Health Care Systems in Transition

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Foreword

The Health Care Systems in Transition (HiT) profiles are country-based reports that provide an analytical description of a health care system and of reform initiatives in progress or under development. The HiTs are a key element of the work of the European Observatory on Health Systems and Policies.

HiTs seek to provide relevant comparative information to support policy-makers and analysts in the development of health care systems in Europe. The HiT profiles are building blocks that can be used:

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

The HiT profiles are produced by country experts in collaboration with the Observatory's research directors and staff. In order to facilitate comparisons between countries, the profiles are based on a template, which is revised periodically. The template provides the detailed guidelines and specific questions, definitions and examples needed to compile a HiT. This guidance is intended to be flexible to allow authors to take account of their national context.

Compiling the HiT profiles poses a number of methodological problems. In many countries, there is relatively little information available on the health

care system and the impact of reforms. Due to the lack of a uniform data source, quantitative data on health services are based on a number of different sources, including the WHO Regional Office for Europe health for all database, Organisation for Economic Cooperation and Development (OECD) Health Data and data from the World Bank. Data collection methods and definitions sometimes vary, but typically are consistent within each separate series.

The HiT profiles provide a source of descriptive information on health care systems. They can be used to inform policy-makers about experiences in other countries that may be relevant to their own national situation. They can also be used to inform comparative analysis of health care systems. This series is an ongoing initiative: material is updated at regular intervals. Comments and suggestions for the further development and improvement of the HiT profiles are most welcome and can be sent to info@obs.euro.who.int. HiTs, HiT summaries and a glossary of terms used in the HiTs are available on the Observatory's website at www.observatory.dk.

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We are particularly grateful to Dr Annita Anastasiadou for coordinating the Cyprus HiT and providing useful advice and support. In addition, we are grateful to the Ministry of Health of the Republic of Cyprus, Dr Andreas Polynikis and Mr Panayotis Yiallouros for their support, data collection, input on recent developments and extensive reviewing. The editors are thankful to Mr Symeon Matsis, former Permanent Secretary to the Ministry of Health, for his encouragement and for initiating the process and commissioning this HiT on Cyprus. We would also like to thank Mr Andreas Trifonides, former Permanent Secretary to the Ministry of Health, for his support and comments. The editors are grateful to the staff of the mental health and pharmaceutical services, particularly Ms Panagiota Kokinou, for their useful comments.

The current series of Health Care Systems in Transition profiles has been prepared by the research directors and staff of the European Observatory on Health Systems and Policies. The European Observatory on Health Systems and Policies is a partnership between the WHO Regional Office for Europe, the governments of Belgium, Finland, Greece, Norway, Spain and Sweden, the European Investment Bank, the Open Society Institute, the World Bank, the London School of Economics and Political Science, and the London School of Hygiene & Tropical Medicine.

The Observatory team working on the HiT profiles is led by Josep Figueras, Head of the Secretariat, and research directors Martin McKee, Elias Mossialos and Richard Saltman. Technical coordination is led by Susanne Grosse-Tebbe. The research director for the Cyprus HiT was Elias Mossialos.

The production and copy-editing process was coordinated by Susanne Grosse-Tebbe, with the support of Shirley and Johannes Frederiksen (lay-out) and Jo Woodhead (copy-editor). Administrative support for preparing the HiT on Cyprus was undertaken by Anna Maresso and Pieter Herroelen.

Special thanks are extended to the WHO Regional Office for Europe health for all database, from which data on health services were extracted; to the OECD for the data on health services in western Europe; and to the World Bank for the data on health expenditure in central and eastern European countries. Thanks are also due to national statistical offices that have provided data.

The HiT reflects data available in summer 2004.

Introduction and historical background

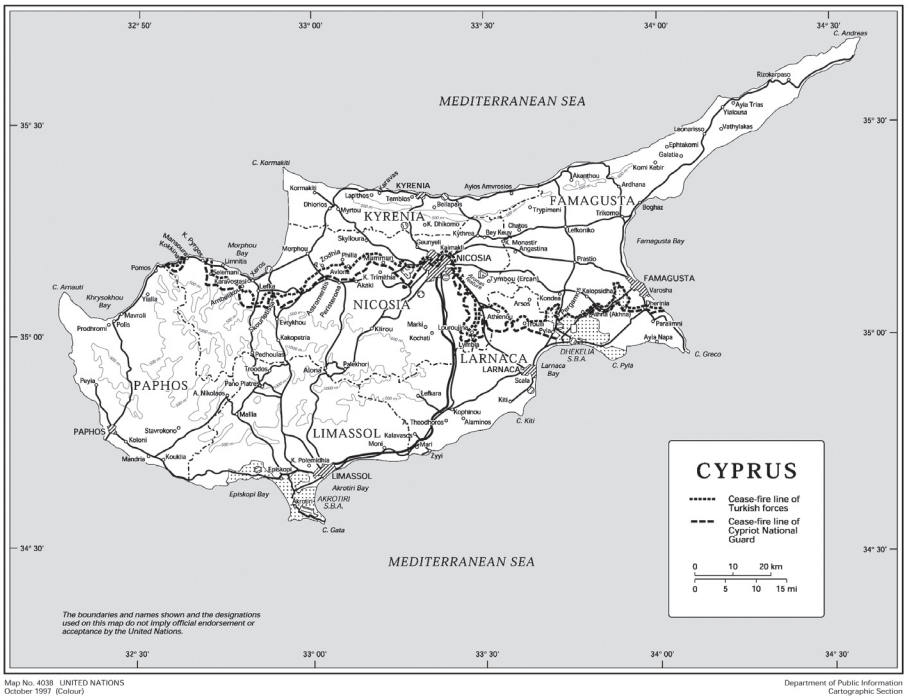
Introductory overview

Political and economic background

Cyprus is located in south-eastern Europe and covers an area of 9 251 km^2. It is the third largest Mediterranean island after Sicily and Sardinia. Cyprus is situated 60 km south of Turkey and 300 km north of Egypt. The island consists of a large central plain (Messaoria plain) and two mountain ranges – the Pentadaktylos range (max height 1042 m) along the north coast and the Troodos massif in its central and south-western parts. It has approximately 648 kilometres of Mediterranean coastline. The largest city and capital of Cyprus is Nicosia (approximately 195 300 residents) followed by Limassol (155 000 approximately). Cyprus has a temperate Mediterranean climate with mild wet winters and hot dry summers.

Cyprus is a divided island. In general, the government 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.

Fig. 1. Map of Cyprus



Source: United Nations Cartographic Section, 1997.

At the end of 2002, the Cyprus population totalled 715 100 (350 600 males and 364 500 females). The population density is 82 people per km^2.

Table 1. Population and gender distribution (thousands)

Year	Population in the government controlled area	Gender distribution (Government controlled area)	
		Males	Females
1995	656.3	324.8	331.5
1996	662.2	329.2	333.0
1997	675.2	333.0	342.2
1998	682.9	336.3	346.6
1999	690.5	339.7	350.8
2000	697.5	342.7	354.8
2001	705.5	346.2	359.3
2002	715.1	350.6	364.5

Sources: Social Indicators 2000, Department of Statistics and Research; Republic of Cyprus Statistical Service, 2003.

Although the population in Cyprus is ageing, the young population remains quite large (20.9%) compared to the over 65 population – 11.8% in 2002 (see Table 2).

Table 2. Population distribution, demographic dependency ratio, and population growth rate (thousands)

Year	Population distribution by age (%)			Demographic Dependency Ratio	Annual mid-year population growth rate (%)	Natural increase rate (per 1000 inhabitants)
	0–14 years	15–64 years	65+ years			
1995	24.6	64.3	11.0	0.553	1.8	7.6
1996	24.3	64.6	11.1	0.548	1.6	7.1
1997	23.8	65.0	11.1	0.537	1.4	6.1
1998	23.4	65.0	11.1	0.531	1.3	5.1
1999	22.8	66.0	11.2	0.515	1.1	5.0
2000	22.3	66.4	11.3	0.506	1.0	4.5
2001	21.5	66.8	11.7	0.497	1.1	4.8
2002	20.9	67.3	11.8	0.486	1.4	3.8

Sources: Social Indicators 2000, Department of Statistics and Research; Statistical Service, 2003.

Note: Demographic dependency ratio is the total number of persons under 15 years old plus the elderly population aged 65+, over the population aged 15–64 years.

As can be seen from Table 3, Cyprus has the highest percentage of young people (0–14 years old) compared to the – prior to 1 May 2004 – fifteen countries of the European Union (EU-15), while the population aged 65 and over is significantly lower than the EU-15 average (see also section 6 on *Social care*).

Table 3. Percentage of the population by age group in Cyprus and the EU

	0–14 years % of total population	15–64 years % of total population	65 and over % of total population
Austria	16.5	67.9	15.5
Belgium	17.5	65.6	17.0
Cyprus	21.5	66.4	11.3
Denmark	18.8	66.4	14.8
Finland	17.9	66.9	15.2
France	18.7	65.0	16.3
Germany	15.2	67.5	17.3
Greece	14.6	67.3	18.1
Ireland	21.1	67.8	11.1
Italy	14.4	67.0	18.6
Luxembourg	18.8	67.3	13.9
Netherlands	18.6	67.7	13.7
Portugal	15.8	67.5	16.6
Spain	14.5	68.6	16.9
Sweden	18.1	64.7	17.2
United Kingdom	18.6	65.5	15.9
EU-15 average	17.3	66.8	15.9

Source: OECD Health Data, 2004; Republic of Cyprus Statistical Service, 2003.

From 1995 to 2002, the numbers of marriages, age at first marriage and number of divorces have increased (see Table 4). Also, while the number of households has increased, the average household size has decreased from 3.17 people in 1995 to 3.05 in 2002 (see Table 5).

Table 4. Marriages and divorces

Year	Total marriages	Crude marriage rate	Mean age at first marriage		Total divorces	Crude divorce rate
			Groom	Bride		
1995	6 669	10.3	27.7	25.2	757	1.16
1996	5 761	8.7	28.1	25.5	725	1.10
1997	7 187	10.7	28.1	25.6	851	1.27
1998	7 738	11.4	28.8	26.2	852	1.26
1999	9 080	13.2	28.6	25.8	1 193	1.74
2000	9 282	13.4	28.9	26.1	1 182	1.70
2001	10 574	15.1	29.3	26.5	1 197	1.71
2002	10 284	14.5	29.7	27.1	1 320	1.86

Source: Social Indicators 2001, Department of Statistics and Research.

Note: Crude marriage and divorce rates are respectively the numbers of marriages and divorces per 1000 inhabitants.

Table 5. Average household size

Year	Households (thousands)	Average household size
1995	202.4	3.23
1996	206.6	3.21
1997	210.9	3.19
1998	215.3	3.16
1999	219.7	3.13
2000	224.3	3.09
2001	229.0	3.06
2002	233.0	3.05

Source: Population Report, Department of Statistics and Research, 2001; Statistical Service, 2003.

Cyprus's political system is a presidential democracy (Republic of Cyprus) established by the 1960 Constitution that marked the end of the Cypriots' independence fight against British colonial rule. The President (currently Tassos Papadopoulos) is the chief of the state and head of Government, elected by universal direct suffrage for a five-year term. The President appoints the Council of Ministers and the Cabinet of the Republic of Cyprus. Each minister exercises executive power on all subjects within his ministry's domain.

The House of Representatives is elected every five years by universal direct suffrage. All citizens over the age of 18 are required to vote. The House of Representatives enacts legislation.

According to the constitution, judicial power is vested in the Cypriot courts, namely the Supreme, Assize, District, Military, Rent Control, Industrial Disputes and Family Courts.

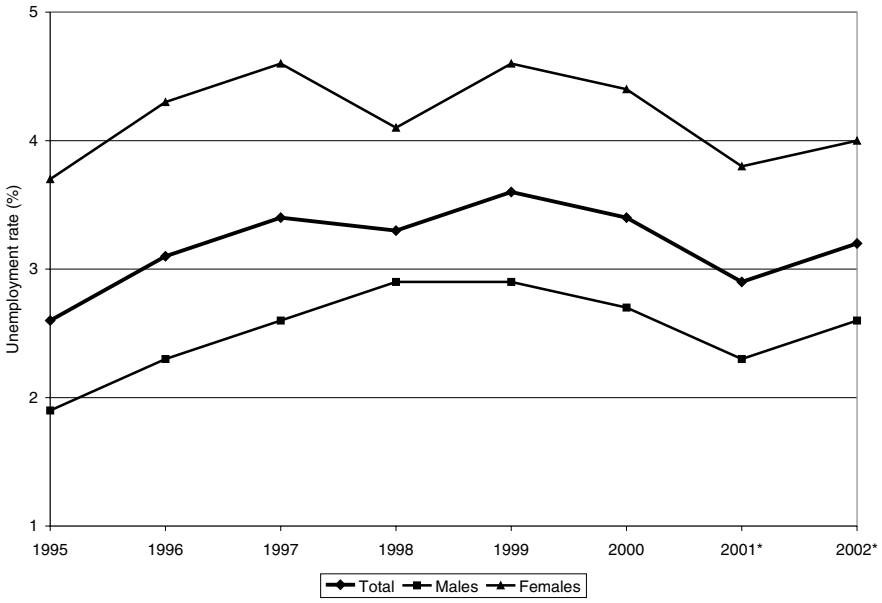
Administratively, the country is divided into six districts: Ammochostos, Kyrenia, Larnaca, Limassol, Nicosia and Paphos.

Cyprus is a member of the United Nations, Council of Europe, Commonwealth of Nations, Organization for Security and Cooperation in Europe, World Trade Organization and many other organizations. European Union accession talks commenced in 1998 and culminated in a favourable decision at the Copenhagen European Council on 12 December 2002. The official act was signed on 16 April 2003 and Cyprus became a full member of the EU on 1 May 2004.

Over the past decade, Cyprus has continued to enjoy economic growth and increasing prosperity. It is a well-known regional holiday resort, services centre (mainly banking and shipping) and telecommunications node. Per capita GDP grew by 46% in real terms between 1992 and 2002 reflecting an average annual rate of growth of 3.85%. In 2002, GDP per capita was £C 9780 (€16 920).

As shown in Fig. 2, the rate of unemployment in Cyprus was relatively low in the period from 1995 to 2002, although it increased from 2.6% to 3.2%. The unemployment rate among women was higher throughout this period: 4% in 2002 compared to 2.6% among men. Registered unemployment decreased from 10 900 persons in 2000 to 10 600 in 2002. Of the total number of those registered as unemployed in 2001: 52.5% were women; 11.7% were under the age of 25; 8.4% were newcomers into labour; and 19.9% were college/university graduates. Of the total number of graduates of higher education for 2001: 78.8% were unemployed for up to six months; 14.4% were unemployed for six to twelve months; and 6.8% were unemployed for more than twelve months. The number of vacancies notified at the District Labour Offices in 2000 totalled 13 771 as against 1221 in 1999 (Press and Information Office, 2003).

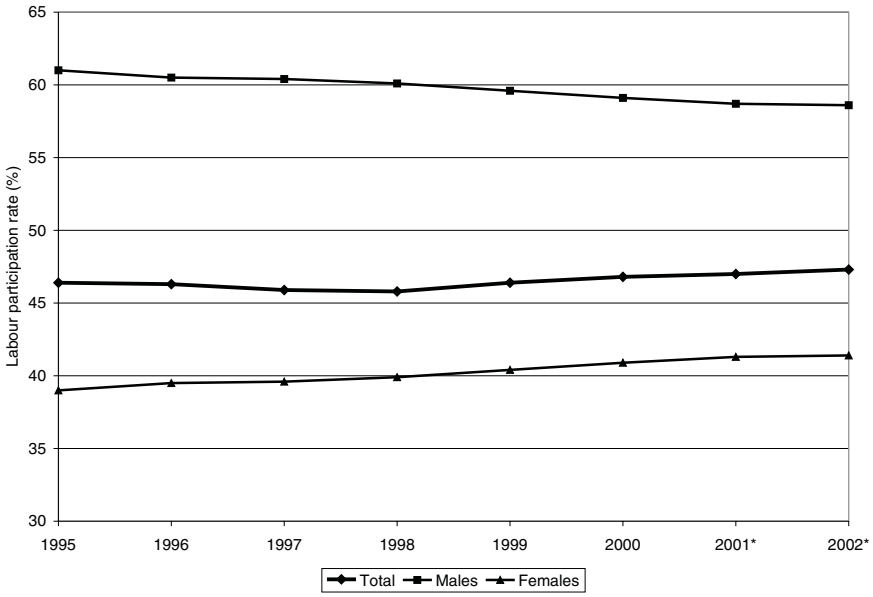
Fig. 2. Unemployment rate (%), 1995–2002



Source: Republic of Cyprus, Statistical Service, 2004.
* Provisional

In 2002, the island's economically active population was estimated at 335 500 persons. From 1995 to 2002 the total labour force rate stayed around 60% (see Fig. 3). Women constituted 41.4% of the economically active population, increasing from 29% in 1995 (see Table 6). As shown in Table 7, wholesale and retail trade absorbed the largest part of the employed population (55 000 or 17.9%) followed by manufacturing (37 200 or 12.1%) and hotels and restaurants (33 200 or 10.8%).

Fig. 3. Labour force participation rate (%) by gender, 1995–2000



Source: Republic of Cyprus, Statistical Service, 2004.
* Provisional

Table 6. Employed population by gender

Economic activity	1995	1996	1997	1998	1999	2001	2002
Employed population (thousands)	283.8	285.9	286.1	288.8	294.7	307.9	312.2
Males (%)	61.0	60.5	60.4	60.1	59.6	58.7	58.6
Females (%)	39.0	39.5	39.6	39.9	40.4	41.3	41.4

Sources: Labour Statistics 2000, Department of Statistics and Research; Republic of Cyprus Statistical Service, 2002.

According to the latest available data held by the Department of Social Insurance, the number of foreign workers legally working in Cyprus on 15 October 2001 was estimated to be 29 900 or 9.7% of the employed population.

