of the then Minister of Health; (iii) the intensive and systematic effort and preparation at all levels by HIO; and (iv) the active support of the influential OSAK.

The new system began operating on 1 June 2019 (first phase of its implementation), with the provision of outpatient care services, including visits to personal doctors and specialists, diagnostic tests and medicines. Full implementation was completed in June 2020, amid the COVID-19 pandemic, with the provision of inpatient care and outpatient care provided by allied health professionals.

OBJECTIVES OF THE NEW HEALTH CARE SYSTEM

The objectives of the GeSY are shown in Box 6.1.

BOX 6.1 Objectives of the GeSY

- To bring together the public and private sectors into a single and competitive quasi market, where the two will compete with each other for patients, based on quality and not price.
- To provide personal and family care by the introduction of family practices (GPs) with a gatekeeping role and referral system to specialties and hospitals.
- To fund the system by contributions from the government, employers, employees, landlords, investors and pensioners, and control cost through global budgets.

The implementation of the GeSY created a completely different health system environment, with major changes in all parameters, including: administration, financing, coverage, access, freedom of choice, benefits, financial protection, and remuneration of providers. It has also improved public perceptions of the Cyprus health care system. A comprehensive analysis of the new health care system is provided in Chapter 7.

ADMINISTRATION

Before the new system was in place, the health system's organization was relatively simple, as it did not have multiple administrative levels, multiple agencies or other complexities. With the new system and the establishment of the HIO and SHSO, the role of the MoH is shaping into a more strategic one in matters of health policy and public health (Theodorou & Athanasakis, 2021). At the next level below the MoH is the HIO (responsible for monitoring and managing the whole system and ensuring its effective administration and operation) and the SHSO (responsible for the operation, management and development of public hospitals and primary health care centres).

FINANCING

In contrast to the old system, which was financed exclusively by the state budget, the GeSY is primarily funded by contributions levied on the income of employees, pensioners, landlords and investors, self-employed and employers, as well as from the state budget, with a small proportion of revenues from co-payments and EU funding such as the RRP. For more details on how the system is financed see the relevant post on the HIO platform (GeSY, 204b) and also Chapter 3.

COVERAGE, ACCESS AND FREEDOM OF CHOICE

The GeSY is a universal coverage system. Entitlement is now based on legal residence and is no longer linked to citizenship, income or payment of contributions. In principle, all those legally resident in Cyprus are now covered, including people and their dependent family from third countries under subsidiary protection, and documented asylum-seekers. For more details on coverage, see Section 3.1.

According to the data of June 2023, most private hospitals and clinics have joined the GeSY, ensuring that approximately 85% of the available hospital beds in Cyprus are at its disposal. Additionally, all private pharmacies and laboratories have joined the GeSY, along with 90% of doctors in the private sector. The increased number of providers, due to the contracted private sector, has reduced waiting lists and significantly increased both access and freedom of choice for all beneficiaries compared to the previous system.

BENEFITS PACKAGE

The range of services covered by the GeSY is quite comprehensive and includes: primary care and specialist outpatient services, inpatient care, paramedical services, emergency services, medicines, diagnostic tests and therapeutic appliances, preventive services including immunization, maternal and child health, school health and occupational health. Coverage is limited for dental care, LTC, rehabilitation and palliative care, and in terms of access to new and innovative medicines and treatments (see Chapter 3 for more details).

OUT OF POCKET PAYMENTS AND FINANCIAL PROTECTION

The co-payments provided for certain services within the GeSY are relatively low. More specifically, the rates provided are: €1 per pharmaceutical product or laboratory test and €6 per visit to a specialist, in combination with the annual cap of €75 for low-income pensioners, children up to the age of 21 and GMI recipients, and €150 for all other beneficiaries. These relatively low co-payments, combined with the caps, are expected to increase the financial protection capacity through the significant reduction of OOP payments and the unmet need due to cost (see more in Section 7.3).

REMUNERATION OF PROVIDERS

The reimbursement of personal doctors and paediatricians is based mainly on the number and age of registered beneficiaries in their list; outpatient specialists on a points-per-service basis; and hospitals on activity-based payment by using DRGs within hard global budgets (see more details in Chapter 3).

PUBLIC PERCEPTIONS OF THE HEALTH SYSTEM

The implementation of the GeSY has improved public perception of the health care system in Cyprus and the services provided. In a patient satisfaction survey conducted in June 2021 with a sample of 1.500 participants, it was found that 82% were satisfied with the quality of the services provided and 80% believe that the GeSY has greatly improved their quality of life. Moreover, 83% stated that the introduction of the GeSY has eliminated inequalities in access that previously existed and 86% that the focus of the new system is the patient and providing them with the best service. In another survey, it was found that citizens rank the GeSY first among all the institutions of the Republic in terms of satisfaction and trust (Press and Information Office, 2022). It therefore appears that the system has been embraced by all citizens because of its significant advantages over the old one, namely universal coverage, freedom of choice, better access and higher financial protection.

6.2 Future developments

Although it started operating in 2019, the GeSY is still on the agenda of political parties and stakeholders, and subject to public debate. Alongside concerns over its financial sustainability, there have been some calls for major changes. For example, it was proposed that the private doctors who have chosen to stay out of the GeSY should have the right to prescribe medicines and diagnostic tests for the beneficiaries of the new system. Others meanwhile have called for changes to the basic characteristics of the GeSY, including the method of remunerating personal doctors, proposing a pay per visit instead of the current per capita arrangement, and even a transition from the current single purchasing agency (HIO) to a competitive system among multiple purchasers (private insurers). All of these proposals were rejected by the government and no significant developments are foreseen in the near future that would alter the fundamental principles and philosophy of the GeSY. Nevertheless, there are some reforms and interventions, which are either in the planning stage or in progress. These include:

- The reorganization and reform of public hospitals that will lead to their administrative and financial autonomy, enabling them to compete with private ones (responsible agency: SHSO). This will arguably be the most difficult reform to achieve because it must overcome long-established attitudes and behaviours of employees and their resistance to change. The 5-year timeframe provided by law may need to be extended because public hospitals were tasked with treating COVID-19 patients during the pandemic, reducing capacity to implement required changes and delaying the process.
- The introduction and use of e-health in the new health care system (responsible agency: National E-Health Authority), as provided for by the relevant law voted by the Parliament in 2019 (Law 59(I)/2019, for electronic health). This law provides for the establishment of the National E-Health Authority, which is a legal entity under public law, responsible for the use of e-health in the new system, such as electronic health records, the regulation of storage of patient data, and use of bio information and telemedicine. This major and important reform which is expected to improve monitoring and efficiency of the system, quality of

services and consequently better health for the beneficiaries, is underway.