Table 7. Employed population by economic activity

Economic activity		1995	1996	1997	1998	1999
Agriculture, forestry and fishing	Total (%)	10.8	10.5	9.5	9.6	9.5
	Females (%)	4.1	4.1	3.4	3.5	3.4
Mining and quarrying	Total (%)	0.3	0.3	0.2	0.2	0.2
	Females (%)	–	–	–	–	–
Manufacturing	Total (%)	15.5	14.7	14.3	13.7	13.2
	Females (%)	6.4	5.8	5.5	5.2	4.9
Electricity, gas and water	Total (%)	0.5	0.5	0.5	0.6	0.6
	Females (%)	0.1	0.1	0.1	0.1	0.1
Construction	Total (%)	9.1	8.9	8.8	8.4	8.3
	Females (%)	0.6	0.6	0.6	0.6	0.6
Wholesale and retail trade	Total (%)	15.8	16.2	16.5	16.6	16.5
	Females (%)	7.1	7.3	7.4	7.5	6.9
Restaurants and hotels	Total (%)	10.7	10.5	10.5	10.5	10.6
	Females (%)	5.1	5.0	5.0	5.0	5.1
Transport, storage and communication	Total (%)	6.6	6.6	6.8	6.8	6.8
	Females (%)	1.8	1.8	1.9	1.9	2.0
Finance, insurance, real estate and business	Total (%)	8.0	8.3	8.5	8.7	9.1
	Females (%)	3.8	4.0	4.2	4.2	4.5
Community, social and personal services	Total (%)	22.7	23.5	24.5	24.9	25.2
	Females (%)	10.5	10.9	11.4	11.5	11.7

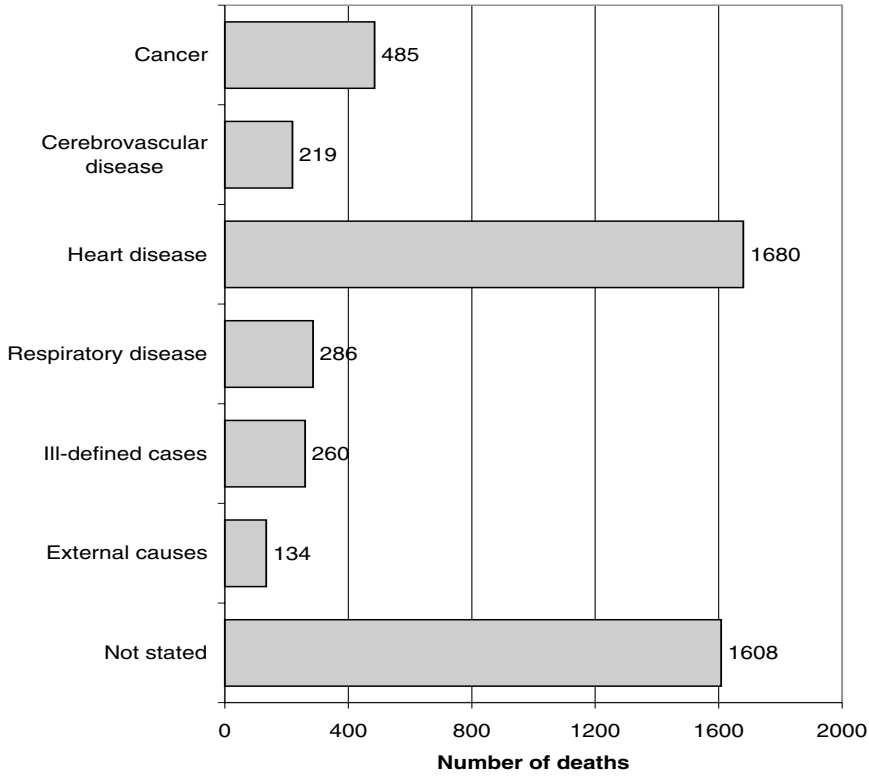
Source: Labour Statistics, 2000, Department of Statistics and Research.

Health status

Accurate and valid morbidity data about the Cypriot population are extremely hard to obtain. Responsibility for the selection and processing of health care and public health information lies exclusively with the Statistical Service of Cyprus (CYSTAT, formerly the Department of Statistics and Research).

Overall, chronic diseases dominate communicable diseases. In 2000 the Ministry of Health conducted an epidemiological survey of adults aged 25–65 living in the area of greater Nicosia. This revealed that 22.6% of the sample population suffered from high blood pressure (29.1% males, 17.1% females). The prevalence of smoking was 35.2% among men and 12.3% among women. In addition, 62.9% of the men and 46% of the women suffered from high cholesterol and 32.2% of the total sample led a totally sedentary lifestyle (no exercise at all) (Ministry of Health, Annual Report 2001).

Fig. 4. Causes of death, 2001

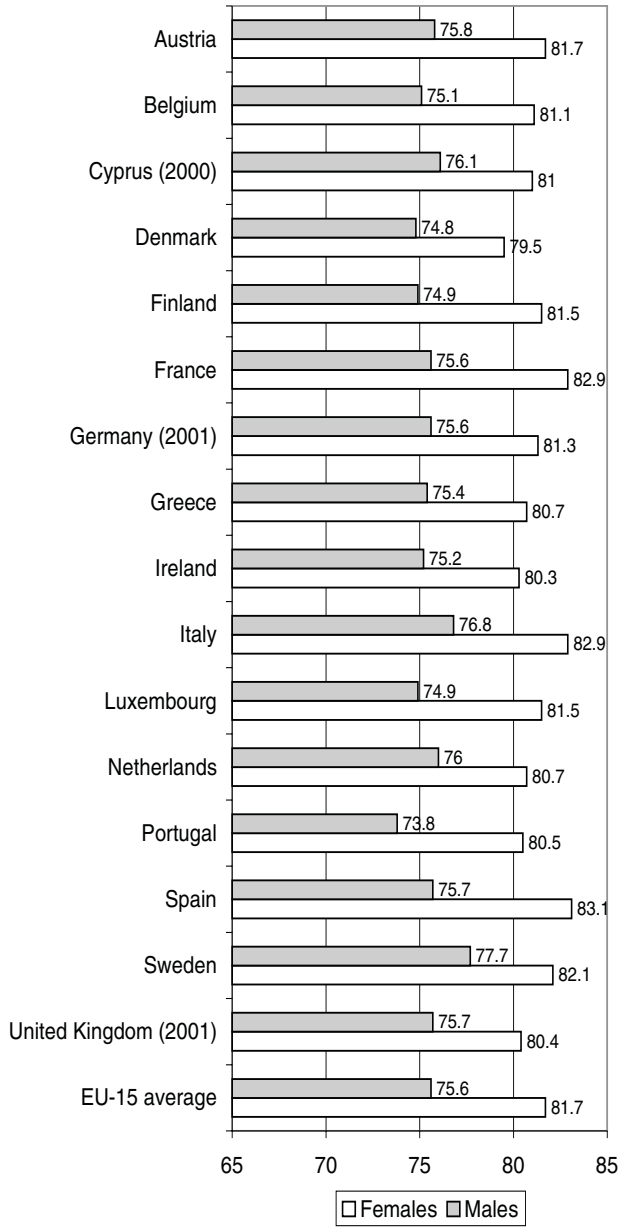


Source: Statistical Service, 2001.

A recent study of 8375 Cypriots reported on self-reported health status (Ministry of Health, 2002). The majority of the sample reported being in very good (36.9%) or excellent health (36.3%), 18.3% reported being in good health, 6.3% reported 'so-so' health, only 2% reported their health as 'not good' and the remaining 0.2% did not respond.

The Statistical Service of Cyprus is responsible for collecting and presenting mortality data. The gross mortality rate per 1000 people stayed constant at 7.7% from 1997 to 2000, and subsequently declined to 7.3 in 2002 when 5 168 people died (Statistical Service of Cyprus, 2003). The main causes of death in 2001 were heart disease (34.8%) and cancer (10%), followed by diseases of the respiratory system (5.9%), cerebrovascular diseases (4.5%) and deaths from external causes (2.8%). The causes of one third of all deaths in 2001 were not stated. Fig. 4 depicts the main causes of death in 2001.

Fig. 5. Life expectancy at birth in the EU and Cyprus, 2002 (or latest available year)



Sources: OECD Health Data, 2004 and WHO, 2001, Data on Cyprus.

In 2001, Cyprus had a life expectancy at birth approximately equal to the EU-15 average for both males (76.1) and females (81) (WHO, 2001). Infant mortality has declined gradually from 17.2 infant deaths per 1000 live births in 1980 to 4.9 in 2001 and is now approximately equal to the EU-15 average of 4.94. Fig. 5 compares the life expectancy at birth for Cyprus and the EU-15 Member States in 2002.

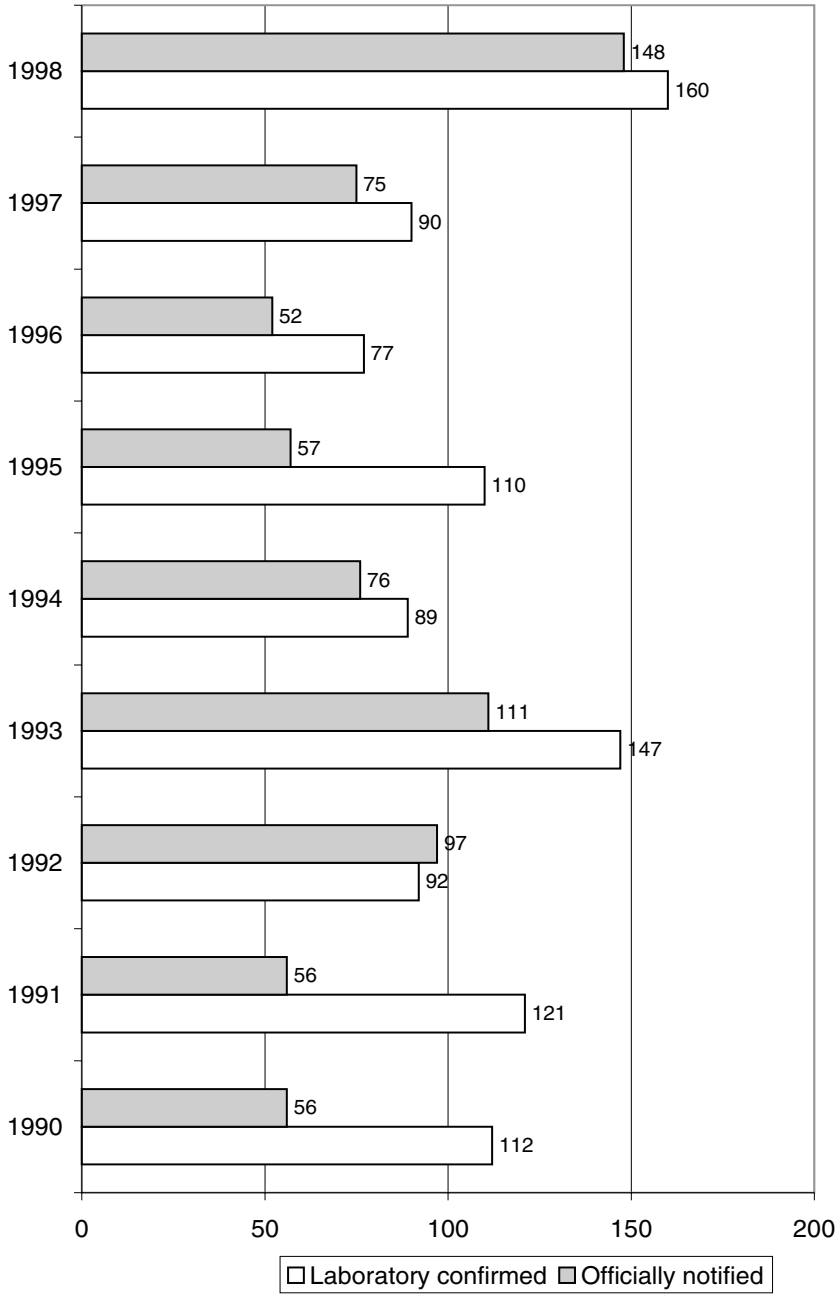
The AIDS incidence rate in Cyprus is consistently lower than the EU-15 average. Between 1986 and 2001, 377 HIV cases were reported (220 Cypriots, 157 non-Cypriots) (UNAIDS, 2002). The basic characteristics of the disease remain unchanged: AIDS primarily affects adults aged 20–44 (4/5 total reported cases) at a rate of six males to one female and is transmitted mainly by sexual intercourse, both homosexual and heterosexual. HIV seroprevalence among blood donors has been reported below 0.01% in Cyprus since 1989. Before 2001 there was no evidence of HIV infection among pregnant women that were tested, with the exceptions of one HIV case detected among 4019 pregnant women in 1992 and one among 2422 pregnant women in 2001. HIV seroprevalence among female escorts remains below 1%. HIV prevalence among intravenous drug users was reported to be 0.1–0.3% between 1993 and 1999. Among clients of voluntary counselling and testing, 0.4% and 0.8% were found to be HIV positive in 1999 and 2000 respectively. In general, AIDS prevalence in Cyprus has remained relatively low – in 2002 it was estimated at 0.1% in the 15–49 age group (UNAIDS, 2002). On average, 110 people are followed at the AIDS clinic, 80% of whom receive antiretroviral treatment.

In 2000, Cyprus had one of the lowest death rates for tuberculosis (0 deaths compared to 11.54 per 100 000 in the EU-15). One case of hepatitis A per 100 000 people was reported in 2000, considerably lower than the EU-15 average of 2.37 per 100 000 people. The prevalence of hepatitis B was 4.0 per 100 000 people, consistent with the EU-15 average of 4.03.

The main source of data on foodborne diseases is the notification system. Twenty-six communicable diseases including cholera, dysentery, typhoid fever (all forms), infectious hepatitis A and food poisoning are notifiable in Cyprus under the Quarantine Law. The attending physician's notification usually is followed by laboratory confirmation of the infection. In this way, it is not possible to secure prompt action that would allow proper investigation and control of disease. Fig. 6 shows the recently elevated number of salmonellosis cases in Cyprus.

Traditional Mediterranean eating habits are low in fat and high in complex carbohydrates. Unfortunately, this diet has been abandoned gradually in favour of fast-food based dietary habits that are high in animal protein, saturated fat and cholesterol and low in fibre. This has contributed to the 44.3% male and

Fig. 6. Salmonellosis cases, notified and laboratory confirmed, 1990–1998



Source: WHO Surveillance Programme for Control of Foodborne Infections and Intoxications in Europe, Cyprus 1993–1998.

29.7% female obesity rate among Cypriots in 2001. Furthermore, 24.6% of men and 19% of women are overweight. Fig. 7 compares the prevalence of obesity and overweight in Cyprus and the EU-15 revealing significantly higher rates of obesity among male Cypriots. A recent study showed a paediatric obesity prevalence of 10.3% for males and 9.1% for females, with approximately 15% of both sexes defined as overweight, in the period from October 1999 to June 2000 (Savva et al, 2002).

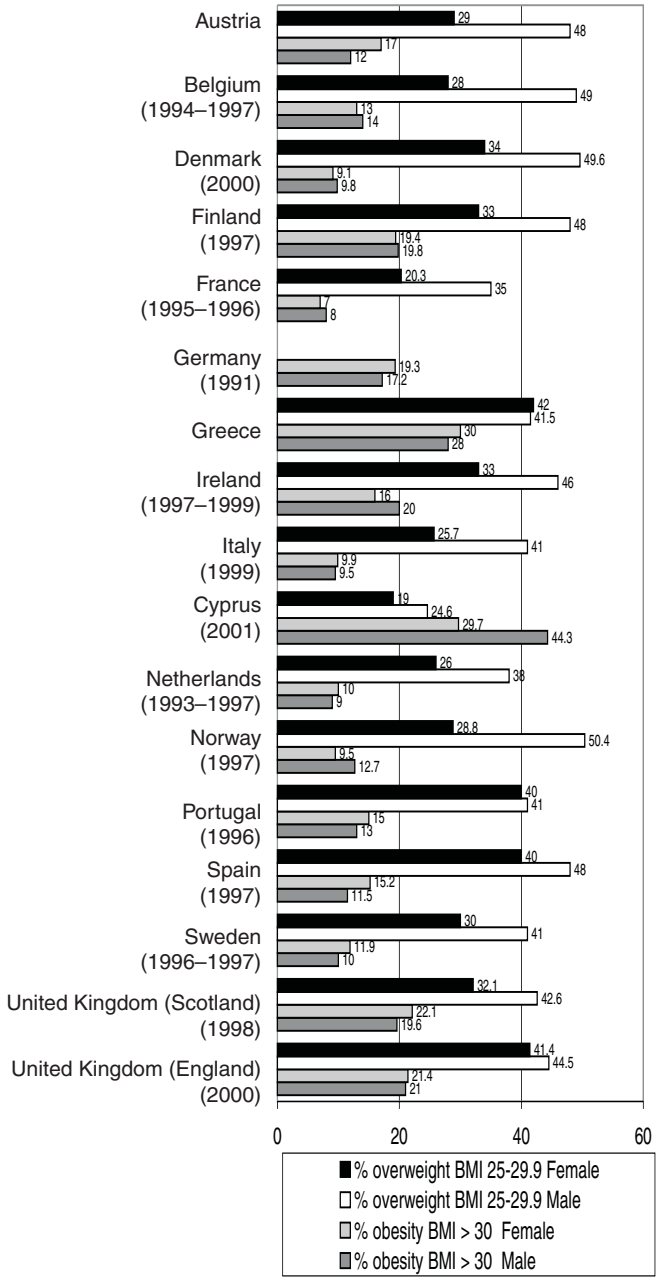
Overall adult alcohol consumption is 8.96 litres per capita, lower than the EU-15 average of 11.69 litres. Total adult alcohol consumption per capita over the past forty years is presented in Fig. 8.

As shown in Table 8, tobacco consumption is extremely high. In 1999, consumption averaged 2 780 cigarettes per person, 68% higher than the EU-15 average of 1653. Legislation, passed in 1980 and strengthened in 1988, prohibits the sale of tobacco products to individuals under the age of 18 as well as vending machine sales of tobacco products. The legislation also prohibits tobacco advertisements on radio and television; advertisements in printed media and on billboards are allowed, but under the control of a committee. Printed warnings on cigarette, cigar and tobacco packets and advertisements became obligatory and allowed European levels of tar and nicotine to be maintained. In 1988 a total ban on smoking on all public transport vehicles, including the popular intercity service taxis, was imposed. Smoking was also prohibited in health care establishments and public places such as theatres, cinemas, museums, libraries and food premises. Although restaurants and coffee shops remain exempt they must display notices about the harmful effects of smoking.

Recent developments included the Parliament Health Committee's proposal to ban all tobacco advertising (including covert advertising) and fine offenders on the grounds that "such ads were mainly targeted at non-smokers, especially innocent people and minors" (Tobacco.org, 2002). Previously, the Cabinet proposed to impose a €1552 fine on drivers caught smoking, in a bid to cut down on traffic accidents and protect non-smokers (Tobacco.org, 2002). On 30 May 2002, Parliament passed a law prohibiting smoking in private vehicles when children under 16 are on board.

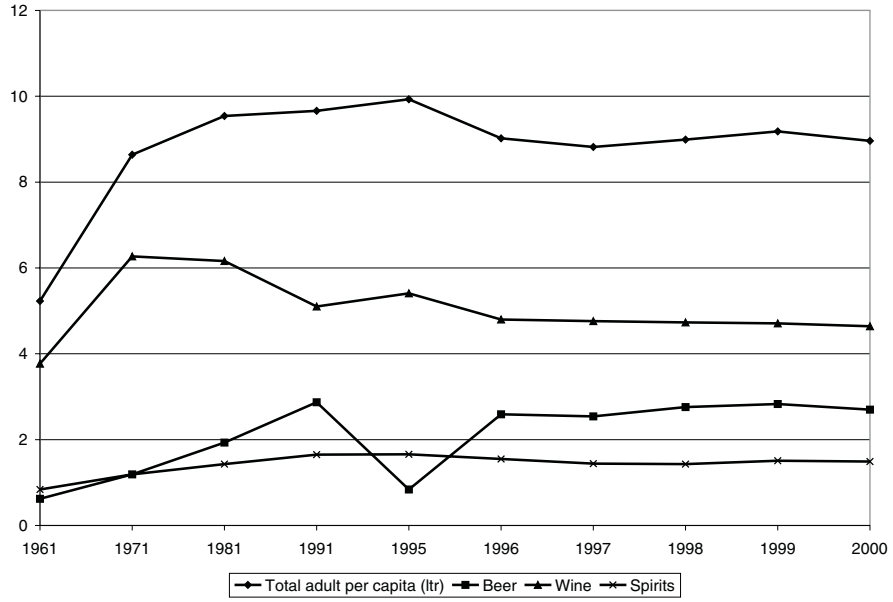
Current health concerns are mainly related to diseases associated with the demographic trends of the population. Cyprus exhibits the demographic characteristics of an ageing country: a declining rate of population growth, decline in the proportion of the population aged less than 15 years and an increasing proportion of the population aged more than 65 years. Important

Fig. 7. Obesity prevalence in Cyprus and the EU



Sources: IOTF 2002, and Ministry of Health, 2001.

Fig. 8. Adult alcohol consumption in litres per year



Source: WHO Global Alcohol Database.

Table 8. Annual per capita cigarette consumption

Year	Total	Aged 15+
1990	2 249	3 031
1991	2 189	2 940
1992	2 220	2 976
1993	2 163	2 896
1994	2 180	2 914
1995	2 281	3 036
1996	2 571	3 391
1997	2 432	3 193
1998	2 563	3 394
1999	2 780	3 621

Source: WHO, 1997.

demographic and health-related trends that are currently observed include continuously decreasing marriage and fertility rates, increasing divorce rates and slow replacement rate in conjunction with the progressive ageing of the population. Implications of the emerging demographic situation include a diminishing labour force and concomitant shrinking social security revenues; increasing health care costs due to the increase in long-term chronic-degenerative diseases; and increasing requirements for therapy, rehabilitative and nursing care for the elderly. New epidemics, such as cancer, and the increase in cardiovascular diseases and road traffic accidents, are largely a by-product of the modern lifestyle. A large proportion of these diseases can be prevented by adequate policy measures and immediate actions. To this end it is expected that preventive health care services, screening programmes and health education will be further encouraged as Cyprus strives to meet its health for all targets.

Historical background

"It was found on the island of Cyprus that there was a mountain larger and higher than all others, which was called Troodos, where there were many different kinds of plants useful for the art of medicine, and if I attempt to talk about each one individually, time will not be sufficient to tell everything", *Aristotle, 4th century B.C.*

Medicine in Cyprus is dated from the Hellenistic period. An example of the extended use of hyperthermia comes from earthen pots now on display at the Paphos museum. These pots were filled with hot water and used to increase the heat of the body in order to aid blood circulation. The Bronze Tablet of Idalion (480–470 BC, Bibliotheque Nationale, Paris) is an agreement written in the Cypriot Syllabus, between the king of Idalion Stasikypros and the city, on the one hand, and the doctor Onasilos and his brothers on the other. According to the tablet, Onasilos and his brothers agreed to look after the wounded free of charge during the siege of Idalion by the Persians and the Kitians. As a reward, the king and the city undertook to give them state land and money.

The first social insurance scheme was introduced in 1957, when Cyprus was still a British colony, and was rooted in the Beveridge principles of flat contributions and benefits. However, it has undergone several reforms since its introduction. Most importantly in 1964 the scheme was extended to cover everyone in employment, in 1980 it was transformed from a flat rate to an earnings-related scheme. Furthermore, a series of changes after 1980 introduced citizenship as an element of pension coverage at the age of 65, especially

the introduction of the social pension scheme for non-insured persons. This universalized pension coverage.

The development and successful implementation of social insurance in Cyprus has benefited from the extensive practice of 'tripartism' involving the government, employers and the workers. This practice has helped to maintain a dialogue between the parties involved and was successful in promoting improvements and dealing with difficult times (e.g. the years following the division of the island in 1974). Success can also be attributed to the fact that the system is not financially strained by the high demographic dependency ratios and unemployment levels seen in other countries. If unemployment remains the same and the demographic dependency ratio rises, it is expected that the system will become strained.

The 1980 reform introduced safety-net features such as the social pension scheme and the public assistance law. The fact that most benefits are either means-tested or paid to those who do not or cannot work or have other poverty related characteristics (widows, orphans, etc.) suggests that social insurance in Cyprus contributes to reducing poverty and income inequality.

Finally, a striking feature of the social protection system in Cyprus is the very large private financing of health care: while the overall expenditure on health represents 5.8% of GDP, around 51% of this is from private resources as opposed to around 25% in EU-15 countries. This feature of the system is likely to disappear when the new national health insurance scheme recently approved by the parliament is introduced in the next five years.

Organizational structure and management

Organizational structure of the health care system

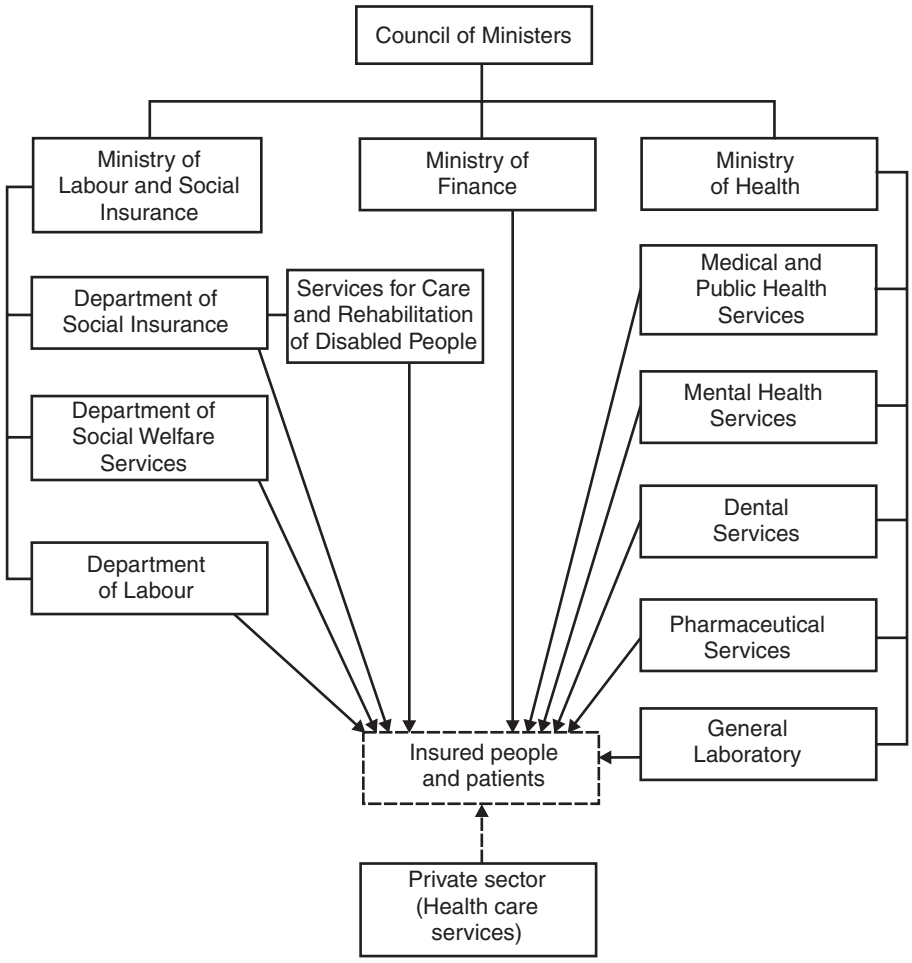
The Council of Ministers has overall responsibility for the state's role in the social protection and health care system in Cyprus. It exercises this authority through the Ministry of Health and the Ministry of Labour and Social Insurance and, to a smaller extent, the Ministry of Finance. All the parties involved with the administration of social protection in Cyprus, including the private sector, are depicted in Fig. 9.

Ministry of Health

The Ministry of Health is responsible mainly for the organization of the health care system in Cyprus and the provision of state-financed health care services. The ultimate objective of the organization is to promote and protect people's health.[1] The Ministry of Health formulates national health policies, coordinates the activities of both the private and the public sector, regulates health care standards and promotes the enactment of relevant legislation. It is organized into various departments and manpower development institutes including: (i) General Laboratory, which provides laboratory analysis services including inspection of food, water, medicine, police evidence and drugs investigations (but not services for clinical purposes); (ii) Pharmaceutical Services, responsible

[1] At the moment this goal is pursued through several intermediary agencies with more focused objectives, leading to a fragmented supply side and no formal system of referral between the various levels. This, however, will change with the National Health Plan, expected to be in place soon.

Fig. 9. Organizational chart of the social protection system



for the testing, supply and pricing of pharmaceuticals, inspection of pharmacies, etc; (iii) Medical and Public Health Services, responsible for services in the fields of prevention, primary, secondary and tertiary care; (iv) Dental Services; (v) Mental Health Services.

Other ministries

a) **The Ministry of Labour and Social Insurance** is responsible for the implementation of government policy for employment, social insurance, social welfare and industrial relations. The Ministry is further organized into departments and manpower development institutes.

The Department of Social Insurance is responsible for the:

- social insurance scheme: compulsory for all employed and self-employed persons and providing for maternity allowance, sickness benefit, unemployment benefit (not to the self-employed), old-age pension, invalidity pension, widows pension, orphans benefit, missing persons allowance, marriage grant, maternity grant, funeral grant and benefits for employment accidents (not for the self-employed) and occupational diseases, through injury, disablement and death benefits;
- social pension scheme: providing pensions to persons over the age of 65 who are not entitled to a pension from another source and satisfy the residence conditions specified in the law;
- compensation of victims of violent crimes: paid to victims of crimes and dependants of those who died as a result of violent crimes;
- redundancy payment scheme and annual holidays with pay scheme.

The Department of Social Welfare Services is the official state agency for the provision and promotion of social welfare services. The department's main programmes cover family and child services; community work; public assistance and services for the elderly and disabled; and staff development and programme planning services. It also administers the following three laws: (i) Public Assistance and Services – guarantees a minimum acceptable standard of living in keeping with human dignity for every person legally residing in Cyprus; (ii) Homes for the Elderly and Disabled – requires nongovernment homes for the elderly and disabled to be registered and inspected; and (iii) Children and the Centres for the Protection and Recreation of Children – requires nongovernmental day-care centres and child-minders to be registered and inspected.

The Department of Labour is responsible, among other things, for 'services for the care and rehabilitation of disabled persons'; 'special financial assistance to disabled persons'; and the 'financial assistance scheme for the purchase of wheelchairs for the disabled'.

b) The Ministry of Finance is responsible for the administration of specific allowances and grants, in particular:

- mobility allowance – a means tested benefit granted to disabled workers and students to cover travelling expenses for work/college;
- provision of special grants – applicants' entitlement is determined by their degree of blindness;
- provision of financial assistance to persons with disabilities for the purchase of a car – entitlement is determined by the degree of disability;

- child benefit – payable to all families with children, increases with each additional child;
- mothers' allowance – paid to mothers with four dependent children who cease to be entitled to child benefit, i.e. when the youngest child attains the age when eligibility stops.

Planning, regulation and management

The Council of Ministers is responsible for supervising and coordinating the social protection system in Cyprus. Each of the ministries involved is independently responsible for the supervision of its own departments. The Social Insurance Board, whose main responsibility is to offer advice on matters pertaining to the social insurance scheme, also plays an important supervisory role in this field.

The 1998 "Review of the management and organization of Ministry of Health hospitals in the Republic of Cyprus" prepared by the Nuffield Institute for Health (University of Leeds, UK) identified some major regulation and management issues, specifically the lack of formal and organized competition between the public and private sectors within the system. This lack of organization increasingly concerns the government given the expansion of the private sector and the limited points of contact between the two. Nonetheless, a new law on private sector accreditation has been approved by Parliament and the Ministry of Health has set up a new unit for its enforcement. The law is expected to reinforce and improve the quality of services in the private sector as well as introduce new points of contact between the public and private sectors.

The Nuffield report described the Ministry of Health as operating on the basis of a division between three basic functions: administrative, technical and operational. Such a simple and divisive system, based on the fragmented ministerial system, was characterized as "inappropriate to modern systems of management". The report also identified a need for hospital reform to be part of an overall system of managerial and organizational change in the public sector health care system.

Moreover, it was found that particular features of the system constitute a partial continuation of colonial practices. For instance, government hospitals form part of an integrated system of civil service and ministerial control of management, leading to centralized control and managerial decision-making outside the hospital. Hospital staff are civil servants hired and allocated to their posts by a central civil service staffing system. Such a top-heavy bureaucratic

hierarchy was deemed to fail to offer staff the required direction, support and professional growth. On the whole this administrative, rule-bound and passive approach to running hospitals, combined with the centralization of decision-making, was found to constitute a serious hurdle to the continuing development of effective and efficient management tools and the reinforcement of hospitals' competitiveness. This problem is exacerbated by the fact that clinical specialties, patient pressure groups, trade unions and other power blocs address their demands to the central level rather than the hospitals concerned. It was also found that ministries other than the Ministry of Health appoint officers to hospitals, further contributing to the general lack of decision-making authority.

Among the proposals, progressive development of each hospital's managerial powers as well as longer term scenarios for semi-autonomy were aimed at decentralizing administrative power from fragmented central government to the operational level and increasing the decision-making authority of hospitals.

Decentralization of the health care system

Cyprus is a small country with a highly centralized public administration system. Public health services are provided through a network of hospitals, health centres, sub-centres and dispensaries. Most of the system's organizational, administrative and regulatory functions take place at state level; the lower administration levels cooperate with the central administration primarily for the implementation of public health and health promotion initiatives.

Yet, following the recommendations made in the reviews of the Ministry of Health and Ministry of Health hospitals respectively (Nuffield Institute for Health, 1994, 1998), a reform of the Ministry of Health is under way. New departments are being established and the administration of public hospitals decentralized on the basis of modern systems of management and medical audit. Given the particular circumstances of Cyprus this is expected to be a modest, mainly functional, decentralization that should take account of the need for integration of the centre and peripheries.

Health care financing and expenditure

Main system of financing and coverage

The financing sources of the social protection system in Cyprus vary between the different parts of the system. At the moment, government provision of health care services is funded out of general taxation, with the exception of a small part financed from charges imposed on some services. The financing scheme is expected to change with the implementation of the comprehensive National Health Insurance Scheme (NHIS) in the next five years, when financing of the health care services will be based largely on compulsory health insurance contributions.

Social protection schemes, other than health, are financed by a mixture of income related contributions and general taxation. The social insurance scheme is financed by earnings-related contributions (16.6% of gross salary for employees, 15.6% for self-employed persons and 13.5% for the voluntary insured). The social pension scheme is paid out of general taxation and reviewed each year to take account of increases in wages and the cost of living. Child benefits and mothers' allowance are financed out of general taxation and adjusted according to the cost of living index. Provident fund schemes are financed by contributions paid by employees and employers, assessed on employee earnings, while the redundancy payment scheme is financed by employers and covers all persons employed under a contract for provision of services.

Additional allowances other than health care include benefits for sickness, maternity, invalidity, long-term care, disability, old age, employment injuries and occupational diseases, marriage grants and unemployment.

Finally, the Public Assistance and Services Law (August 1991) secures a minimum standard of living for all persons legally residing in Cyprus. It may be provided in the form of money and/or services to persons whose resources do

not meet their basic and special needs as determined by the law. It makes special provision for those who are more vulnerable to social exclusion (persons with disabilities, single parents, parents with four or more children and families at risk of dissolution) and may include a rent allowance or home care, for example. Rates for public assistance are reviewed annually so that they are in line with the rising cost of living.

Health care

As Cyprus has not introduced an NHIS, the provision of health services is not concentrated on one central authority. Instead there are five types of coverage:

- public health provision
- private health provision
- funds for medical care by employers and trade unions
- scheme for sponsored patients abroad
- private health insurance schemes.

Persons who are not entitled to either free medical care, or to publicly provided medical care at reduced cost, purchase health services from the private sector. Very often, however, those entitled to public health services provision seek complimentary medical care in the private sector to secure a more personalized treatment. Hence, there is a high number of out-of-pocket payments from patients to providers. There is also some indirect financing from private medical insurance companies but at a relatively low level.

In some cases there are joint public-private ventures, e.g. the government purchases health services from the Oncological Centre, an independent non-profit-making institution established through donations from the private sector. There are also various small-scale medical funds operating under special agreements with the private sector. These funds are organized mostly by semi-government[2] and private companies on behalf of employees and their families. They allow beneficiaries to buy health care services from doctors and hospitals of their choice at low cost. Some labour unions even operate their own medical centres to provide their members with medical care either free or at very low cost.

There is no evidence of an informal health sector in Cyprus, in the form of patients tipping physicians to secure a higher level of health care in the

[2] Semi-government companies are owned by the government, managed by an independent board appointed by the President of the Republic. An example of a semi-government company is the Cyprus Telecommunication Authority (CYTA).

public sector. However, it is likely that physicians, dentists and other medical practitioners in the private sector behave like most other self-employed people in Cyprus in not declaring their full income.

The national health insurance system

Cyprus is in the process of implementing a comprehensive NHIS that is expected to be in place in the next five years. At the moment the government, as an employer, provides medical insurance to its employees through the public health sector. Employer and trade union sponsored schemes also provide medical insurance to their members, such as those organized by semi-government organizations and large private companies (e.g. banks) that offer health care coverage (including at least in-hospital insurance) to employees and their families.[3] Furthermore, there is the "Government Regular Employees Health Care and Welfare Scheme" administered by trade unions and governed jointly by representatives of the Ministry of Health, workers' unions and others. In part, this scheme is funded by contributions (1% of basic salary from the worker, 1% paid by the government) and covers expenses for sick leave (up to 80 days, topping up to full wage the sickness benefit payable under the social insurance scheme and a small percentage of the average cost of health care which is actually borne by the Ministry of Health).

This situation will change essentially when the NHIS becomes law in the next five years.[4] Under the new regime, the public health system will receive funding from the compulsory health insurance contributions and will also provide comprehensive medical care to the entire resident population at all levels of health care.