- The establishment and operation of the new Integrated Health Information System for all public hospitals and its Directorates (responsible agency: SHSO). The relevant contract with the project contractor was signed on 12 September 2022. This is a project with an estimated cost of €46 million, which is expected to be completed by the end of 2025. It aims to upgrade, simplify and automate the processes and health services provided to all beneficiaries.
- The establishment and operation at the MoH of a CMP for Health, with at least a 10-year horizon, which will provide the planning and decision-making framework for the Cyprus health care system (responsible agency: MoH). The objective of the project is to enhance the capability of the Ministry and other health care stakeholders to undertake effective planning and decision-making to meet the current and future health needs of the population. The whole project encompasses the following workstream pillars: a) health care regulation; b) health needs assessment; c) quality data system – minimum data set; d) health facilities audit; e) enhancing local level demand and capacity planning; f) human resources for health planning. This project is ongoing and is financially and technically supported by the European Commission under Regulation (EU) 2017/825 on the establishment of the Structural Reform Support Programme to provide technical support in capacity master planning.
- The establishment and operation of university clinics in the GeSY public hospitals (responsible agency: SHSO). Dialogue is underway between the stakeholders involved under the coordination of SHSO.
- The implementation of the health projects outlined in Cyprus's National Recovery and Resilience Plan 2021–2026 (responsible agency: MoH). The component "*Public Health civil protection and lessons learned from the pandemic*" has an estimated budget of €74.1 million for a "*Resilient and Effective Health System, Enhanced Civil Protection*". It focuses "*on interventions that include (i) modernisation and digitalisation of health care infrastructure and equipment; (ii) stepping-up of e-health services; (iii) accreditation of provided health*

care services and introduction of evidence-based clinical protocols and quality monitoring systems; and (iv) upskilling opportunities for health workers. It includes a National centre for clinical evidence and quality improvement, electronic platform for the surveillance of nosocomial antibiotic consumption and health care-associated infections, gradual shift of the health care provision and reimbursement framework towards value-based models".

- At the legislative level, two bills are under discussion for the establishment of a National Pharmaceutical Authority for the licensing and marketing of medicines and legislation, introducing the institution of the Patient's Ombudsman.
- Finally, the newly introduced health care system needs continuous monitoring, evaluation and improvement to correct any distortions (responsible agency: HIO). Measures that have already been taken or are planned to be taken soon include:

    - (i) continual repricing of medical services, examinations and surgeries for reasons of provider compensation;
    - (ii) rotating personal doctors on shifts at weekends and holidays; from 9 July 2022, personal doctors are available for emergencies on weekends and holidays in all the districts of Cyprus, and since 1 September 2022, evening outpatient clinics and surgeries have been operating in public hospitals, currently on a voluntary basis, increasing availability and reducing waiting lists;
    - (iii) measures to control system abuses such as over-prescribing, increased referrals from personal doctors to specialists, unjustified examinations and increased referrals for tests provided in beneficiaries during their visit to specialties – for this purpose, the HIO has drawn up a special action plan (HIO, 2022);
    - (iv) integration of quality and performance indicators in the compensation of providers;
    - (v) introduction of medical and therapeutic protocols and guidelines in collaboration with the Medical School of the University of Cyprus, the Cyprus Medical Association and the British National Institute for Clinical Excellence.

6.2.1 *Key challenges facing the GeSY*

Firstly, ensuring the financial sustainability of the system and monitoring its implications on the overall economy in the long run are vital. To this end, the HIO's priority is to identify distortions in the system and address providers' unjustified or falsified billing. Audits already conducted by the HIO have uncovered instances of system abuse, particularly by specialists, and have resulted in sanctions ranging from a warning to suspension or even termination of contracts, while unjustified financial claims of many millions of euros have been rejected.

It is unclear if the competition between public and private sector providers will work in practice and whether public hospitals will be able to compete with private ones to achieve financial autonomy and be financially self-sufficient (Siciliani, Chalkley & Gravelle, 2022). Although the data are currently insufficient, it seems that private hospitals are gaining ground in terms of attracting patients over public hospitals, especially in inpatient care. This is confirmed by a relevant report in June 2022 prepared by the Audit Office of the Republic of Cyprus, which states that "*patients in public hospitals have been significantly reduced, resulting in reduced revenue, while on the contrary total expenditures have been increased significantly due to the continuous increase in payroll costs*" (Audit Office of the Republic of Cyprus, 2022b). In part this may be due to the full responsibility of public hospitals for managing COVID-19 patients during the pandemic period, which led to non-COVID patients avoiding these hospitals.

7

Assessment of the health system

Summary

- The introduction and full operation of the new integrated health care system between June 2019 and June 2020 completely changed the health care landscape in Cyprus. Although there is still limited data on its operation, emerging evidence suggests it has significantly improved coverage, access and financial protection of beneficiaries, compared to the previous system. Lack of data currently does not allow detailed assessment of quality and effectiveness of the new health care system.
- The current system is considered much more transparent than the old one, without the long waiting lists, high OOP payments and provider tax evasion of the past. Important steps have been taken to improve the accountability of stakeholders, although there is room for further improvement, while the participation and involvement of patients and the public in decision-making processes of the HIO are also greater and more decisive.
- Unlike the previous system, where a quarter of the population were uninsured, the GeSY provides almost universal coverage to more than 99% of the population, with entitlement based on legal residence and no longer linked to citizenship, income or payment of contributions.

- The universality of the new system, combined with several other factors, such as the range of services provided, relatively few problems in accessibility and availability, and the low co-payments with annual caps, ensure increased financial protection to all beneficiaries, minimizing financial hardship and catastrophic health spending.
- Data on preventable and treatable mortality indicate good results for health outcomes in Cyprus. However, Cyprus lags behind in comparison with other European countries on certain issues related to ascertaining the quality of health care, such as HAIs and antimicrobial resistance. In addition, smoking, obesity (especially among children), dangerous driving and various unhealthy lifestyles remain serious risk factors for population health and require further attention.
- The full implementation of the measures provided by the action plan of the HIO against abuses of the system and fraud is expected to have a positive impact on allocative and technical efficiency, as well as on the sustainability of the system.

7.1 Health system governance

TRANSPARENCY OF THE SYSTEM

According to Transparency International, Cyprus's Corruption Perception Index (CPI)[7] in 2023 was 53, placing the country 49[8] out of 180 countries in terms of ranking. In addition, according to the 2021 Global Corruption Barometer of the European Union (Transparency International, 2021), a large percentage of Cypriots (65%) considers that corruption increased during the previous 12 months, while almost 9 out of 10 (88%) felt that corruption in government is a big problem. This negative image of Cyprus in terms of corruption may not be representative of the new health system, as a number of steps have been taken to ensure that the new system is more transparent than the previous one (see also Section 7.6.2 below):

[7] A country's score is the perceived level of public sector corruption on a scale of 0–100, where 0 means highly corrupt and 100 means very clean.
[8] With 1 the highest (least corrupt) scoring country on the CPI.