The NHIS proposed for Cyprus aims at equity in finance and universal provision of health care with efficient delivery, high standards and containment of cost. Every person will be registered with a private doctor (a general practitioner) of their choice. In each case the doctor will provide any health service deemed necessary. A patient's choice of specialist and hospital is possible but limited by the required treatment. As long as the patient complies with the system parameters there should be no out-of-pocket cost. Health services planned under the NHIS include:

- primary and specialist outpatient care
- diagnostic services, lab tests and other investigations

[3] Comprehensive health care provision is not mandatory for private employers or the self-employed. However, employers' liability insurance covering work-related accidents and sickness became mandatory in 1997.

[4] The description of the proposed NHIS is taken from Cyprus' Country Report in the European Commission Study on the Social Protection Systems of the 13 Applicant Countries, November 2002.

- prescription drugs
- hospital care of secondary and tertiary (including acute mental) illnesses
- dental care for children up to 15 years of age
- domiciliary visiting and patient transport, physiotherapy and rehabilitation services including provision of prosthetic and orthopaedic appliances.

The cost of the NHIS will be funded from contributions paid out of salaries, self-employment income, pensions and other income. The government will also contribute. It is envisaged that the financing of the NHIS will be tripartite: the government will contribute 50%, employees 25% and employers 25% (see more under the section on *Health care reforms*).

Health care benefits and rationing

The current health care system in Cyprus is modelled on the basis of the Beveridge principle, with statutory benefits funded through general taxation, but there is no universal coverage as yet. The health care benefits provided are means tested and include:

- general outpatient care
- specialist outpatient and inpatient care
- diagnostic and paramedical examinations
- hospitalization
- dental care
- medical rehabilitation and provision of prosthetics
- domiciliary visits
- ambulance services.

Moreover, the Ministry of Health provides public health and preventive services, mental health care and services for the treatment of thalassaemia, and sponsors treatment abroad for patients who cannot be treated in Cyprus.

Access to free health services is granted to everyone in need who lacks the means to pay or suffers from chronic life-threatening disease. Government hospitals also provide free medical treatment to people with disabilities or those in need of treatment for contagious and life-threatening diseases. The government, as employer, provides free medical care to all civil servants (including police and full-time military personnel) and their families. At accident and emergency departments medical care is provided free of charge to everyone in need, irrespective of income or nationality.

Entitlement to publicly provided free medical care is based on individual earnings below €15 300 per annum, household earnings below €30 600 per annum (increased by €1700 for each dependent child) and households with more than three children. Individuals with incomes between €15 300 and €20 400 and households with incomes between €30 600 and €34 400 (increased by €1700 for each dependent child) receive health care at reduced cost. On the basis of these criteria approximately 85–90% of the population has access to free or reduced rate public health services, the remainder pay according to specified fee schedules.

Fees for paying patients receiving inpatient care:

- accommodation and nursing: daily fees of €103, €86, and €60 for 1st, 2nd and 3rd class wards, respectively. For intensive care units the fee is fixed at €172;
- medical attendance: €17.2 daily;
- operations, tests and other services: fees are detailed by the MoH in a comprehensive list.

Fees for paying patients receiving outpatient care:

- visit to a specialist: €17.2
- visit to a general practitioner: €12.

Co-payments by persons entitled to free care:

- outpatient: €1.72 per visit
- daily fees payable by state officials and civil servants for inpatient treatment: €17.2, €8.6 and €5 for 1st, 2nd and 3rd class wards, respectively.

Paying patients:

- paying patients may have reduced charges for inpatient treatment, taking account of income level.

Recovery of fees from third parties:

- the right to free medical care is waived for treatment of conditions caused under circumstances creating legal liability for damages by a third person (in such cases the fees will be claimed from the person liable for the damages even if the patient is covered by a medical scheme).

While the public sector provides free, or reduced cost, medical care to poor people and its own employees, high-income groups that are not civil servants are excluded from the system. Moreover, individuals who access the public health care system do not have as much choice as those in the private sector.

In addition to the previously mentioned schemes, there are other complementary health care schemes covering the working population, such as:

- trade unions' provision of medical services (mostly primary health care) to their members through the use of mainly private sector health facilities;
- various employer-sponsored arrangements providing free medical care mainly through health facilities in the private and public sector.

Medical treatment abroad

Despite improvements in health infrastructure in Cyprus, as shown in Table 9, the number of people seeking treatment abroad increased from 1155 in 1996 to 1397 in 2000 (17.3% increase).

Table 9. Sponsorship of patients abroad, 1996–2000

Year	Number of patients	% change
1996	1 155	
1997	1 337	15.76%
1998	1 446	8.15%
1999	1 315	–9.06%
2000	1 397	6.24%

Source: Ministry of Health, 2001.

Note: These figures include only patients who have been given pre-authorization for treatment abroad and some patients who were treated abroad without pre-authorization but were reimbursed for their expenses on the basis of specific retrospective ministerial decisions. These figures do not include patients who may have received treatment on an emergency basis when abroad, as the number of these cases is not known. Expenses in these circumstances are not currently covered.

As shown in Table 10, in 2000 the majority of patients were treated in the United Kingdom (894), Israel (227) and Greece (222), other countries treated only 54 patients.

In 2000, 35.3% of patients treated abroad suffered from cardiovascular diseases (43% in 1998), 9.5% from cancer (16.6% in 1998), 8% from ophthalmological problems (12% in 1998), 7% from orthopaedic problems (10% in 1998) and 19% from other conditions or diseases.

In 1998, the costs for cardiovascular cases accounted for €6.4 million, cancer: €3.46 million, ophthalmological: €361 570 and orthopaedic: €1 003 400. It is clear that cardiovascular and cancer cases accounted for the bulk of costs (65.5%). It is expected that the development of the cancer unit in the new hospital in Nicosia, together with the Bank of Cyprus' Oncology Centre and some private centres will contribute to a decline in the number of patients seeking treatment abroad. There has already been a decline in the number of

Table 10. Main countries for treatment abroad

Country	Number of people treated		
	1998	1999	2000
Austria	8	7	8
Belgium			1
Canada			1
Egypt			1
Finland	1		
France	5		
Germany	8	2	8
Greece	240	218	222
Israel	285	228	227
Italy	3	2	2
Lebanon	4	12	8
Russian Federation	1	1	1
Sweden	5	2	1
Switzerland	2	2	4
United Kingdom	868	830	894
USA	16	11	19
Total	1 446	1 315	1 397

Source: Ministry of Health, 2001.

cancer patients treated abroad between 1998 and 2000. A similar trend was seen among cardiovascular patients. In contrast, paediatric cases treated abroad increased from 3% in 1998 to 18.4% in 2000.

Pre-authorization in Cyprus for treatment abroad

Current legislation in Cyprus stipulates that financial criteria must be taken into account to define eligibility. The criteria are:

Co-payments for individuals:

- 0% of cost for annual income up to €10 380
- 20% of cost for annual income between €10 381 and €17 300
- 30% of cost for annual income between €17 301 and €25 950
- 40% of cost for annual income of €25 951 and above.

Co-payments for family members:

- 0% of cost for family annual income up to €17 300 (increased by €1038 per child);
- 20% of cost for family annual income between €17 301 and €22 490 (increased by €1038 per child up to a ceiling of €22 490);
- 30% of cost for family annual income between €22 491 and €34 600;
- 40% of cost for family annual income of €34 601 and above.

People living beneath the poverty level with an annual income of less than €5190, or family members whose family income does not exceed €8650 (increased by €519 per child) can be subsidized to stay abroad for treatment as outpatients. However, their subsistence cannot exceed 50% of that of Cypriot civil servants who are working abroad for the government. Furthermore, certain groups of citizens are not charged for treatment received abroad even if they can afford to pay for it. These groups amount to approximately 135 000 citizens and include:

- civil servants;
- members of the judiciary including all pensioners;
- presidents and members of the Civil Service and Educational Service Committees;
- personnel of the educational service;
- personnel of the police force and fire brigades;
- officers of the Cypriot army and National Guard;
- those serving their term in the National Force provided that their disease/condition is due to their service in the National Force;
- pensioners of the civil service, educational service, police and fire brigades and former officers of the Cypriot army and the National Guard.

The Minister of Health or the Director-General of the Ministry of Health make decisions regarding treatment abroad on the basis of reports produced by a medical board. If a recommendation is not unanimous, the minister may ask the medical board to reconsider but the recommendations are not mandatory for the Minister.

The medical board bases its recommendations on the following criteria:

- whether or not the effective diagnosis or treatment can take place in public or private hospitals in Cyprus;
- whether there is high probability of effective diagnosis or treatment;
- whether diagnosis or treatment could substantially contribute to saving a

patient's life, prevent serious somatic or mental incapacity or contribute significantly to a permanent improvement in a patient's situation;

- patient's age.

If a patient receives treatment abroad without pre-authorization by the Ministry of Health, they can apply to the Minister to request reimbursement within three months of returning to Cyprus. The medical board examines the patient's file and recommends whether the patient should be reimbursed. In reaching a decision, the Minister should consider the financial cost to the Ministry if the patient had followed the normal pre-authorization procedure.

It is likely that Cyprus may have to change its legislation for authorizing treatment abroad. Using age as a criterion could raise legal challenges on the basis of equality of treatment and principles of human rights. In fact the new law on the introduction of a general health system[5] provides that entitlement to health services will no longer be status related. All Cypriots and their dependants, as well as all permanent residents in the Republic of Cyprus who contribute to the National Health Organization, will have access to health services in Cyprus or abroad. However, until the law is implemented, current privileges of particular population groups may be challenged before the European Court of Justice on the basis of equality of treatment and human rights principles. The only groups that could be excluded, provided that there is a special budget under the Ministry of Defence, are the army and the National Guard. However, it is envisaged that the general health system will be implemented within the next four to five years, therefore the potential legal challenges are not expected to be significant.

Complementary sources of financing

Even though the introduction of a national health insurance system appears to dominate the discussion on health care coverage and expenditure, the government currently funds approximately 49% of the overall health care expenditure. Other main sources of financing for health care services are: out-of-pocket payments, private health insurance and international donors in the form of capital investments.

Out-of-pocket payments

A study published by the Harvard School of Public Health in July 2003 (Hsiao and Jakab, 2003) analysed the financial burden borne by households when

[5] Law on the Introduction of a General Health System and Related Issues. N. 89(I)2001 and 134 (I) 2002.

they seek health services. As shown in Fig. 10, the median household (with an annual income ranging from £C 9000 (€15 570) to £C 11 000 (€19 030) was found to spend nearly 4% of its income on health care services. Fig. 11 shows the percentage of household income spent on health services in 1996. Out-of-pocket payments increased between 1996 and 2002, though the study was unable to obtain a complete and accurate distributional analysis. It was nonetheless concluded that expenditures are increasing faster for those who spend large amounts, indicating that households with chronic illnesses or a severe acute illness may face catastrophic levels of health expenditure. Furthermore, the burden of payment has increased more for lower income households than for those in higher income brackets.

Private insurance

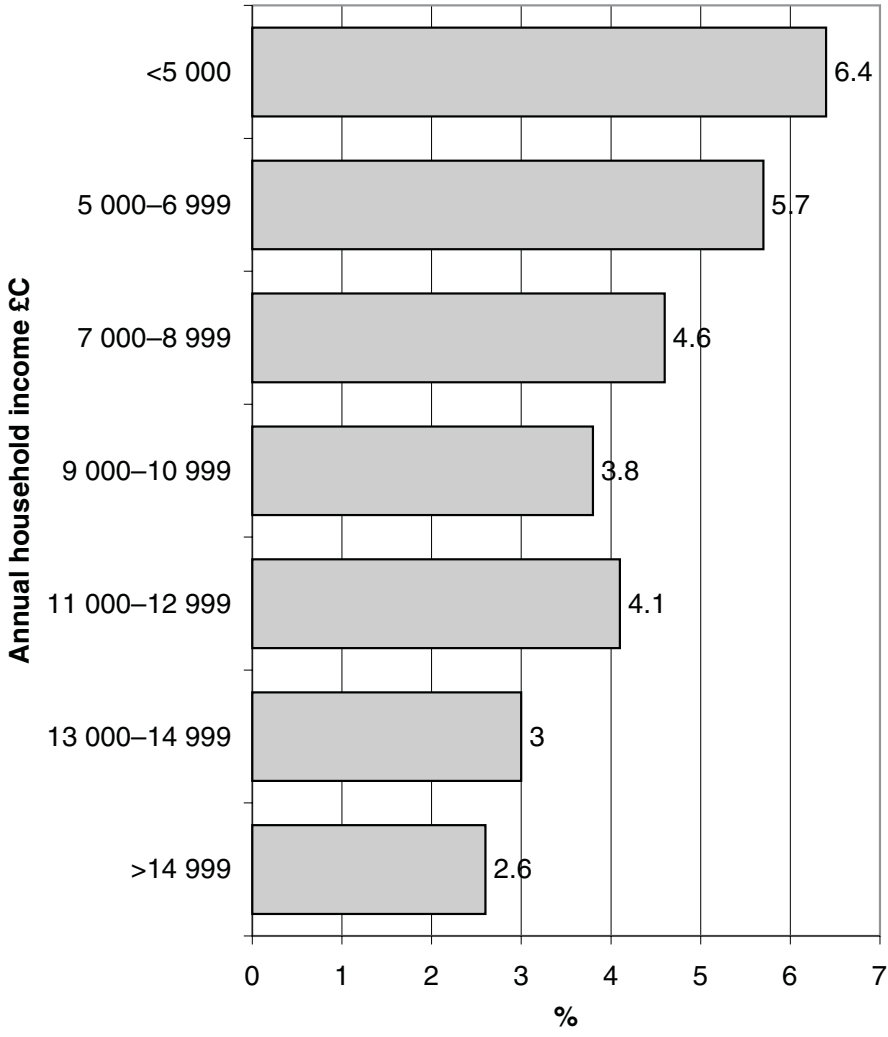
The development of local insurance companies began in the 1980s although the private medical insurance sector in Cyprus has not grown at a fast pace. In general there is little information but it is believed that the low number of private health insurance schemes is due to the absence of tax incentives. Most companies offering health insurance do so mainly to complement other businesses and the health products included in their packages tend to be simple. With medical costs rising and demand for comprehensive cover growing, a small number of specialized health insurance companies have entered the private insurance market, the most prominent being BUPA (UK).

Private medical insurance contracts offer local hospital, or hospital plus outpatient, indemnity cover on an annually renewable basis and, in some cases, international cover. Employers' liability insurance, a recent addition to the Cyprus insurance market, has grown rapidly since 1997 when it became mandatory. It has now stabilized at around €8.62 million spread over 26 insurance companies, with the highest volume at almost €1.72 million (in 2002).

Premium income for private health insurance is difficult to estimate, as the law does not yet require separate reporting. Premium volume could range between €5.2 million and €10.3 million with an annual premium per person of €258 in 2002. There are 33 companies writing accident and health insurance in Cyprus, totalling just over €27.60 million in premium income and representing 15.2% of the non-life market or 5% of the total market. BUPA, the only specialized health care insurer, is ranked fourth with €2.6 million in premium income. Long-term care insurance is not available at the moment.

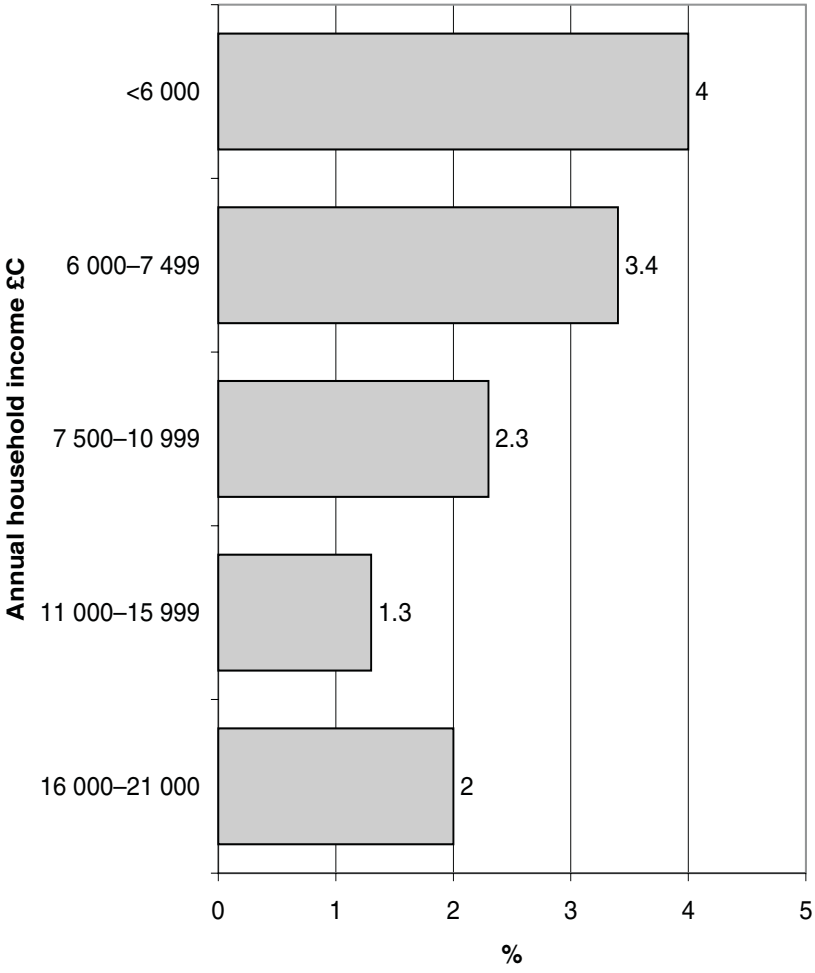
Private medical insurance group schemes are funded through membership subscriptions and/ or employers' deductions from salaries.

Fig. 10. Out-of-pocket health expenditures as a share of household income, 2002 (sub-sample: those who report any utilization)



Source: Hsiao and Jakab, 2003.

Fig. 11. Out-of-pocket health expenditures as a share of household income, 1996 (sub-sample: those who report any utilization)



Source: Hsiao and Jakab, 2003.

Health care expenditure

In 2002, Cyprus spent £C 360 million (€622.8 million) on health care or £C 500 (€865) per person.[6] As shown in Table 11, health expenditure in Cyprus increased from 4.1% of GDP in 1990 to 5.8% in 2002. Most of the expenditure

[6] These costs do not include costs of health care for immigrants.

on health care services was realized in the private sector: 3% of GDP from the private sector compared to 2.8% in the public sector in 2002 (see Table 11). Nonetheless some shifts between public and private sources of funding over the past decade do not seem to represent a sustained trend. Fig. 12 shows the relatively low public proportion of total health expenditure compared to other European countries, although public expenditure rose to 2.8% of GDP in 2002. This increase in public spending reflects increases in expenditure mainly in medical, public health and pharmaceutical services (see Table 12). Yet, compared to the EU-15 average the overall share of health expenditure in GDP remains low in Cyprus, as shown in Fig. 13.