- The phenomenon of tax evasion by health professionals in the private sector has been greatly reduced within the new system. The annual income of all GeSY providers is recorded by the HIO's integrated information system, thus limiting tax evasion. Cases of health contributions evasion likely exist, particularly in cases of informal and undeclared or uninsured employment; addressing this issue is the responsibility of the government and not the HIO.
- The long waiting lists of the past and their opaque management allowed outside interference by those with influence to help certain people jump or avoid waiting lists. This is not the case in the current system since waiting lists have been significantly reduced and their management improved.
- Although there are no data on the extent to which people are aware of the health benefits to which they are entitled, all relevant information is available through the Beneficiary Portal of the GeSY information system, in both Greek and English, as well as through the operation of an information telephone line at the HIO.
- The operation of the GeSY Supervisory Commissioner's office, which receives and investigates beneficiaries' complaints regarding providers and services provided, as well as the impending passage by Parliament of the Patient Ombudsman bill may give some added value in the transparency of the new system. For more details on patient information see Section 2.8.1.
- In addition, informal payments have never been a serious problem for either the old or the current health system.

ACCOUNTABILITY OF THE SYSTEM

Even though there are no internationally accepted standards and indicators for measuring accountability of a health system, patient and citizen empowerment, the protection of patients' rights (not just institutionally but also in practice), the fight against corruption and fraud in the system, and addressing inequalities in access and financing, constitute milestones of any policy towards increasing accountability. There is currently insufficient documentation and relevant metrics/indicators for the above, but it can be argued

that, to some extent, most of these are ensured within the new health system. Some steps to improve accountability have already been taken, such as:

- the protection of patients' rights (Law for the Safeguarding and Protection of Patients' Rights, 2004);
- recognition of the OSAK as a social partner of the MoH with the right to participate in any discussion and decision-making processes for matters concerning patients (Law 46(I)/2016);
- the participation of patients, workers, employers, and other social and interest groups, in the governing board of the HIO, where measures, reforms and priorities are discussed and decided, which can make the system more accountable;
- the ease of submitting complaints by patients, either to the hospitals, to the HIO, the OSAK, or to the Supervisory Commissioner of the GeSY[9];
- the established practice of the MoH requesting the opinion of interest groups before major changes.

Undoubtedly, there is much room for further measures towards increasing the system's accountability, including:

- the passing of the bill for the Patient Ombudsman, which is expected to be approved by the Parliament within the second half of 2024;
- better management of patients' complaints, with greater speed, reliability, transparency and objectivity, making steps towards better management of issues and behaviours that offend or harm the patient; and
- the full safeguarding of patients' and service-users' rights in practice.

[9] The passage of the Patient's Ombudsman Law, which will, among other, manage patient complaints, is still pending.

POPULATION PARTICIPATION AND INVOLVEMENT

Participation and involvement of the public were crucial in the implementation of the GeSY, as well as in the post-GeSY period for the protection and preservation of its fundamental principles. The participation is carried out mainly through two entities, the OSAK and the Social Alliance (see also Section 2.8). These two entities, which lobbied for the implementation of the GeSY, continue to have an active and influential role towards the development and improvement of the new system.

The OSAK is a patient federation, with 38 member patient organizations, which represent thousands of patients and their families throughout Cyprus. It is the most influential organization in Cyprus in terms of patient treatment and health reforms. Law 46(I)/2016 mandates that the OSAK is a social partner of the MoH and participates in any discussion and decision-making processes for matters concerning patients. It is also represented on the governing board of the HIO, the sole purchaser of health services, where all the health policy issues and reforms are discussed and decided, alongside representatives of employers, the labour organizations and self-employed workers. The Social Alliance is an umbrella organization, in which OSAK and 13 other large organizations participate, such as trade unions, and teachers', consumers' and pensioners' associations. It is usually activated when serious issues arise that may endanger the fundamental principles and/or sustainability of the new system. The large scale of these two organizations acted as a lever of pressure, positively influencing not only the government but also political parties that may have had misgivings, or even objections, to the introduction of the GeSY.

CAPACITY OF THE HEALTH SYSTEM

Since the GeSY is a relatively new system, it has not yet developed specialized tools and mechanisms that will improve its capacity. Any policies are currently discussed by the HIO's governing board and those measures that may give value added to the validity of the system are decided. The integrated IT system has an important role in terms of improving capacity to identify problems in the health system, undertaking evidence reviews, the monitoring of providers and the evaluation of services.

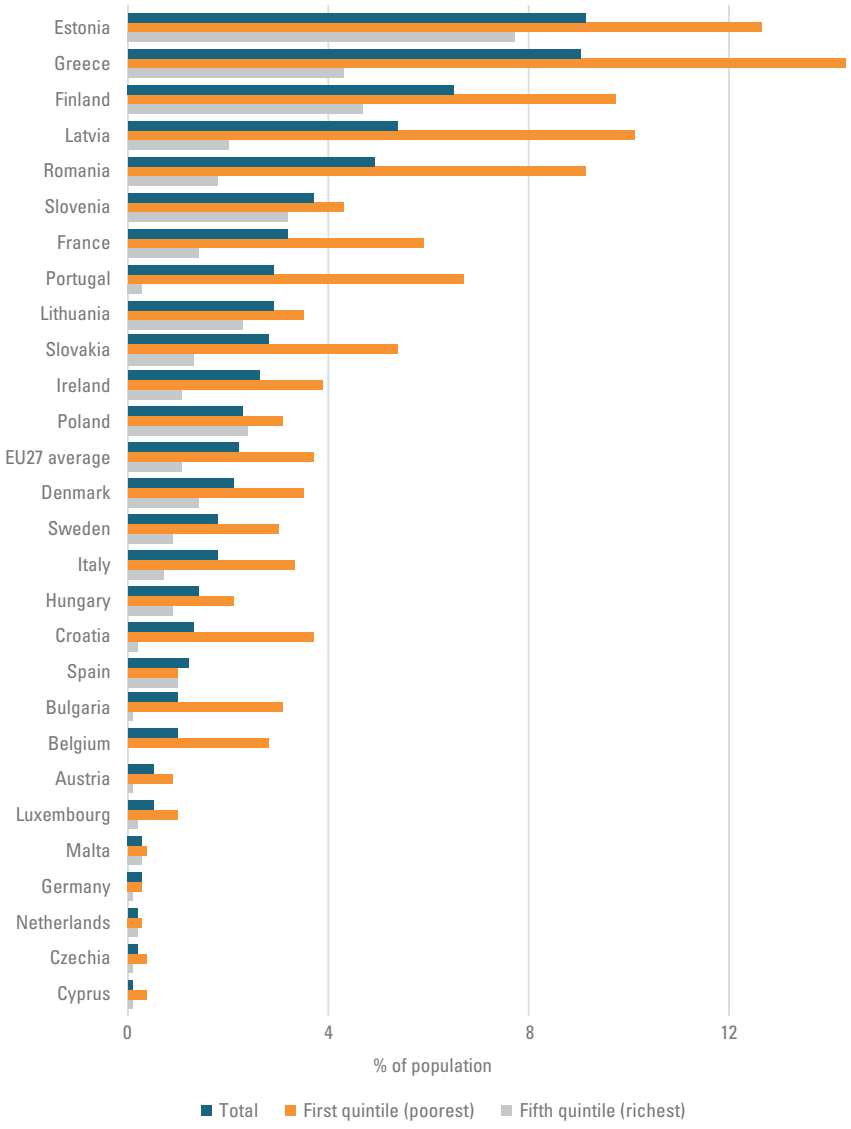
7.2 Accessibility

After 4 years of operation, the GeSY has improved coverage, access and financial protection for beneficiaries compared to the previous system.