This relatively low expenditure is believed to reflect various factors including the relatively younger structure of the Cypriot population, absence of a national health insurance system, absence of a medical school, limited resources spent for medical research activities, and the favourable climatic and environmental conditions. This is also one of the reasons why the reform of the health care system is a high priority for the government. Currently, the health care system is fragmented and there is a lack of coordination between the public and private health sectors. Furthermore, because of the high share of private payments there is a lack of equity in both financing the system and accessing services.

The establishment of an NHIS is expected to increase public health expenditure. On 20 April 2001, the House of Representatives passed a law for the establishment of a National Health System that will provide health care free at the time of delivery. It will provide universal population coverage and be financed by contributions from the state, employers, employees, the self-employed, pensioners and those with income from other sources. It will be administered by the Health Insurance Organization, a public body managed by a tripartite board. The Organization will purchase health care services from the government and private medical institutions. The new structure is expected significantly to increase funding for health services, improve access to health care and, through its purchasing mechanisms, the quality of care supplied.

Moreover, in addition to the introduction of the NHIS, there are discussions currently underway to introduce a medical school at the University of Cyprus. The combination of these changes and the expected rise in the population dependency ratio will likely lead to a future rise in health expenditure. The overall public health expenditure share is estimated to grow even further due to the high level of public investment in the construction of Nicosia General Hospital.

Table 11. Trends in health care expenditure and percentage of total

Expenditure on health services	1995		1996		1997		1998		1999	
		%		%		%		%		%
Public health services	2.2	41.5	2.3	38	2.4	37.5	2.4	39	2.4	40
Private health services	3.1	58.5	3.7	62	4.0	62.5	3.7	61	3.6	60

Source: Statistical Abstract 2001, Department of Statistics and Research.

Note: excluding capital expenditure.

Another reason why expenditure appears low in Cyprus is that public health care expenditure is likely to be underestimated in official statistics. The data do not include salaries for Ministry of Health administrative staff who are financed by the Ministry of Finance. The Ministry of Finance also pays the pension contributions of the employees of the Ministry of Health. Furthermore, maintenance works in public hospitals and other facilities supervised by the Ministry of Health are undertaken by the Ministry of Communications & Works and the relevant expenditure is not recorded in the official statistics as health care expenditure. A study by W. Hsiao (1997) showed that in 1996 public expenditure accounted for 44% of total expenditure, a much higher percentage than that reported in official statistics.

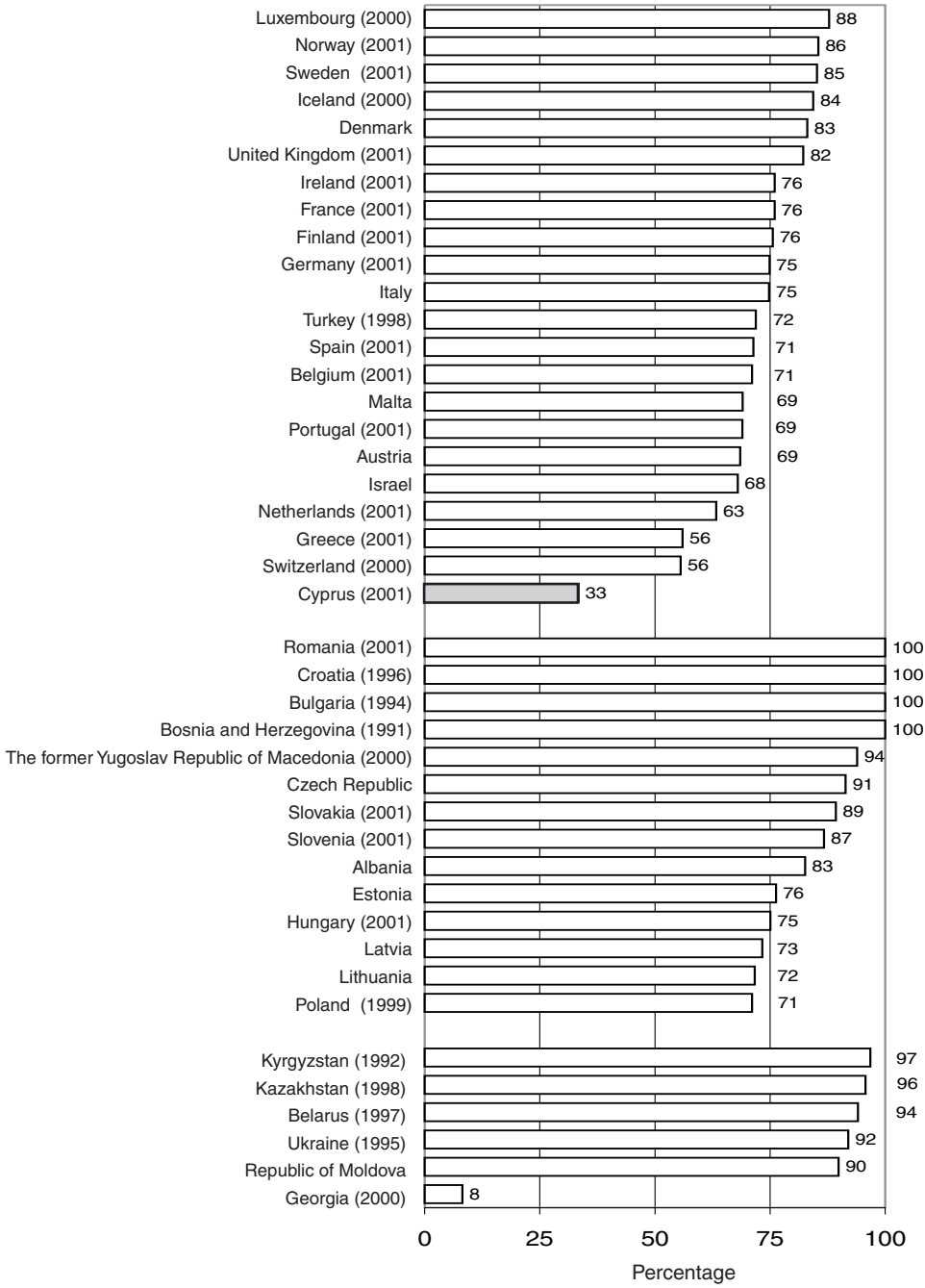
Table 12. Public expenditure on health services (in € million, 1999–2001, current prices)

Year	1999	2000	2001
Government expenditure (excl. invest and laboratory)	157.9	173.6	192.6
% in GNP	1.8%	1.8%	1.9%
(1) Medical and public health services	99.5	112.4	121.6
(2) Mental health services	14.2	14.9	15.1
(3) Dental services	2.4	2.8	2.8
(4) Pharmaceutical services	41.8	43.5	53.1

Source: Ministry of Health, 2002.

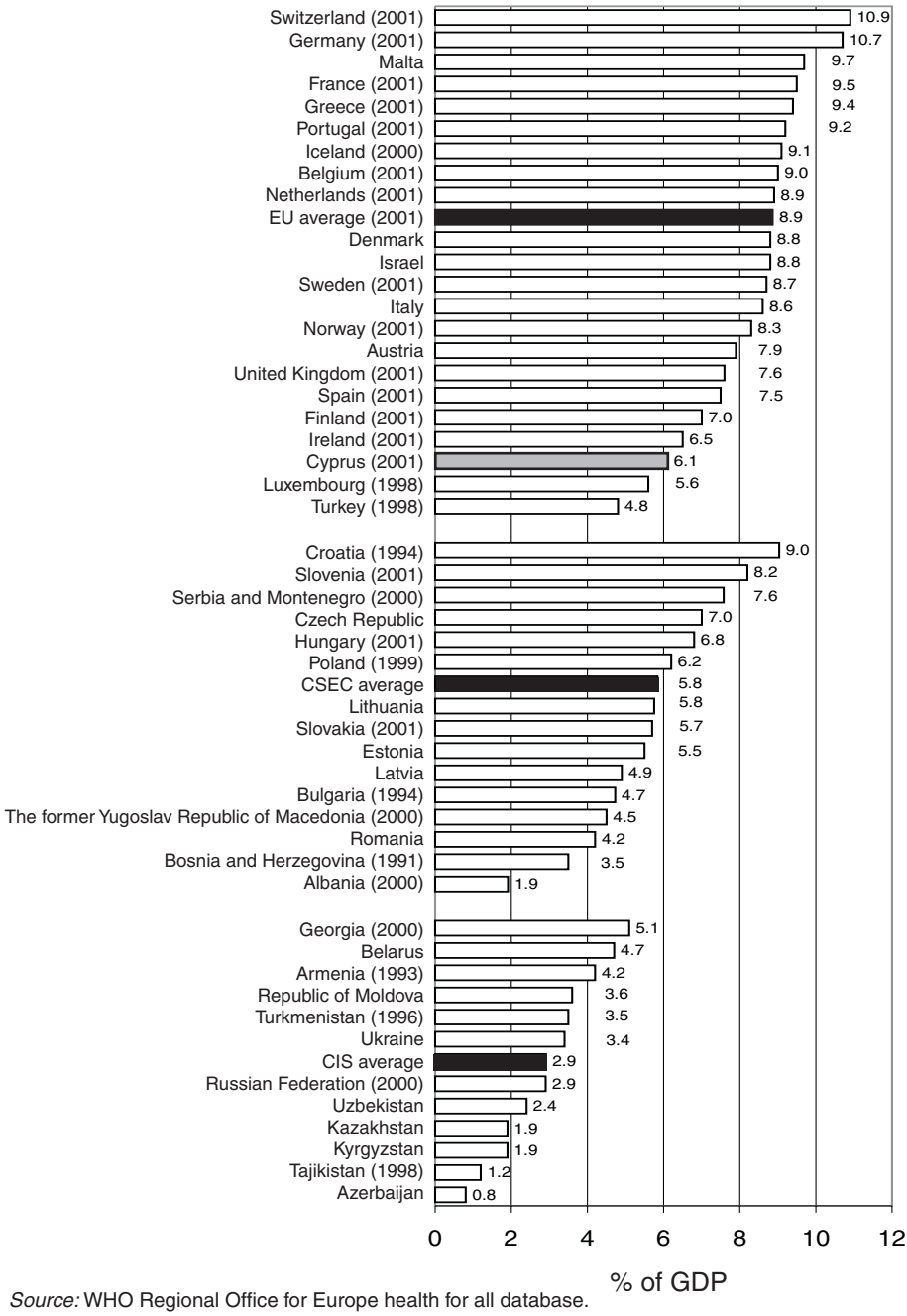
Note: These figures do not include the salaries of outposted staff (ie. Ministry of Finance staff working in Ministry of Health hospitals, mainly as administrative and clerical staff) and the cost of pensions for all former employees.

Fig. 12. Health care expenditure from public sources as percentage of total health care expenditure in countries in the WHO European Region, 2002 or latest available year (in parentheses)



Source: WHO Regional Office for Europe health for all database.

Fig. 13. Total expenditure on health as % of GDP in the WHO European Region, 2002 or latest available year (in parentheses)



Source: WHO Regional Office for Europe health for all database.

Note: CIS: Commonwealth of independent states; CSEC: Central and south-eastern European countries; EU: European Union.

Health care delivery system

Public health services

Doctors specializing in community medicine and hygiene, the Ministry's Department for Public Health and Medical Services as well as the Agency for the Protection of Mother and Child are primarily responsible for organizing and delivering preventive and health promotion services to the population. Some of these services are delivered on a regular basis, as part of an examination by a specialist (e.g. the Pap test, delivered as part of a gynaecological examination) while others are offered on an ad hoc basis as part of various promotional and educational activities. Ad hoc preventive health tests (e.g. blood pressure tests and blood sample analyses) offered to both inpatients and outpatients in public hospitals are an important part of delivering preventive services to the population. The Ministry of Agriculture also plays a role in public health in Cyprus, for instance regulating pesticides, food safety and other environmental health issues.

Immunization services

The Ministry of Health determines the child immunization policy in line with WHO guidelines (EPI – Expanded Programme on Immunization). The WHO EPI is further customized to the specific epidemiological situation of the country, the levels of sanitation and the socioeconomic level of the population.

Immunizations are performed by health visitors under the guidance of the 40 public health physicians and paediatricians in the maternal and child health centres (23% of total number of immunizations performed) and by paediatricians working in the private sector (77%). High immunization coverage has led to the eradication of neonatal tetanus and diphtheria. It has also led to almost complete

eradication of poliomyelitis. Significant improvements have been achieved in the notification of EPI target diseases and the effective management of sporadic cases and restricted outbreaks, through improved cooperation with the Paediatric Association and paediatricians working in the private sector.

In order to assess EPI's performance and improve its effectiveness, every three years the Ministry conducts a survey aimed at measuring immunization coverage among children aged 18–29 months. The latest of these surveys was conducted in 2000 across a sample of 236 children. The results are summarized in Table 13, results from surveys conducted over the past decade (1997, 1994 and 1991) (Ministry of Health, Annual Report 2001) are also reported for comparison.

Table 13. Immunization coverage, 1991–2000

Survey year	Coverage %									
	DTP1	DTP2	DTP3	OPV1	OPV2	OPV3	MMR	HBV1	HBV2	HBV3
2000 (N=236)	99.6	99.2	97.5	99.2	98.7	97.5	84.7	94.9	93.6	89.0
1997 (N=218)	99.5	99.1	97.7	99.5	99.1	97.7	89.9	90.8	9038	88.1
1994 (N=214)	98.6	97.7	96.3	97.7	97.7	96.3	83.2	75.2	72.4	68.2
1991 (N=212)	99.5	99.1	97.6	99.1	98.1	95.8	83.0	28.1	26.9	20.3

Source: Ministry of Health, Annual Report, 2001.

Notes: DTP: diphtheria-tetanus-petussis vaccine, OPV: oral polio vaccine, MMR: measles, mumps and rubella, HBV: hepatitis B vaccine.

Nutrition and food safety

The application of sound nutritional rules is a prerequisite for enjoying good health, as bad nutritional habits have been directly linked to serious noncommunicable diseases such as cardiovascular diseases and various types of cancer. Data from recent surveys (see section on *Health status*) confirmed high obesity rates for both males and females in Cyprus as well as significant deviations from the typically healthy and balanced Mediterranean diet of increased vegetable, fruit and fibre intake.

Consequently, the Ministry of Health established the National Committee for Nutrition in November 1992. One of the Committee's main tasks is to determine the nutritional state of the average Cypriot and take immediate action towards improving the population's nutritional habits. To this end, it is responsible for

educating the population on nutritional matters, safeguarding the production and distribution of food products and monitoring compliance with state legislation on food safety and quality. In line with this a comprehensive list of controls is performed on food and water samples (see below under General Laboratory).

Care for HIV/AIDS patients

Following the recommendations of WHO, changes have been introduced in various fields in order to conform to internationally accepted standards for AIDS prevention and health promotion. Cooperation with nongovernmental organizations (NGOs) that play some role in managing (social and clinical support) and controlling (health education) HIV/AIDS has been strengthened. This close collaboration is reflected in the pilot peer education programmes developed together with the Girl Guides Association, Scout Association of Cyprus, SEK Trade Union, two secondary schools, Cyprus Family Planning Association, Youth Secretariat, youth centres, Cyprus Broadcasting Corporation and other NGOs. Arrangements have been made for the funding of relevant activities through the budget allocated by WHO to the National AIDS Programme. A restructuring of the health education programme was aimed mainly at encouraging behavioural change rather than merely providing information on the pandemic.

All HIV/AIDS patients are treated free of charge in the public sector. The government covers the treatment cost for a small number of patients who choose to be treated privately. Services offered to AIDS patients and HIV positive people include:

- ad hoc treatment of various diseases
- antiretroviral treatment
- consultations
- diagnostic laboratory tests
- follow-up tests for ongoing monitoring of the condition and for measuring medication effectiveness
- psychosocial support.

AIDS patients and HIV positive people also receive an annual bonus at Christmas through the AIDS fund of the Ministry of Health. The Social Insurance Service, in cooperation with the counselling service of Archbishop Macarios III Hospital, evaluates this according to need.

The Archbishop Macarios III Hospital in Nicosia operates a special AIDS and Hepatitis Centre where anyone can be tested for the virus free of charge.

The Centre also operates a consultation telephone line from 7.30 am to 10.00 pm offering counselling services, including social and psychological support, to patients and their carers.

The safety of blood has been ensured from the first stages of the epidemic through the introduction of universal screening of donated blood and by training blood donors to avoid giving blood if they believe they may be in the window period. Blood donation is entirely voluntary, replacement donation has stopped and all donations are made through the public blood banks.

Perinatal transmission is still rare in Cyprus. Preventive measures are implemented through health education about the implications of HIV infection in women of childbearing age and through the general measures regarding sexual transmission. In addition, all pregnant women examined in the public sector – and most of those examined in the private – are tested for HIV, with the aim of detecting cases early and managing them effectively.

Moreover, an array of health education programmes, including seminars, presentations and pilot educational and promotional programmes are targeted at increasing awareness of risk factors; changing behaviours towards sexual intercourse and promoting safe sex; limiting social exclusion of patients; and publicizing the adverse effects of the disease on an individual's personal and social life as well as the socioeconomic burden on the country. Such programmes are targeted primarily at the young population and other specified groups (foreign bar girls, Police Academy staff, army recruits, parents' committees etc). Combined actions by the Ministry of Education, the legal service and social services are also undertaken with the aim of minimizing discriminatory behaviour towards patients or infected people, especially in the workplace, during health care delivery and in schools.

The HIV epidemiological situation in Cyprus is monitored routinely through regular reporting of cases diagnosed in the public and private sectors to the relevant service located in the Ministry of Health. Data are collected from people who report voluntarily to the testing centre, patients tested for diagnostic purposes, pregnant women, foreign visitors requesting certificates for work or study and blood donors. This information is recorded and compiled and regular bulletins and reports are published. The data collection system was upgraded in 1995 with the introduction of a computerized software programme using the EPI INFO statistical package. There is an ongoing process for the improvement of the quality and amount of statistical information collected on HIV positive people in Cyprus. The full implementation of the relevant interventions is restricted primarily because of limited availability of the appropriate human resources.

In addition to the case-finding epidemiological reporting system, anonymous sentinel surveillance has been performed since 1992 among STD patients (a high risk group) attending the dermatology clinic at Nicosia General Hospital.

Health promotion and education

Health promotion and education yield lifelong benefit for the health of the population. Awareness of the health risks associated with unhealthy lifestyles is growing amongst the population in Cyprus. This is partly the result of government policies and practices and partly the result of the diffusion of information at schools and other settings and via the media.