As a universal coverage system, the GeSY provides coverage to more than 99% of the population (940 000 beneficiaries in June 2023), with entitlement based on legal residence and no longer linked to citizenship, income or payment of contributions. Although the benefits package is quite comprehensive, for some services, either the insufficient availability of providers and facilities, or the lack of an appropriate institutional framework, do not facilitate full coverage of the beneficiaries' needs. This is especially the case for palliative care and rehabilitation services, as well as physiotherapy, speech therapy and home care, for patients with chronic conditions (see Section 3.5). Availability problems also exist for some specialists, with waiting lists for both visits and elective surgery. For more details see Section 5.4.1. Other barriers to accessing health services associated with distance, working hours and choice do not exist. The lack of availability of personal doctors at weekends has been addressed (more details in Chapter 6). The distribution of health workers and facilities, as well as cultural or language barriers, are not considered major accessibility problems of the GeSY.

Self-reported unmet needs in 2008 for health and dental care due to cost, distance and waiting times were the same as the EU average, however they rose in the following years (2008–2014), particularly for dental care. The main driver of unmet need was the cost, and socioeconomic inequalities were present in all aspects of unmet needs. The situation has improved significantly following implementation of the GeSY. Access to care has also been improved with the introduction of personal doctors who are better able to steer patients through the health system. As shown in Fig. 7.1, in 2022, total unmet needs for medical examination in Cyprus were far below the EU27 average (0.1% compared to 2.0%). This very low level compares with 1.4% in 2018, and 0.4% in 2020.

FIG. 7.1 Unmet needs for a medical examination (due to cost, waiting time or travel distance), by income quintile, EU/EEA countries, 2022

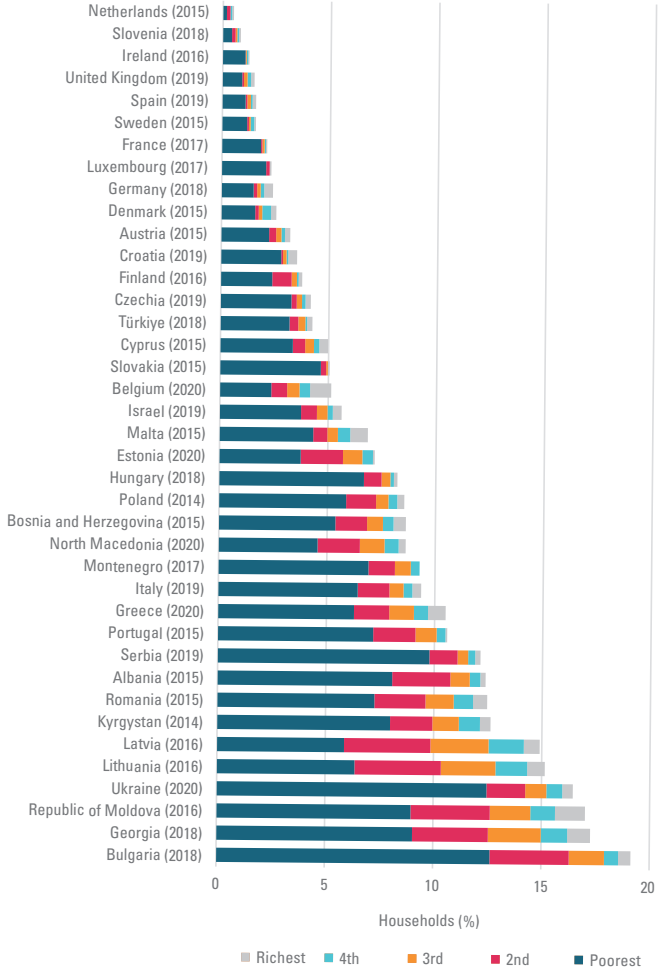


Source: Eurostat, 2024a.

7.3 Financial protection

Financial protection in Cyprus within the old system was lower than in many other EU countries. Data from the WHO Barcelona Office on Health Systems Financing showed that 5.0% of households experienced catastrophic OOP payments in 2015 (Fig. 7.2). Catastrophic health spending was heavily concentrated among the poorest households. In 2015, 17% of households in the poorest quintile experienced catastrophic health spending, compared

FIG. 7.2 Share of households with catastrophic health spending by consumption quintile, latest pre-COVID year available, selected European countries



Note: The EU average is unweighted.

Source: WHO Barcelona Office for Health Systems Financing, 2023.

to under 2% in the richest quintile; it disproportionately affected older people and people who were publicly covered and did not have VHI. For poorer households, catastrophic spending was mainly driven by spending on outpatient medicines, followed by outpatient care, while among richer households, it was mainly driven by spending on inpatient care and diagnostic tests (Kontemeniotis & Theodorou, 2020).

Although data on private health expenditure since the introduction and operation of the GeSY are limited, it is reasonably expected that OOP payments will be significantly reduced. This, combined with the low rate of unmet needs as mentioned above, will increase the financial protection of beneficiaries. The first available data are indicative of increased financial protection, with both private health expenditure as a percentage of total health expenditure declining from 58.0% in 2018 to 14.7% in 2021, and OOP payments respectively from 30.6% to 10.0% (see Section 3.1).

In addition, the private sector, which was often visited by the beneficiaries of the old system, mainly due to the long waiting lists in publicly funded services, is now contracted with the GeSY and access is almost free for all beneficiaries. The universality of the new system combined with several other factors, such as the range of services provided, relatively few problems in terms of accessibility and availability, and the low co-payments and annual caps, ensure increased financial protection to all beneficiaries, as well as reduced financial hardship and catastrophic health spending.