Since 1994, Cyprus has been a member of the European Network of Health Promoting Schools. Each participating school has a health team composed of the school principal, two teachers, student representatives, health visitors and community representatives. The school health teams work together to develop a plan to promote a healthier environment and health promotion activities. Health education for older adults is provided through adult education centres organized and run by the Ministry of Education and Culture. The government also develops education policies concerning important health issues such as ageing, maternity and childcare, nutrition, and alcohol abuse.

Health education programmes include the introduction of health education into the curriculum as well as providing individual guidance for students and/or their families. Common subjects for health education include: understanding the human body, oral health, nutrition, food contamination, smoking, accidents, personal hygiene, protection from the sun, AIDS and hepatitis, illegal drugs and sexual education. For each module a liaison officer is appointed at the Ministry of Health to be responsible for planning and coordinating all necessary preliminary activities such as: training health personnel, preparing educational material and organizing mass media communications (TV and radio).

In 2001, the Educational Programme Against Smoking was implemented in 24 high schools by 344 trainers. They instructed 4626 students on the adverse effects of active and passive smoking. In addition, the AIDS Educational Programme was implemented in 10 high schools by 176 trainers who addressed 2853 students.

Health promotion is an essential element of public health in Cyprus. Actions concerning health promotion include:

- data collection and research (e.g. the cancer register, participation in the Interhealth project for the study of risk factors contributing to the development of cardiovascular diseases);

- information and health education (campaigns to raise awareness of smoking, cancer, heart disease, etc; participation in the European Network of Health Promoting Schools programme; training courses for doctors, nurses, teachers and parents; production of health education materials; introduction of health education into the school curriculum);
- early detection and screening (mass screening for cervical cancer; screening school children for chronic diseases; mandatory national thalassaemia screening; screening pregnant women for the detection of chromosomal abnormalities).

Maternal and child health / family planning

Maternal and child health services are offered free of charge to all Cypriots through a network of maternal and child health centres which operate via primary health centres and hospital outpatient departments. In 2001, 31 maternal and child health centres were fully operational, of which 8 were in urban and 23 in rural areas. Centres offer diagnostic tests to infants up to the age of 6, immunization services and eye tests, as well as counselling and consultation services to pregnant women and new mothers.

Antenatal clinics operate in both the public and the private sector, where trained personnel attend pregnant women and deliveries. In 1995, approximately 72% of all deliveries were performed in private maternity clinics and 28% in public maternity clinics.

Meanwhile, since 1996, mothercraft and relaxation classes have become available all over Cyprus throughout the year. The Ministry of Health also recently formed a central committee responsible for educating new mothers and promoting breast-feeding.

Sustaining the environment to safeguard quality of life

The Ministry of Health; Ministry of Agriculture, Natural Resources and Environment; and the Ministry of Labour and Social Insurance jointly are responsible for environmental health. Their responsibilities include:

- monitoring pollution levels
- diagnosing, treating and controlling animal diseases
- monitoring the level of environmental pollution of drinking water supplies from pesticides and other micro pollutants
- monitoring veterinary drug residues in meat and animal products
- monitoring radioactivity in drinking water and food.

Jointly they have taken action to improve the existing legislation relevant to protection of the environment. Furthermore, all households in Cyprus are guaranteed access to safe drinking water and efforts have been made to improve the quality of drinking water in accordance with EU regulations. Finally, almost 100% of the population have adequate sewage-disposal facilities.

Industrial pollution control

Industrial pollution control is realized, inter alia, through the enforcement of the laws on control of pollution of the atmosphere and of the waters which have been fully operational since 1993. Within this context the Action Plan for the Environment, approved by the Council of Ministers in 1990, was implemented by enforcement of the above legislation. Through the licensing procedure established by these laws, applications from various factories that discharge liquid and/or gaseous effluents were examined and the conditions for the discharges set out in the permits issued. Specifically, discharge permits were granted to most of the factories that opted to discharge their effluents to the recently constructed Vathia Gonia central treatment station for industrial and municipal wastewaters. For this, and for inspection purposes, the environmental pollution inspectors carried out a number of measurements of industrial effluents.

The Ministerial Committee for Industrial Pollution Control is informed regularly on progress towards the implementation of the action plan and the enforcement of legislation.

A project funded by the LIFE-Third Countries programme of the European Union on industrial pollution control is in progress. The Ministry of Labour and Social Insurance is carrying out this project on behalf of the government of Cyprus and in close cooperation with the National Technical University of Athens (Cyprus Press and Information Office, via the internet). The main aims of the project are to:

- establish integrated systems for the control of chemical substances, industrial emissions and emissions of volatile organic compounds;
- develop tools related to best available techniques for the implementation of EU Directive for Integrated Pollution Prevention and Control (IPPC);
- draft the legislation necessary for industrial pollution control so as to be in line with the European acquis;
- formulate a plan for continuous integrated monitoring.

Three fully equipped mobile units carry out ambient air quality measurements for the monitoring and control of air pollution in Nicosia. Another mobile unit

for measuring background levels for the purpose of monitoring trans-boundary air pollution has been in operation since October 1996. The latter measurements are carried out within the framework of the European Monitoring and Evaluation Programme (EMEP).

From continuous measurements of the most significant ambient air pollutants at different places in Nicosia, it was concluded that pollution in these areas is within the quality objectives of Cyprus and below the limits set in the EC Directives and other international standards (Press and Information Office, www.pio.gov.cy).

Cyprus Safety and Health Association (CySHA)

The Cyprus Safety and Health Association was founded in Nicosia in September 1991. According to its constitution its purpose is to: "contribute towards the efforts for protection and promotion of safety and health at work and to the prevention of risks concerning the public in general". To date it has organized educational conferences and seminars on occupational safety, health in the workplace and work-related mental disorders.

The General Laboratory

The General Laboratory is the major and oldest institution in the fields of chemistry and microbiology. It is responsible for performing controls on food and water samples; pharmaceuticals and illegal drugs; industrial supplies; and environmental pollution samples. Through these controls, the General Laboratory contributes extensively to the implementation of environmental laws and regulations and the sustained development of the agricultural, industrial and commercial sectors of the economy.

Its responsibilities cover:

- food and pharmaceutical products
- water supply
- environmental pollution
- forensic evidence
- illegal drugs
- food poisoning
- industrial supplies
- tenders for national supplies (army, navy, etc.)

- agricultural and industrial exports
- goods retained by Customs.

Within the scope of its responsibilities, the General Laboratory works closely with most ministries, municipalities and organizations and offers services to individuals on a fee-for-service basis. It is represented on the Boards for Food, Medicines and Poisons; Agricultural Products; and Milk Products and participates in 35 technical committees, including the National Nutrition Committee and the National Committee for Combating Cancer.

Programmes

In order to realize specific targets the General Laboratory has developed the following programmes.

- **Quality assurance programme** – efforts have concentrated on the immediate expansion of space; acceleration of necessary improvements in currently occupied buildings; quantitative increase and qualitative improvement in human resources; and enforcement of cooperation agreements established with the General Laboratory of Greece, the National Meteorology Centre of Greece and laboratories in other European countries.
- **Accreditation** – the General Laboratory has applied to the National Accreditation Board of Greece for its 11 laboratories to be accredited on the performance of 22 procedures. This was partly initiated by the participation of the General Laboratory in the European Network of Official Medicines Control Laboratories.
- **Design and implementation of control programmes** – the General Laboratory is responsible for the application of the national programme for the control of (a) product compliance with laws and regulations and (b) compliance of applied research towards prevention and /or amendment of outstanding issues and consultations to promote governmental policy.
- **Infrastructure and continuing education** – there has been continual upgrading of the existing infrastructure and professional development programmes for the Laboratory's employees both in Cyprus and abroad on (a) new techniques, technologies and software support (b) implementation of European Union protocols (c) participation in European research programmes, etc.
- **International cooperation –** these activities include ongoing cooperation with European research organizations and institutes, applications for EU funding of research programmes and the evaluation of EU research programmes by the Laboratory's employees.

General Laboratory organization

The General Laboratory is divided into six departments (sectors), which further comprise 18 laboratories as well as units for quality assurance, informatics, data management, finance, its secretariat and warehousing. In 2001, 29% of the organization's staff were chemists and microbiologists, 37% laboratory technicians, 5% secretariat and the remaining 29% other staff members (Ministry of Health, Annual Report 2001). The departments and laboratories are presented in detail in Table 14.

Table 14. General Laboratory, by sector and laboratory, 2001

Sector	Laboratory	Main responsibilities
A	Composition, quality and nutritional value of food products	Examines the quality, composition and nutritional value of food products. In 2001, 619 food samples were analysed (down 64.5 % from 1744 in 2000).
	Analysis of water samples	Examines the quality of tap water as well as bottled water and water samples from rivers and dams. In 2001, 1595 samples were analysed (up 5.6 % from 1510 in 2000).
B	Forensic Chemistry and Toxicology	Examines samples that will be used as police evidence of crimes.
	Pharmaceutical and cosmetic products	Examines and ensures the quality of pharmaceutical products and cosmetics that are distributed through pharmacies in Cyprus. Of the 821 samples submitted in 2001, 193 were submitted by the ministry's Pharmaceutical Services and 17 by Cypriot industries for purposes of authorization. 1672 tests were performed on these 821 samples (down 56.6% from 3856 tests on 1213 samples in 2000).
	Veterinary products	Examines the effects of the residual of various veterinary products on humans to ensure public health standards are maintained.
C	Environmental chemistry and ecotoxicology	Examines the levels of environmental pollution in running waters as well as any incidence of agricultural or industrial pollution of these waters. In 2001, 104 samples were analysed.
	Chemical residues and pesticides	Examines the levels and the effects of any residual on food products. Analysed 427 samples in 2001.
	Radioactivity	Examines the levels of radioactivity in samples of food products and water. Analysed 29 samples in 2001.
D	Environmental chemistry and sewage control	Examines samples of air (from closed or open spaces), soil, rain and sea water.
	Materials in proximity to food products and children's toys	Examines the chemical safety of materials and objects that are produced in close proximity to, or used in the production of children's toys or food products.
	Textiles	Not operational in 2001.
	Tariffs for Industrial products	Examines the composition of detergents and other cleaning materials etc. 272 samples were analysed in 2001.

E	Additives and special food product analyses	Examines presence of additives in foods to determine their quality. In 2001, 325 samples were analysed. 40% of these analyses were for purposes of quality control and methodology validation in line with the accreditation procedures.
	Environmental protection	Examines the presence of toxic and carcinogenic substances in food products, either through environmental pollution or though the metabolism of fungi. In 2001, 668 samples were analysed on 1537 parameters.
F	Microbiological control on water	Examines all categories of water, primarily in order to prevent public health hazards transmitted through water and to ensure clean and sanitary water to households. In 2001, 10 870 samples were analysed (down 21.4 % from 13 825 in 2000).
	Control on pharmaceutical products	27 samples of pharmaceutical products were analysed.
	Microbiological control on oil and gasoline	Examines samples of oil and gasoline intended for use by the National Guard.
	Microbiological control on food products	Examines, through microbiological controls, the quality and safety of all food products, in order to promote both good manufacturing practice in production and ensure the distribution of safe products to the consumer. 32.8% of the samples analysed in 2001 were milk and milk product samples, 11.2% were sandwich samples, 10.7 % confectionery samples and 7.8% ready meals. 85% of the samples analysed were found suitable for circulation, while 6.7% were found unsuitable.
	Preparation and sterilization of materials	Prepares materials required for the sampling and the microbiological analyses of samples collected.
	Environmental virology	Examines the presence of viruses in various water samples.

Source: Ministry of Health, 2001.

Cyprus Medical Libraries Project

Through funding from the Middle East Cancer Consortium and a partnership with the Spencer S. Eccles Health Sciences Library at the University of Utah, Cyprus medical libraries now have access to an electronic document delivery system and a database of Cypriot cancer and health literature. A web site has been established to provide easy access to these services: http://medlib.med.utah.edu/cyprus/.

1) Document delivery service

The United States' National Library of Medicine provides Internet access to more than ten million citations in MEDLINE and Pre-MEDLINE (with links to participating on-line journals) through its PubMed search service. The system includes document delivery service through the Loansome Doc system. A Loansome Doc account has been established for use by Cyprus health sciences libraries and physicians and health professionals at four Cyprus hospitals. The account allows online ordering of articles and document delivery through the Eccles Health Sciences Library at the University of Utah.

(Interlibrary Loan and PubMed Loansome Doc – http://www.ncbi.nlm.nih.gov/PubMed/).

2) Database service

Cypriot medical literature is being indexed and is available for searching over the Internet. The collection includes locally produced journal articles, government documents and proceedings from medical conferences and symposia held on Cyprus. The materials are scanned to PDF in the Eccles Library online catalogue, Horizon, which has a web-based search interface called WebPAC. Hyperlinks in the catalogue records provide direct access to the full text PDF document. Once viewed, the articles or other materials can be printed or saved to disk. This process provides the Cyprus health sciences libraries with electronic records in standard MARC format that can be exported and transferred to a local online catalogue, if they choose to implement such a system in the future.

(Eccles Library web-based catalogue – http://medlib.med.utah.edu/webpac-bin/wgbroker?new+-access+top.eccles).

Future upgrading of public health services

Much remains to be done to ensure current public health services provision is adequately in line with European Union standards. Upgrading public health services involves the creation of a public health laboratory, the establishment of a health-monitoring system and a surveillance network for communicable diseases. The aim of these services is to maintain control of communicable diseases and tackle noncommunicable diseases. The public health laboratory and the surveillance network for communicable diseases would monitor and upgrade the investigation and management of communicable diseases, as well as establishing international collaboration. The existing monitoring and evaluation of the implementation, effectiveness and impact of health services provided that takes place at the central level of the Ministry of Health would certainly be equally upgraded with the creation of a health-monitoring system.

Shortage of appropriate staff to implement such interventions is another major concern that the Ministry needs to tackle in order to ensure that monitoring and surveillance targets are fully met.

Ambulatory health care

At present, there is a dual system of health care delivery in Cyprus: the government-run public system and the private system provided by the private hospitals and physicians. Public primary health care (PHC) is provided at 4 hospital outpatient departments, 7 suburban outpatient departments, 5 urban and 23 rural health centres and 274 sub-centres. It is estimated that no resident in Cyprus is further than 10 miles (straight-line distance) from a health centre, although in some parts (particularly mountainous areas) actual travel distances probably exceed this. These PHC centres are adequately staffed, well-equipped and provide preventive, health promotion and curative services as well as 24-hour on call services. Table 15 presents the total number of the workforce employed in public PHC centres across the country by district, together with the total number of visits paid in 2000 and 2001.

The reduction in the number of visits over the past year, as presented in Table 15, can be attributed to a shift towards services offered by the private sector. Equally, attendance at public sector maternal and child health centres has dropped significantly due to a preference for gynaecological and paediatric services in the private sector. Furthermore, the change in visits from 2001 to 2002 can be explained partly on the basis of the more restrictive regulations introduced in 2002 regarding access to primary health care and the co-payment of €1 per visit. These regulations were abolished the same year. As shown in Table 15, there was a growth in total visits in 2002; however only Limassol surpassed its 2000 level, visits in Nicosia, Paphos and Ammochostos experienced a slight decline.

Table 15. Public ambulatory care workforce and number of visits

District	Physicians	Nurses	Visits 2000	Visits 2001	% change in visits	Visits 2002	% change in visits
Nicosia	46	37	303 953	277 398	–8.74	275 400	–0.72
Limassol	30	11	199 652	174 579	–12.56	209 783	20.17
Larnaca	15	8	100 473	86 885	–13.52	93 134	7.19
Paphos	15	6	111 663	92 328	–17.32	89 607	–2.95
Ammochostos	10	3	48 012	47 005	-2.10	46 438	–1.21
Total	116	65	763 753	678 195	–11.20	714 362	5.33

Source: Ministry of Health, Annual Report, 2002.

General hospitals (with the exception of Nicosia General Hospital) offer only specialist outpatient primary care. Treatment of common diseases and injuries is available to practically all Cypriots. Almost all citizens have access to primary health care and all casualty departments of the main hospitals. The outpatient system has recently been expanded to include community mental health care services: providing basic outpatient medical, diagnostic and pharmaceutical services.

In 2001, the number of outpatient visits in the four public general hospitals was 871 739 (discharged cases). Over the next six years this rose steadily to 1 271 178 (discharged cases) in 2001, an increase of 45.8%. Among the outpatient visits in 2001, approximately one third (27.8%) were visits to ENT specialists and another 27.3% were visits to physicians in general medicine.

User satisfaction with services offered in the outpatient departments of the general hospitals was analysed in the 1997 and 2003 Harvard Reports on the costs of the NHIS (Hsiao and Jakab, 1997, 2003). As shown in Table 16, on a scale of 1 (very poor) to 10 (excellent), the outpatient departments fared extremely well in all categories in 1996 and 2002, except in the ability to choose the doctor. For example, the overall impression of the quality of outpatient care received was 8.92 (1996) and 8.5 (2002) for the public sector, slightly higher for the private sector: 9.52 (1996) and 9.4 (2002). The greatest variation between the private and public sectors appeared in patients' ability to choose providers: in the private sector the rating was 9.74 in 1996 and 9.7 in 2002, compared to 7.69 (1996) and 7.4 (2002) in the public sector. Other areas where there is a gap between the public and private sectors include the amount of time doctors spend with their patients and the explanations provided by them. Overall, quality ratings declined significantly for both sectors between 1996 and 2002; however, the decline was more pronounced in the public sector.

A recent survey of 8375 Cypriots found that the majority of individuals had private personal doctors, except for those in the lowest income group, as shown in Fig. 14 (Ministry of Health, 2002). Also, the choice of a private doctor is related to age: younger individuals are more likely to have consulted a private doctor in the past month; in the 50–64 age group visits are divided almost equally between the two sectors; and almost 70% of the over-64s visited public doctors, as shown in Fig. 15. These findings are consistent with the public opinions revealed by Hsiao and Jakab (2003) where the more severe the health condition, the more likely patients are to choose the public sector. For instance, the proportion of respondents who would always go to the public sector for serious surgery exceeds 40% for serious inpatient surgery. However, for more minor complaints, and personal doctors, the private sector is favoured over the public.

Table 16. Quality ratings of outpatient care in 1996 and 2002

	1996		2002	
	Public sector	Private sector	Public sector	Private sector
Perceptions of clinical quality				
The outcome of medical services	9.04	9.37	8.55	9.20
The ability of the doctor to give you the correct diagnosis and treatment	9.21	9.45	8.90	9.40
Perceptions of inter-personal aspects of care including doctor-patient communication and choice				
Doctor explained your medical problem, tests and procedures	8.73	9.54	8.50	9.50
Courtesy and helpfulness of your doctor	8.80	9.57	8.70	9.50
The amount of time the doctor spends with you	8.62	9.42	8.30	9.30
The ability to choose your doctor	7.69	9.74	7.40	9.70
Other				
Cleanliness and comfort of the waiting and consultation areas	9.08	9.55	8.80	9.60
Your overall impression	8.92	9.52	8.50	9.40

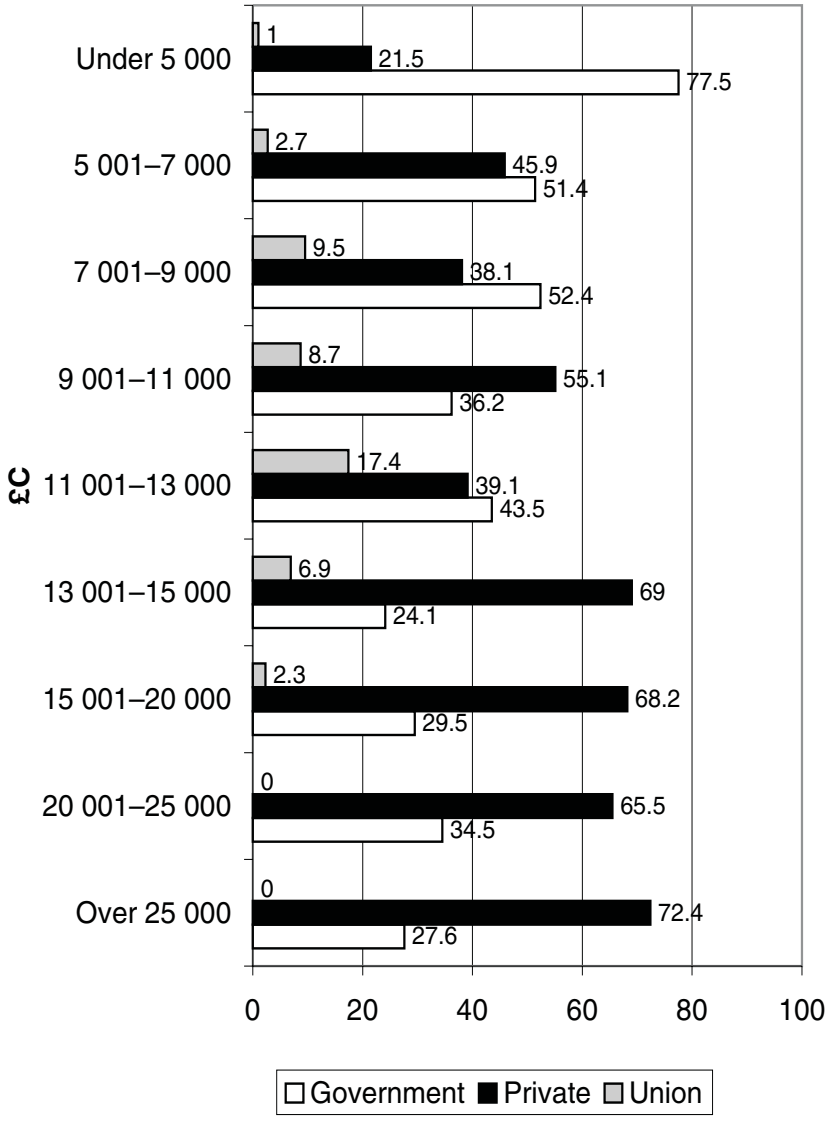
Source: Hsaio and Jakab, 2003.

Ambulatory physicians in both public and private sectors offer almost all specialties, the highest numbers of whom are registered general practitioners (296), general physicians (240), paediatricians (230), endocrinologists (150) and cardiologists (66) (see Fig. 16).

Private health services are dominated by practising physicians and dentists who offer all types of outpatient services in their own surgeries, mainly in towns or large villages. They are supported by all types of diagnostic and other services provided by private laboratories and pharmacies. Recently a number of private polyclinics have been established in urban areas with a number of physicians offering a range of medical services from outpatient consultation to inpatient surgery. The type of services offered in these polyclinics depends upon the specialization of the physicians working in them. Complicated cases, particularly those requiring special equipment, are referred to the government sector, usually Nicosia General Hospital.

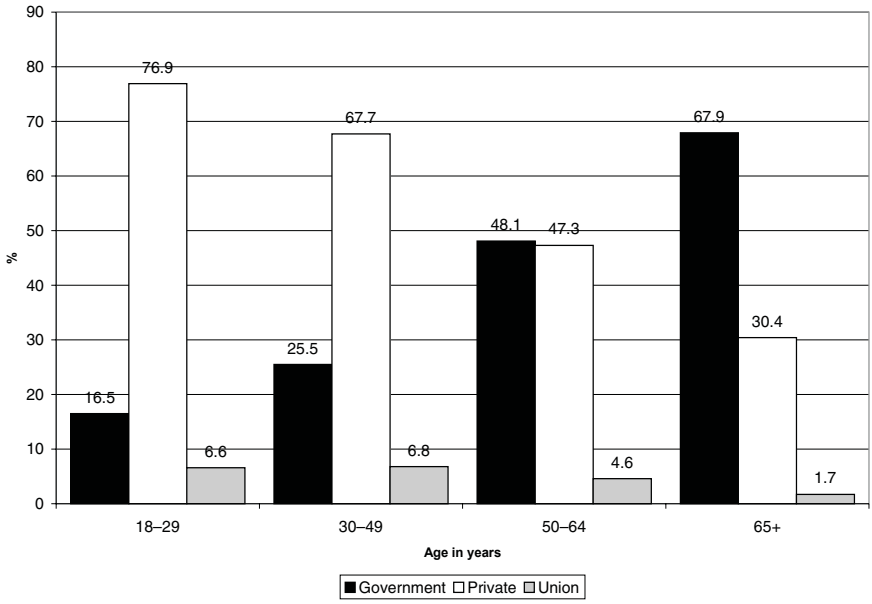
Cyprus has no gatekeeping system at the moment, patients are free to select the practising physician or specialist of their choice. In view of the introduction of the NHIS, steps have been undertaken to train general practitioners (GP) and family physicians. Under the NHIS, every family will be registered with a GP, contracted by the Ministry on a capitation basis, with a uniform pricing policy

Fig. 14. Proportion of individuals visiting a private, government, or union personal doctor by income group (subsample: those who report any utilization)



Source: Ministry of Health, 2002.

Fig. 15. Proportion of heads of households visiting a private, government, or union personal doctor by age group (subsample: those who report any utilization)



Source: Ministry of Health, 2002.

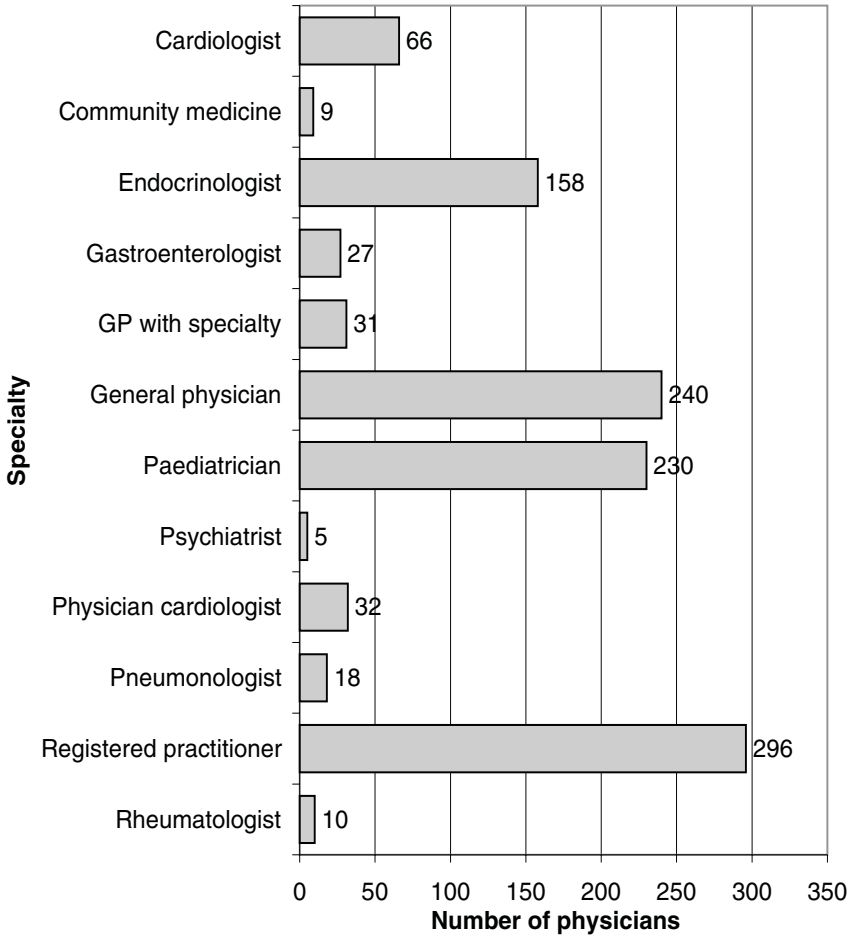
for the public and private sectors. As a result it is expected that, at primary health care level, there will be (i) improvements in the efficiency of health care provision (ii) reduced congestion in casualty departments and treatment of emergency cases and (iii) more effective prevention of diseases at an earlier stage.

Primary dental health

Both public and private sectors provide dental health services. The public sector provides services in 56 dental health clinics and 4 mobile dental units. In 2001, secondary and tertiary dental health services were also offered in the 4 general hospitals (Nicosia, Limassol, Larnaca and Paphos) and 29 urban and rural health centres. Table 17 depicts the country's dental workforce, where dentist refers to all those currently registered as qualified.

In order to register as a dentist, the practitioner must submit a diploma in dental surgery to the Dental Council. This Council is appointed by the Council of Ministers and comprises four dentists from the private sector and three from the governmental sector. Degrees or diplomas from other countries are accepted

Fig. 16. Specialties of ambulatory physicians, 2002



Source: Ministry of Health, 2003.

by the Council of Ministers on referral from the Dental Council. Dentists are required to be either Cypriot citizens or to have acquired citizenship through marriage to a Cypriot national. A thorough knowledge of both Greek and English is also required, together with references. There is a reciprocal agreement with Greece for the mutual exchange of the dental workforce.

The Ministry's Department for Dental Services sets annual dental health targets, among the latest of which are improvement in the quality of dental services offered and emphasis on prevention rather than cure. Specific targets

Table 17. Dental workforce full time equivalents (FTE)

Indicator	1990	2000	% change
Dentists	380	595	56.58
Population/dentist	1 842	1 344	–27.00
Of all dentists			
% men	–	55.4	
% women	–	44.6	
% work in public services	–	6.2	
% work in private practice	–	93.8	
% work in other related occupations	–	4	
Chairside assistants	85	120	41.18
Hygienists	3	3	0
Laboratory technicians	115	250	117.39
Total	583	968	+66.04

Source: FDI World Dental Organization, 2000.

refer to the reduction of DMFT (decayed, missing or filled teeth) in children, 40% increase in the number of children with healthy gums and 10% increase in the number of people visiting a dentist for a check-up.

All low-income earners, government employees, school children and people with special needs are entitled to oral health care in public clinics free of charge. As shown in Table 18, in 2000 70% of all oral health care for children was delivered in the private sector. Also shown in Table 18 is the DMFT index among 12-year-old children, which has decreased from 2.51 in 1990 to 2.16 in 2000, significantly less than the EU-15 average of 2.6 (WHO, 2002).

In close cooperation with private dentists, the ministry has implemented a programme for students aged 11–12 who are examined by dentists working for the Ministry then referred for treatment to the private sector dentist of their choice. The treatment costs are covered by the ministry. In 2001, 10 133 students were examined in all five districts of the island. A recent evaluation of the programme, completed in 2001 by the ministry, revealed that only 25% of the students referred for treatment actually visited the private sector dentist. This may be due partly to parents' insensitivity to dental health, partly to their lack of understanding of the severity of these issues. The Ministry intends to strengthen its dental health educational initiatives in order to ensure greater responsiveness to prevention and treatment programmes.

Table 18. Oral health care provision

Indicator	1990	2000	% change
Of all oral health care for children			
% delivered in public service	–	30	
% delivered in private service	–	70	
Of all oral health care for adults			
% delivered in public service	–	30	
% delivered in private service	–	70	
% work in universities	–	0	
% work in other related occupations	–	4	
% Of oral health care in private practice	–	20	
Carried through within the national health service	–	20	
Supported by private insurance	-	30	
Entirely private care	-	50	
DMFT 12 years old	2.51	2.16	-13.94

Source: FDI World Dental Organization, 2000.

Secondary and tertiary care

Secondary and tertiary health care is provided by the district hospitals and specialist centres (Thalassaemia Centre, Cyprus Institute of Neurology and Genetics). Four district general hospitals (Nicosia, Larnaca, Limassol and Paphos) dominate the public sector. Nicosia General Hospital acts as the overall referral hospital for certain specialties that are not provided elsewhere in the country. There are also three small rural hospitals in relatively isolated areas, with a comprehensive set of services including specialist inpatient services. The public sector also runs a mental health (psychiatric) hospital (Athalassa Hospital) and a specialized hospital for children and women (Archbishop Makarios III Nicosia).

In terms of buildings and infrastructure, there does not seem to be a lack of high quality hospital beds outside of Nicosia. The hospital system has undergone substantial change during the last ten years, new hospitals have been built in Larnaca, Paphos and Limassol. A new hospital for Ammochostos has been planned and is expected to open in late 2004. In addition, the new hospital in Nicosia that is currently under construction will significantly improve the quality of hospital care in both the city and Cyprus. It is expected to be operational in late 2004 and will consist of a main hospital building of 59 000 square metres. The hospital will provide 430 inpatient beds in 18 nursing units for general surgery and medicine, including orthopaedics, cardiology, nephrology, neurosurgery and critical care services, which covers burns, ITU and coronary care. The European Investment Bank is partly funding this project.

The distribution of patient admissions in different hospitals did not change significantly between 1994 and 1999: 40.6% of patients were admitted to hospitals in Nicosia, 28.6% in Limassol, 15.1% in Larnaca and 10.8% in Paphos. Overall, hospitals in Nicosia and Paphos admitted a larger percentage of inpatients compared to their respective district population. Occupancy rates were relatively high in most hospitals ranging from 79.5% in Limassol to 81.8% in Nicosia General Hospital, the only exception being Paphos General's 63.8% occupancy rate.

Table 19 shows the number of beds and admissions for each of the four public general hospitals and one specialized hospital. An increase in admissions was seen overall among the hospitals from 2001 to 2002, particularly in the Nicosia and 'other' hospitals.

In urban areas there are 105 small private clinics offering inpatient services. Although the private sector offers a more limited scope of services, some private clinics have amalgamated to establish highly specialized facilities (e.g. kidney transplantation and open-heart surgery). The government often uses these facilities to treat eligible patients through contracts with the private owners such as the Bank of Cyprus Oncology Hospital and the Institute of Cyprus.

Over the past five years there has been a steady decline in the number of both public and private hospital beds. A census of private hospital beds is performed every five years, the latest in 1999. Fig. 17 depicts the number of hospital beds available in the public and the private sector over the past five years. The observed decline in the total number of public hospital beds reflects the decline in the number of rural hospital beds (621 to 396), the number of urban hospital beds actually increased marginally. Furthermore, the decline in public hospital beds is likely attributable to the dramatic reduction in mental health beds due to deinstitutionalization, specifically an increase in community

Table 19. Number of beds and admissions, public general hospitals, 2001

Hospital	Beds 2001	Admissions 2001	Admissions 2002	% change
Nicosia General	405	11 832	14 934	26.22
Larnaca General	174	10 825	10 006	–7.57
Limassol General	270	15 478	15 920	2.86
Paphos General	133	7 038	6 233	–11.44
Archbishop Makarios III Specialized Hospital	192	10 167	9 185	–9.66
Other	77	957	1 714	79.10
Total	1 251	56 297	57 992	3.01

Source: Ministry of Health, Annual Report 2002.

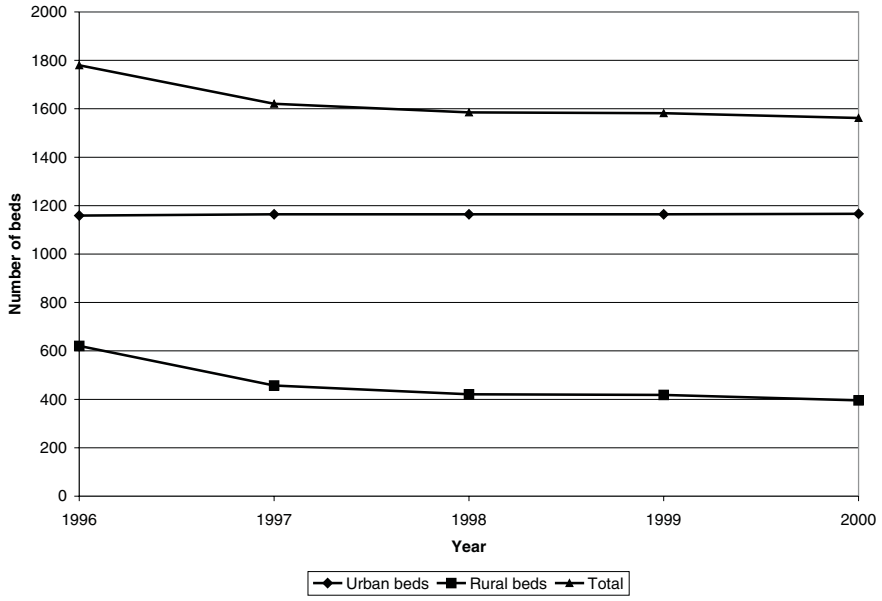
care and closure of psychiatric institutions, as discussed in the section on mental health. Fig. 18 graphically depicts this 1990s event.

Since 1980, the average occupancy rate of public sector hospital beds has fluctuated widely in the area of 73% and 82% as shown in Fig. 19.

Hospital beds per capita vary between the public and the private health care sector. In 1995, public hospital beds per 1000 population accounted for 43% of the total available beds (see Fig. 22). The private sector maintains a steady share of over 50% of the hospital beds available, although following completion of the new Nicosia General Hospital the public sector share is expected to increase. Fig. 20 shows that while Cyprus is below the EU-15 average for the number of hospital beds per 1000 population, it has more beds per capita than eight EU countries.