7.4 Health care quality

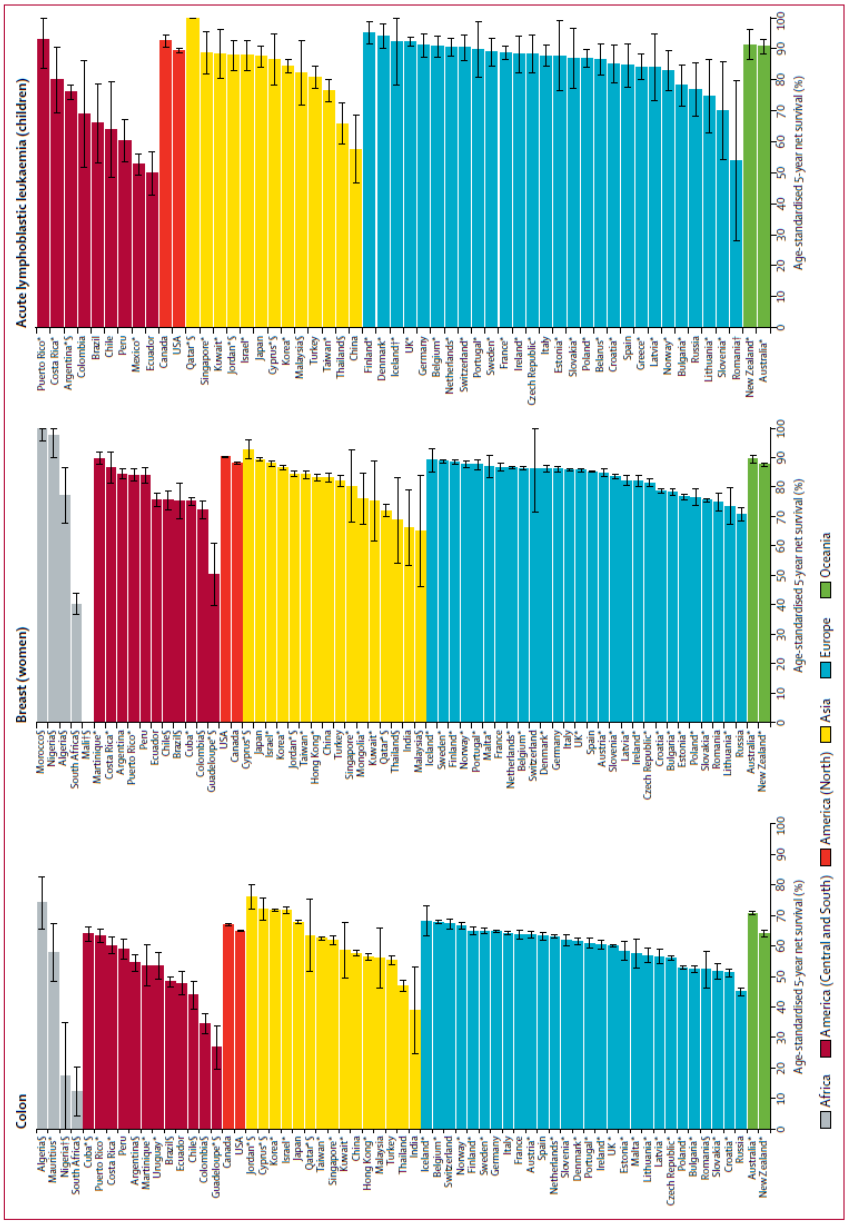
The scarcity of data does not allow any detailed and comprehensive assessment of the quality and safety of services or the overall effectiveness of the health care system. The performance of specific sectors, such as primary and hospital care, cannot be assessed, as data on quality are not systematically collected either by the HIO or by the SHSO. The limited data available concern only HAIs and antimicrobial resistance, where Cyprus lags in both, compared to other European countries. According to these data, 8.2% of patients were diagnosed with at least one HAI in acute care hospitals in 2018, which is among the highest rates in EU/EEA countries, where the average share of patients with at least one HAI was 5.5% (Suetens et al., 2018). An earlier similar study, carried out by the Medical School of the University of Crete in

2006, found that the number of patients with such infections was 6.1%, with the highest prevalence (21.7%) in intensive care units (Medical School of the University of Crete, 2009). From these two studies, it appears that the situation has worsened over time. Antimicrobial resistance is also a major public health threat in Cyprus, despite a national strategy against antimicrobial resistance being in place since 2012 (Ministry of Health, 2012). Meanwhile, in 2020 and 2021, Cyprus had the first and second highest consumption of antimicrobials out of 29 European countries, and was one of only four countries to report Escherichia coli fluoroquinolone resistance over 50% (Mitsoura et al., 2024). Similarly, in a study on HAIs and antimicrobial use in European LTC facilities, the prevalence of antimicrobial use in Cyprus was 9.3% in 2017, a rate almost double the EU/EEA median (4.9%) (Ricchizzi et al., 2018).

The 5-year survival rate of cancer patients after diagnosis is also an important indicator for evaluating the quality and effectiveness of cancer screening services and health care. Almost a quarter of all deaths in Cyprus are from cancer, and lung cancer is the most frequent cause of cancer deaths. This is one reason why high levels of tobacco consumption remain a major public health concern. The only data available on 5-year survival rates for the most common cancers have been published in 2018, by the CONCORD programme (Allemani et al., 2018). This includes individual records for 37.5 million patients diagnosed with cancer during the 15-year period 2000–2014. The CONCORD programme enables timely comparisons of the overall effectiveness of health systems in providing care for 18 different cancers that collectively represent 75% of all cancers diagnosed worldwide every year. Based on these data, Cyprus compares well with other European countries regarding the 5-year survival rates for the most common cancers. Specifically, Fig. 7.3 shows that more than 70% of adults (15–99 years) who were diagnosed with colon or breast cancer (women) during the period 2010–2014, and children (0–14 years) with acute lymphoblastic leukaemia, survived more than 5 years after diagnosis, higher than the EU averages.

There are no data either on avoidable hospital admissions rates for specific diseases such as asthma, chronic obstructive pulmonary disease, congestive heart failure, hypertension, or diabetes complications, nor on in-hospital mortality rates for admissions following acute myocardial infarction, haemorrhaging stroke and ischaemic stroke, that would allow comparisons with other European countries regarding the quality and effectiveness of primary

FIG. 7.3 Global distribution by continent and country of age-standardized 5-year net survival for adults (15–99 years) diagnosed during 2010–2014 with colon cancer or breast cancer (women) and children (0–14 years) diagnosed with acute lymphoblastic leukaemia



*Data with 100% coverage of the national population. †National estimate not age-standardized.

S National estimate flagged as less reliable because the only available estimates are from a registry or registries in this category.

Note: Survival estimates for each country are ranked from highest to lowest within each continent. Where data were available for more than one registry in a given country, the survival estimates are derived by pooling the data for that country but excluding data from registries for which the estimates are considered less reliable.

Source: Allemani et al., 2018

care and hospital care, respectively. One reason for the lack of data is that there is neither an accreditation system nor a quality monitoring system of the public or the private health sectors. Consequently, improving data collection and sharing is a key focus for the MoH and the HIO.

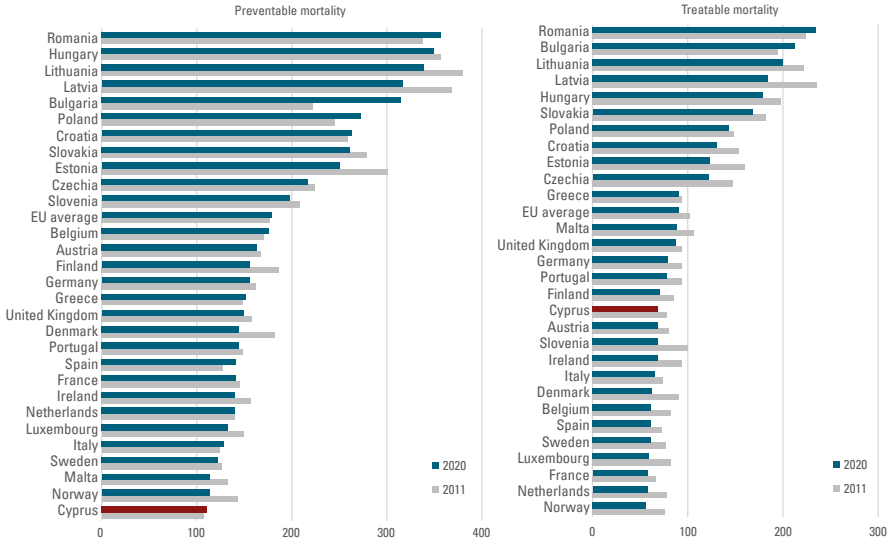
It is worth adding that in the last year the HIO took some measures, such as the integration of quality and performance indicators in the remuneration of personal doctors and the development and introduction of medical and therapeutic protocols and guidelines in collaboration with the Medical School of the University of Cyprus, the Cyprus Medical Association, and the British National Institute for Clinical Excellence. Better measurement can be achieved through implementation of quality assurance programmes, which are currently lacking. With the introduction and operation of the GeSY, more data on quality will be recorded by the IT system, which will be used to assess and improve the quality of services. After discussions between the HIO and the contracted hospitals, both public and private, it was agreed to change the compensation method for services provided, with the integration of quality criteria, such as accreditation of the hospitals, patient satisfaction, etc. This new compensation system came into effect in September 2023. The first results showed that the degree of patient satisfaction averaged 90% (HIO, 2023a), and in March 2023 an agreement was signed between the SHSO and a Canadian accreditation body for the accreditation of all public hospitals.

7.5 Health system outcomes

Despite comparatively low health spending, Cyprus performs well in terms of treatable mortality (deaths that can be mainly avoided through health care interventions, including screening and treatment), which was 70 per 100 000 population in 2020, below the EU average of 92 per 100 000 population (Fig. 7.4). Ischaemic heart disease, breast and colorectal cancer, diabetes and stroke are the main causes of treatable mortality in Cyprus.

Compared to other EU Member States, Cyprus reported the lowest preventable mortality rates (deaths that can be mainly avoided through public health and primary prevention interventions) in 2020 (Fig. 7.4) despite low levels of spending on prevention and health promotion. Lung cancer remains the leading cause of preventable mortality, which is consistent with high smoking rates, particularly among men. These results suggest the existence of

FIG. 7.4 Mortality from preventable and treatable causes, 2020



Notes: Both indicators refer to premature mortality (under age 75). The lists attribute half of all deaths from some diseases (e.g. ischaemic heart disease, stroke, diabetes and hypertension) to the preventable mortality list and the other half to treatable causes, so there is no double-counting of the same death. Eurostat Database (data refer to 2020).

Source: Eurostat, 2023..

further scope for reducing preventable deaths through more effective public health interventions. The government banned smoking in enclosed public places, including bars, cafés and restaurants in 2017, and there are heavy fines for those who break the law. However, there are challenges due to the interpretation of the law and, in particular, the interpretation of the term 'enclosed space', which allows loopholes. There is also ambiguity regarding smoking in outdoor areas such as parks, playgrounds and other places with families and children. This ambiguity is exacerbated by the current inability to implement the law, which was initially the sole responsibility of the police but for practical reasons became the subject of a cooperation between different services and institutions.

In addition to the anti-smoking legislation, Cyprus has implemented measures to reduce other types of preventable deaths. For example, to reduce the number of deaths from traffic accidents, campaigns have been run to enforce the use of seat belts and child safety seats in cars and helmets for motorcyclists, and to combat drink-driving. Latest figures for road traffic deaths in Cyprus show a slight decrease in 2023 (34 deaths) compared to

2022 (37 deaths) (Cyprus Police, 2023). Although improvements in health tem, some achievements are clearly due to specific actions of public health services. For example, high child immunization coverage has led to the eradication of neonatal tetanus, diphtheria and poliomyelitis. Furthermore, the successful thalassaemia prevention programme has led to almost zero new cases (Angastiniotis et al., 2021). Cyprus is also free of many common infectious and parasitic diseases and has achieved significant progress in communicable disease control. Despite the very good performance in preventable mortality, smoking, obesity, especially among children, dangerous driving behaviours and various unhealthy lifestyles remain serious risk factors and require effective measures to address them.

7.6 Health system efficiency

7.6.1 *Allocative efficiency*

Allocative efficiency indicates the extent to which limited funds are directed towards purchasing an appropriate mix of health services or interventions that will maximize health improvements. In this early phase of GeSY development, there are no mechanisms or interventions towards purchasing the appropriate mix of services that are formally able to achieve this objective. Currently, there are no tools, mechanisms or scheduled reforms on behalf of the HIO that aim to increase allocative efficiency. This can be justified to some extent by the fact that in the process of implementing and developing the new system there have been other prerequisites and priorities, such as, but not limited to: doctors' contracts and remuneration; establishing the global budgets and their continual adjustments and corrections by specialty and service; determining which services will be provided and how; setting co-payments and exceptions; the continual repricing of medical services, examinations and surgeries.

The current HIO purchasing policy is primarily based on beneficiary needs, without employing complex mechanisms and tools for allocating resources or considering effectiveness indicators relevant to the system's efficiency, the number of providers and their performance. In fact, there are some cases of inefficiency; for example, the channelling of resources to less effective activities, or even the waste of funds through overcapacity (e.g. in

terms of the number of contracted CT and MRI scanners, without criteria and evaluation of the quality of the services provided), or purchasing expensive medical technology that is essentially surplus to requirements.

More specifically, in the area of preventive services and interventions, which are considered the most efficient health services in terms of achieving health improvements, Cyprus's spending is far below the EU average. In 2021, spending on prevention amounted to only 2.2% of total health expenditure compared to 3.4% across the EU. Apart from child vaccinations, where Cyprus has achieved high coverage rates, it lags in other effective preventive, health promotion and screening programmes, such as for breast cancer (in place since 2003) and cervical cancer (in progress), smoking cessation programmes, childhood obesity management programmes and traffic accident reduction programmes. Conversely, as a percentage of total expenditure in health, Cyprus spends on more expensive aspects of care, such as inpatient care, pharmaceuticals and expensive imaging medical technology. In the analysis of the current and future trends in advanced diagnostic imaging, Cyprus has a relatively high number of CT and MRI scanners per 100 000 inhabitants (3.81 CT and 2.02 MRI scanners in 2020, see Table 4.2). All CT and MRI scanners are contracted with the HIO, even though some are old and technologically outdated, creating conditions for wasting resources, duplication of services, and potentially provider-induced demand (Kantaris, Theodorou & Kaitelidou, 2017). There are also inadequate legal provisions for controlling the diffusion of high-cost medical technology.

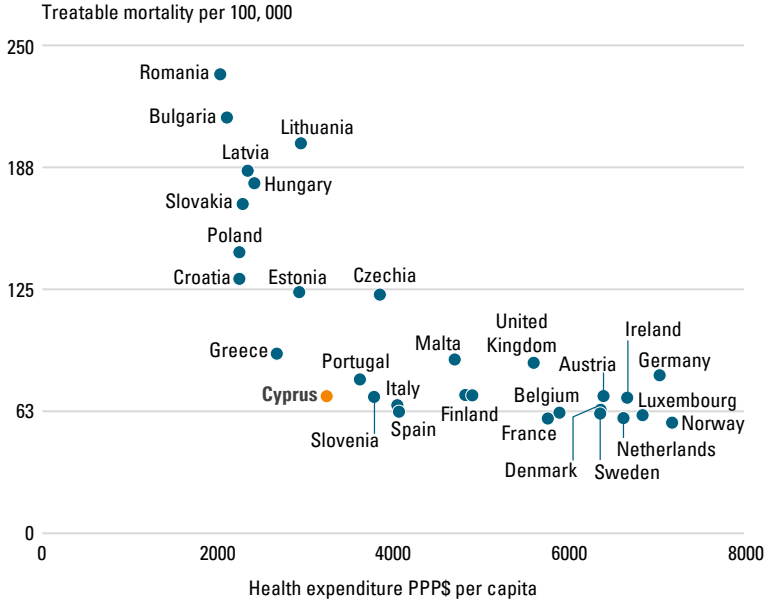
Finally, criteria have not yet been set for all contracted providers in terms of numbers of their personnel, facilities, furnishing and medical equipment, etc. The reluctance or even refusal of providers to join the new system in the run-up to implementation and a few months after the first implementation phase of the GeSY, resulted in no criteria being set and no audits carried out on providers who eventually joined the system. The ex-post accreditation of all contracted providers is expected to improve the quality and safety of GeSY services. Beyond the providers' accreditation, it lies with the HIO to create integrated and consolidated supervisory mechanisms and frameworks that will monitor the performance and output of all providers across the different levels of care.

7.6.2 *Technical efficiency*

Technical efficiency indicates the extent to which a health system is securing the minimum levels of inputs for a given output (or the maximum level of output in relation to its given inputs). There is currently insufficient evidence to assess technical efficiency in GeSY. However, in 2020, one indicator, the ALOS in public hospitals was 5.2 days, lower than the EU average of 7.5 days (Cystat, 2020b).

One way to provide a very cursory illustration of how the health system is performing in terms of input costs and outcomes is to plot current expenditure on health against the treatable mortality rate. Although we must be mindful that it is not possible to effectively disentangle the role of health behaviours and other determinants of the health care system in influencing the level of mortality due to treatable causes, Fig. 7.5 provides a useful entry point for discussion. As mentioned in Section 7.5, Cyprus's treatable mortality rate in 2020 was relatively low, and below the EU average. In addition, the country recorded a health expenditure level that is around 25% less than the

FIG. 7.5 Treatable mortality per 100 000 population versus health expenditure per capita, 2020



Notes: preventable causes: lung cancer, chronic liver disease, road traffic deaths. Age-standardized death rates for all persons; calculated by European Observatory for Health Systems and Policies.

Sources: Eurostat, 2024a; WHO Global Health Expenditure Database, 2024

average across EU Member States. These basic results suggest that given its expenditure levels, Cyprus has been able to secure very good outcomes on this metric and in particular compares very well with other southern European countries (Fig. 7.5).

At the operational level, some of the following issues can be considered as possible sources of inefficiency within the new health care system:

- **The underuse of generic drugs and overpricing**: It is estimated that generic drugs make up less than 50% of total pharmaceutical spending in Cyprus (Theodorou et al., 2022). Research has found that 73.7% of doctors declared that they prescribe generics "often/very often", which is considered relatively low compared to other European countries (Theodorou et al., 2022). It should be mentioned that low uptake of generics occurs despite the fact that the difference in price between a branded drug and a generic one is not borne by the system, but by the patient who prefers the branded option. Additionally, Cyprus suffers from what is known as the 'small market' problem and the lower number of products undermines competitiveness, leading to inelastic pricing.
- **Health system leakages – corruption and fraud**: Audits conducted by the HIO have found cases of system abuses, particularly by specialists. Until May 2023 and after the investigation of these cases, the HIO:

  1. Terminated the contracts of 11 providers.
  2. Terminated the contracts of 13 laboratories.
  3. Rejected claims amounting to €9 million and imposed fines in 70 cases (HIO, 2023b).

- **The high numbers of referral to specialties by personal doctors**: In the first year of the operation of personal doctors (June 2019–June 2020), referrals reached a historically high rate of 70%. These subsequently reduced to 40% in 2021, which is still considered high compared to other health care systems in countries that have a tradition of the GP and its role of gatekeeping. The high rate of referrals indicates that personal doctors are not yet fulfilling their role as gatekeepers. From October 2021, the HIO limited the

number of visits per referral to specialists from three to two, while later incorporating quality incentives into personal doctors' pay, including reducing referrals, which is expected to further decrease their number. However, continuous education and training of all personal doctors, in conjunction with population-level campaigns and other measures to cause a cultural shift in service-user attitudes, are also needed.

- **Insufficient guidelines and protocols, and lack of adequate control of contracted private hospitals and their claims**: The HIO is currently developing a solution, which may include the possibility of placing a trained employee in each hospital who will approve the medical protocols and costs of each medical procedure.
- **Waste of resources on expensive medical imaging technology**, such as CT and MRI scanners, as previously mentioned.
- **Abuse of the system by specialists**, namely that many contracted private doctors perform unnecessary examinations and tests during a beneficiary's visit. To address this type of abuse until the introduction of relevant medical protocols, the HIO has set rates on monthly visits for each additional medical service/test provided. Any service provided, which is beyond the specified rate, will not be reimbursed by the HIO. Thus, the health system currently relies on the personal judgement/individual responsibility of doctors to practise efficiently rather than being based on protocols and guidelines.

To deal with the challenges outlined above, the HIO has prepared an action plan for safeguarding the sustainability of the GeSY, with measures and interventions targeting both providers and beneficiaries (HIO, 2022). The aim is not only to impose penalties on those who abuse the system, but mainly to identify problems and prevent them. The main pillars of the action plan are: i) supervising the behaviour/operation of the providers contracted with the HIO; ii) better analysis of available data and the strengthening of claims monitoring and management; iii) the creation of a culture encouraging rational use of the system by beneficiaries, as well as prompting them to report incorrect activities and behaviours by providers; and iv) the better organization, staffing, development and improvement of procedures, such

as regular audits of claims, evaluation of services provided, improvement of remuneration methods, etc.

Referral reduction measures are in place for GPs, through randomly sampled checks that identify any unjustified referrals based on diagnosis. For specialists, global budgets for each specialty have been introduced, and restrictions, guidelines and protocols for submission/approval of claims have been implemented. Most of the envisaged measures for providers have already been implemented with positive results. For the beneficiaries, the implementation of an integrated programme of information, communication and training has begun, with the aim of encouraging rational utilization of GeSY services, as well as information on their rights and obligations within the GeSY. The full implementation of these actions and measures is expected to have a positive impact on allocative and technical efficiency, as well as the sustainability of the system.

Concern as regards the financial sustainability of the new system and the risk of its financial collapse, have seen the HIO take measures to limit costs by introducing quality and efficiency criteria for the services provided, while there is also discussion with contracted private sector hospitals around changing the method of their reimbursement (see Section 2.7.2).

Finally, it is worth mentioning the publication of the first *Evaluation report of efficiency and functionality of the General Health System for the period 1.6.2019–31.5.2023 (HIO, 2023a)*. The report includes data on the sustainability of the system, abuses on the part of the providers, weaknesses that emerged during the first four years, and the overall performance of the personal doctor concept. Overall, it concluded that "*the reform is considered a success, even though there's significant work to be done in the coming years*".

8

Conclusions

The implementation of the new integrated General Healthcare System (GeSY) between June 2019 and June 2020 created a completely new health care environment in Cyprus, bringing together the public and private sectors into a single and competitive quasi market. Major and fundamental changes have been recorded in all health system areas compared to the old system, including in administration, financing and remuneration of providers, coverage, access, freedom of choice, benefits and financial protection.

The GeSY's fundamental principles are universal coverage, financial sustainability, equal access, free provision of care, freedom of choice and increased financial protection for beneficiaries. Unlike the previous system, where a quarter of the population were uninsured, the GeSY provides coverage to more than 99% of the population, with entitlement based on legal residence and no longer linked to citizenship, income or payment of contributions. The system provides a comprehensive benefits package that includes a wide range of health services.

Revenues come from health contributions of employees, retirees, employers and the state, which are collected and transferred to the HIF, managed by the HIO, the sole purchaser of services within the GeSY. The financing arrangements of the current system are now proportional to income and fairer than the previous system. The GeSY aims for high financial protection, with low co-payments and annual caps on spending, and almost all costs of statutory benefits covered by the HIF. These reforms have already led to a

substantial decline in OOP spending and are further expected to increase access, coverage, affordability and quality in the coming years.

The population of Cyprus has a good health status with high life expectancy, and fewer older people relative to the EU average report having chronic conditions. There are also low levels of unmet need, and the indexes for both preventable and treatable mortality are well below the EU averages. Diabetes, obesity and smoking remain the main health risk factors.

Cyprus has a well-developed network of health facilities. Although health facilities are mainly concentrated in urban areas, this is not a serious problem for access due to the short distances on the island, and the good road network and transportation system. The vast majority of providers have joined the GeSY, helping to reduce social inequalities, facilitating improving access to health care services, and reducing the long waiting lists that existed under the previous health care system.

Cyprus, like most Southern European countries, has a comparatively high number of doctors and low number of nurses, highlighting a rather physician-centred system. Although the number of doctors per 100 000 population is above the EU average, shortages are recorded in the number of GPs in the new health care system with the specialization of general medicine, as well as in some 'rare' specialties such as allergists, endocrinologists, cytologists, etc. In general, shortages of doctors exist mainly in the public sector of the GeSY, while in the private sector there are shortages of nurses.

The introduction of the GeSY has improved coverage, access, freedom of choice and financial protection of beneficiaries as compared to the previous system. Future challenges and areas for development related to the new system are: a) the reorganization and reform of public hospitals that will lead to their administrative and financial autonomy; b) the introduction and use of e-health, including electronic health records, the regulation of data storage and use of bio information; c) the implementation of university clinics in public hospitals; d) the integration of quality and performance indicators in the payment mechanisms of GeSY providers; e) the introduction of medical and therapeutic protocols and guidelines; and f) most importantly, to ensure its financial sustainability over time.

Appendices

9.1 References

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9.2 Useful websites

Cyprus Dental Association	https://dental.org.cy
Cyprus Nurses and Midwives Association	https://promocon.upatras.gr/en/partners-en/partners.html?view=article&id=46&catid=9#:~:text=The%20Cyprus%20Nurses%20and%20Midwives,Law%20for%20Nursing%20and%20Midwifery
Cyprus Private Doctors Association	https://www.enik.cy/en/
Cyprus Statistical Service	https://www.cystat.gov.cy/en/default
GeSY	https://www.gesy.org.cy/sites/Sites?d=Desktop&locale=en_US&lookuphost=/en-us/&lookuppage=home-en
Ministry of Health Cyprus	https://www.moh.gov.cy/moh/moh.nsf/index_en/index_en
State Health Services Organisation	https://shso.org.cy/en/profil-organismou/
WHO Country Office, Cyprus	https://www.who.int/cyprus

9.3 HiT methodology and production process

HiTs are produced by country experts in collaboration with the Observatory's research directors and staff. They are based on a template that, revised periodically, provides detailed guidelines and specific questions, definitions, suggestions for data sources and examples needed to compile reviews. 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: https://eurohealthobservatory.who.int/publications/i/health-systems-in-transition-template-for-authors.

Authors draw on multiple data sources for the compilation of HiTs, 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 34 OECD countries. Data are drawn from information collected by national statistical bureau 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.

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 consists of nine chapters.

1. Introduction: outlines the broader context of the health system, including geography and sociodemography, economic and political context, and population health.
2. Organization and governance: provides an overview of how the health system in the country is organized, governed, planned and regulated, as well as the historical background of the system; outlines the main actors and their decision-making powers; and describes the level of patient empowerment in the areas of information, choice, rights and cross-border health care.
3. Financing: provides information on the level of expenditure and the distribution of health spending across different service areas, sources of revenue, how resources are pooled and allocated, who is covered, what benefits are covered, the extent of user charges and other out-of-pocket payments, voluntary health insurance and how providers and health workers are paid.
4. Physical and human resources: deals with the planning and distribution of capital stock and investments, infrastructure and medical equipment; the context in which IT systems operate; and human resource input into the health system, including information on workforce trends, professional mobility, training and career paths.
5. Provision of services: concentrates on the organization and delivery of services and patient flows, addressing public health, primary care,

secondary and tertiary care, day care, emergency care, pharmaceutical care, rehabilitation, long-term care, services for informal carers, palliative care, mental health care and dental care.

6. Principal health reforms: reviews reforms, policies and organizational changes; and provides an overview of future developments.
7. Assessment of the health system: provides an assessment of systems for monitoring health system performance, the impact of the health system on population health, access to health services, financial protection, health system efficiency, health care quality and safety, and transparency and accountability.
8. Conclusions: identifies key findings, highlights the lessons learned from health system changes; and summarizes remaining challenges and future prospects.
9. Appendices: includes references and useful websites.

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.
- There are further efforts to ensure quality while the report 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 with one another to ensure that all stages of the process are as effective as possible and that HiTs meet the series standard and can support both national decision-making and comparisons across countries.

9.4 About the authors

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