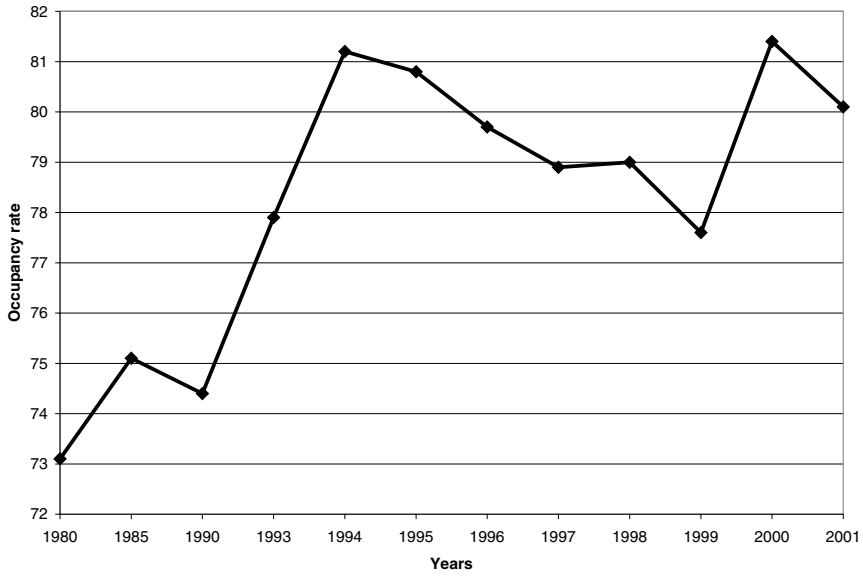
A recent assessment of perceived quality of inpatient care in both public and private sectors (Hsiao and Jakab, 2003) revealed positive overall impressions. As shown in Table 20, overall impressions were slightly more positive in the private than the public sector (similar to outpatient care quality ratings). More specifically, in 1996 and 2002, the public sector was given an average rating (out of 10) of 8.96 and 8.40 respectively, compared to 9.53 (1996) and 9.30 (2002) in the private sector. Again similar to trends in outpatient care, the perceptions

Fig. 17. Number of public and private hospital beds, 1996–2000



Source: Ministry of Health, 2003.

Fig. 18. Bed occupancy rate in public hospitals, 1980–2001



Ministry of Health, 2003.

of quality of inpatient care decreased from 1996 to 2002. It is recognized that waiting time plays an important role in shaping the health care experience. Waiting time for an appointment is much longer in the public sector than in the private (9 days versus less than 1 day). Similarly, public sector patients on average wait about 1 hour to be seen by the doctor, the private sector average is 20 minutes. Finally, public sector physicians spend less time with their patients (19 minutes) than those in the private sector (25 minutes).

The average length of stay in Cyprus in 2001 was 6 days (see Table 21), compared to 6.4 in Sweden, 7.5 in Ireland, 8.5 in Austria, 10.6 in Finland and 13.5 in France (OECD, 2004). In 2001, 31 469 operations were performed in all general hospitals compared with 33 942 in 2000 and 29 164 in 1999, representing a 7.3% decrease and 7.9% increase respectively. Of the total number of operations 65.4% were performed on inpatients, 62.4% were performed in Nicosia's hospitals. It is expected that the new hospital will add to existing capacity, offer better equipment and technology and significantly improved hotel services and amenities.

In 2001 in the public sector, there was a total of 3919 health personnel: 537 physicians (13.7%), 2152 nurses (54.9%), 33 dentists, 71 health visitors, 546 people employed in the school of nursing and 580 paramedical personnel. In

the private sector, approximately 2643 health personnel were employed, of whom almost half were physicians.

In 2001, there was a total of 57 992 admissions to public sector hospitals (as seen in Table 19), 12 035 of whom were admitted to internal medicine departments, 5557 to paediatric clinics.

Table 20. Quality ratings of inpatient care in 1996 and 2002

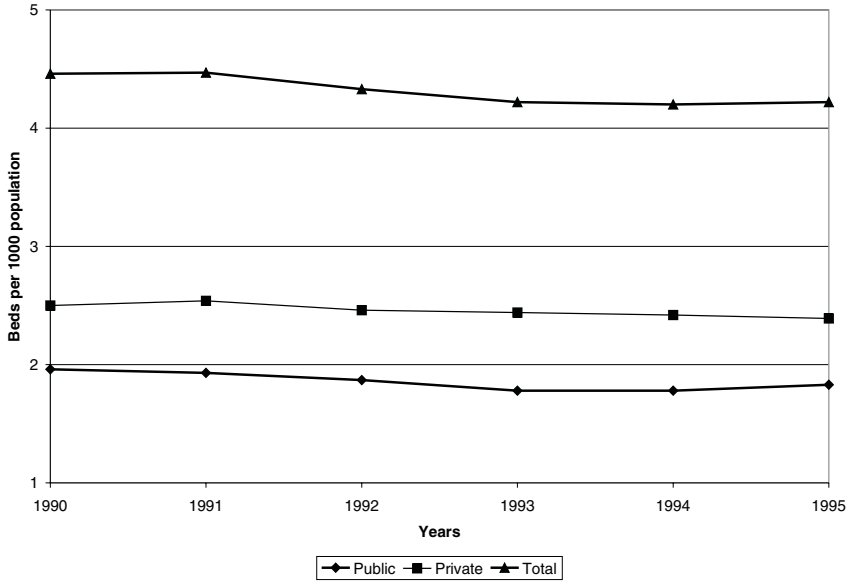
	1996		2002	
	Public sector	Private sector	Public sector	Private sector
Perceptions of clinical quality				
The outcome of medical services	9.18	9.49	8.80	9.30
The ability of the doctor to give you the correct diagnosis and treatment	9.29	9.48	8.90	9.40
Perceptions of interpersonal aspects of care including doctor-patient communication and choice				
Courtesy and helpfulness of your doctor	9.00	9.52	8.70	9.30
The ability to choose your doctor	7.55	9.82	7.10	9.60
Other				
Cleanliness and comfort of the waiting and consultation areas	9.10	9.63	8.70	9.50
The availability of up-to-date medical equipment	9.52	9.34	9.00	9.20
Your overall impression	8.96	9.53	8.40	9.30

Source: Hsiao and Jakab, 2003.

There is also significant activity in the private hospital sector. Although there are no comprehensive statistics available to show the growth of development in this sector, according to informal estimates there has been significant growth, particularly within the fields of surgery, cancer care and cardiology. This growth is expected to continue and will also contribute to a reduction in the flow of patients to other countries.

The Bank of Cyprus Oncology Centre, an autonomous not-for-profit foundation that provides non-surgical oncology services, became operational in September 1998. The Centre's main medical equipment comprises two linear accelerators, a CT scan and a gamma camera. There are 40 inpatient beds (32 in use) and 12 chemotherapy day care beds. It employs ten radiation and medical oncologists, 18 medical specialists and 49 nurses. It offers treatment (radiotherapy and chemotherapy), rehabilitation and continuing care (psychological and social support, home care delivery and palliative care), clinical cancer research and cancer control activities (educational courses) (International Union Against

Fig. 19. Number of beds per 1000 population, 1990–1995



Ministry of Health, 2003.

Table 21. Average length of stay in general public hospitals

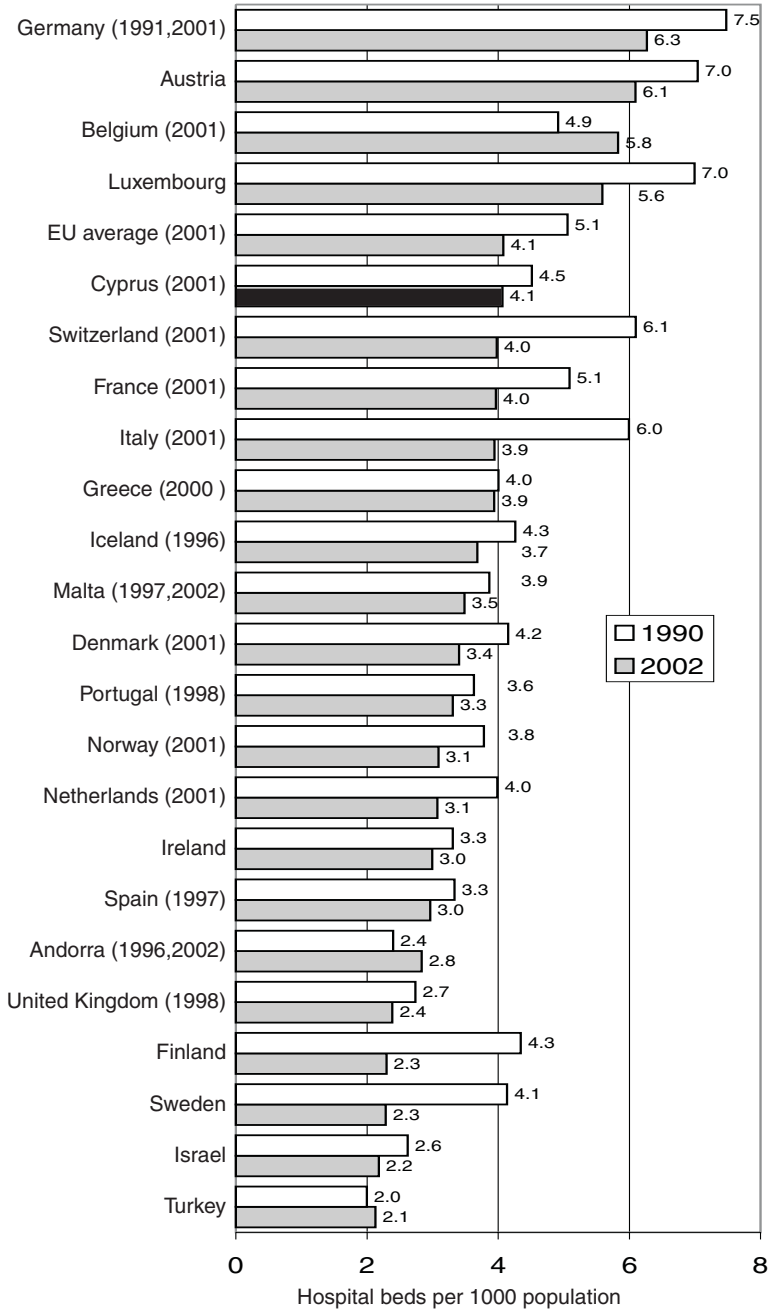
Year	Length of stay	% change
1996	6.2	
1998	6.0	–3.23%
1999	5.8	–3.33%
2000	5.9	1.72%
2001	6.0	1.70%

Source: Statistical Service, 2001.

Cancer). The Government funds operating costs through an annual block grant, the Ministry of Health supplies pharmaceuticals and the Bank of Cyprus funds equipment replacement and new capital expenditure.

Non-surgical oncology services are also provided by Nicosia General Hospital's oncology department that employs four radiation oncologists. A cobalt machine continued to provide radiotherapy until the fall of 2002. Chemotherapy is also undertaken in the private sector where all Cypriot patients, irrespective of income, are entitled to free chemotherapeutic agents supplied from the Ministry of Health.

Fig. 20. Hospital beds in acute hospitals per 1000 population in selected countries, 1990 and 2002 or latest available year (in parentheses)



Source: WHO Regional Office for Europe health for all database.
EU: European Union.

Emergency care

The Emergency Care Unit owns and is responsible for the timely dispatch of ambulances. It aims to offer emergency pre-hospital care, free of charge, to all citizens suffering from an unexpected condition anywhere on the island. The unit's primary concerns include the provision of first aid to patients, immediate alleviation of their condition and safe transportation to the nearest available hospital.

The Ministry's Medical Services Department owns 50 ambulances that respond to emergency calls and 2 specially equipped ambulances: one for the transportation of newborns to and from "Archbishop Macarios III", the other for the transportation of paraplegic people. Nicosia General Hospital owns an emergency rescue vehicle. Ambulances are parked outside the 8 accident and emergency units within the hospitals' premises, in 2 car stations outside the hospitals' premises and in front of 11 rural health centres. Hospital ambulances are operated by 69 ambulance drivers who are state employees, whereas rural health centres' ambulances are operated by local volunteers.

Social care

Historical background

Social welfare policy was introduced in Cyprus in 1946, when legislation was enacted to regulate the supervision of juvenile offenders, aftercare of reform school boys and protection of deprived children. After independence, social welfare became the responsibility of the Department of Social Welfare Services under the Ministry of Labour and Social Insurance. The government committed itself to an active role in social policy when it stated in 1967 that "it recognizes that health, education and other social considerations affect and interact with a vast array of variables which determine both the social and economic welfare of the island".

By the 1970s, social welfare had evolved into a body of activities designed to enable individuals, family groups and communities to cope with social problems. The importance of an effective social services system has been

apparent in Cyprus since the division of the island in 1974. The uprooting of a third of the population created many social problems and increased vulnerable groups' dependence on the state. Initially, government policy focused on meeting the basic survival requirements of refugees and others through cash grants and aid in kind. Since then, it has moved gradually towards providing long-term housing services; free secondary education; health services and a wage-related social insurance scheme; scholarships and loans to enable needy students to study abroad; infrastructure development such as new schools and hospitals; and various welfare institutions such as homes and centres for the care of the elderly, community welfare centres, children's and youth homes, hostels and day-care centres. In the late 1980s, the state provided five main categories of services: delinquency and social defence; child and family welfare; community work and youth services; social services to other departments; and public assistance.

Current situation

Data from the social welfare services confirm that social problems have increased in numbers and complexity. For example, there is an increase in reports of family violence (45 in 1991, 436 in 2001) and recipients of public assistance (13 095 in 1991, 20 696 in 2001). Although there are no official statistics to indicate the prevalence of drug use in Cyprus, some independent research carried out in the 1990s, as well as current clinical and other data, indicate an increasing trend in drug use in the general population, an increase in the use of opiate (especially heroin) and synthetic drugs (ecstasy), a decrease in the age of initial drug use and an increase in the use of illegal substances within suburban areas.

The population in Cyprus is ageing. Given that Cyprus, like many other countries, has had a longstanding policy of "care in the community" for long-term ill and/or disabled citizens, it is not surprising that there are increasing efforts to ensure the provision of effective community care in a range of public and private settings. Fig. 21 presents population pyramids depicting the expected increase in the ageing population in Cyprus over the next thirty years.

Although intergenerational solidarity remains strong in Cyprus, the above-mentioned social developments have led to the degeneration of family and social networks. As a response to weakening informal care and women's increasing participation in the labour market, new forms of formal care and other family support services have been developed in recent years. The current social trends suggest that there is a need for continuous development and adjustment of measures at all levels of prevention including measures to reconcile work and family life. The government, social partners and civil society are involved in

the development of these measures.

The Ministry of Labour and Social Insurance supervises the official state agencies for the provision and promotion of social welfare services. Social welfare services consist of a central office, six district welfare offices and a sub-office, through which services are provided to every community in the government-controlled areas of Cyprus.

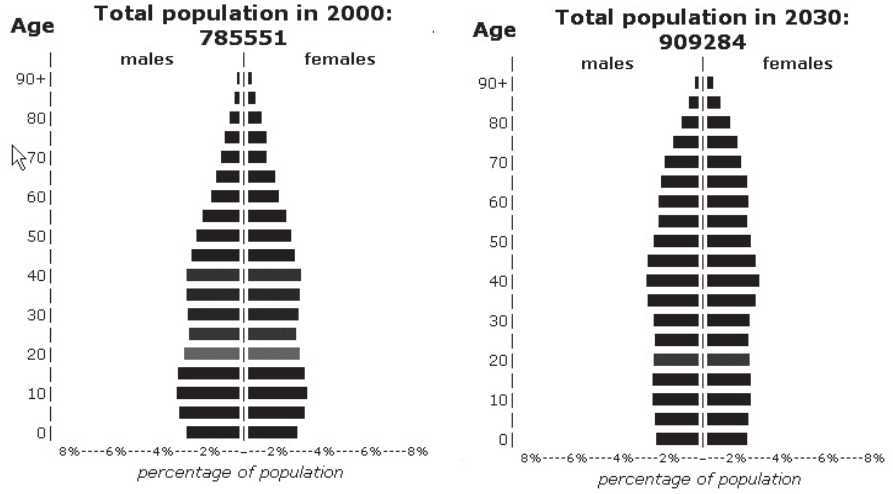
The policies of social welfare services form an integral part of the Government's overall policy for social and economic development. These aim to address social risks and to strengthen social cohesion through the provision of a wide range of services focusing on individuals, families, social groups and communities. Within the sphere of social welfare services, the following specific services are provided aiming at preventing, removing and alleviating personal and family want.

Services offered

1. Public assistance

The right to public assistance is guaranteed by the Public Assistance and Services Law No. 8 of 1991 and its subsequent amendment Law No. 97 (I) of 1994. This legislation not only ensures a socially acceptable minimum standard of living for all persons legally residing in the Republic of Cyprus, but also contains provisions aimed at helping persons on public funds to regain their

Fig. 21. Population pyramids, 2000–2030



Source: UN, 2000.

independence and re-enter mainstream society to realize their full potential. It makes no discrimination on the basis of nationality, race, religion or gender.

Any person whose income and other economic resources are insufficient to cover their basic and special needs, as determined by the law, may apply for public assistance, which may be provided in the form of monetary support and/or services (described below) depending on individual needs. Rates for basic needs are reviewed annually to comply with the rising cost of living. Basic needs include food, essential clothing and footwear, electricity, water supply and items for hygienic living. Special needs may include a rent allowance, medically prescribed diet allowance, disability allowance, home care, day care, residential care, house equipment, house repairs, an allowance for mortgage interest, pocket money, grant for occupational training or the purchase of tools and equipment with a view to making the recipient independent or reducing their dependency on public funds.

Public assistance legislation incorporates employment incentives to encourage social inclusion and gradual independence from public funds. It makes special provisions for persons who are more vulnerable to social exclusion, e.g. people with disabilities, single-parent families, families with four or more children, families at high risk of dissolution. People who fall within these categories may be eligible for public assistance even if they work full-time.

Employment incentives are provided to recipients of public assistance by discounting part of their salary when estimating their monthly public assistance allowance. A greater amount is discounted for persons with disabilities, older persons, single parents and persons with mental illness. Furthermore, the law provides for a subsidy scheme promoting self-employment initiatives for older persons.

2. Advice, counselling, support

Persons who are eligible for public assistance in the form of monetary support receive a monthly allowance through the post but are also visited by welfare officers of the district in which they live. Welfare officers provide advice, counselling and support, according to the individual needs of recipients. Advice and guidance may be provided on matters relating to employment and access to social rights falling within the competence of other government departments or nongovernmental organizations. Counselling may be provided within the framework of preventive services, with a view to enabling individuals and families at risk effectively to exercise their roles and responsibilities and preventing the aggravation of conditions which might lead to family disruption and break-up.

3. Support services

A family support service was introduced in 1991 in the form of a home-help service, which helps families who are eligible for public assistance to develop housekeeping and social skills. This service is provided to families with children who find it difficult to cope with basic responsibilities such as the care and supervision of children, housework and the preparation of meals. The families' particular needs determine the nature and extent of these services, which are provided by governmental caretakers who enable parents to assume gradually their responsibilities in the home.

The provision of adequate child day-care facilities is a major policy issue in relation to the basic goal of fully utilizing human resources and, in particular, increasing women's participation in the labour market. Social welfare services operate 11 state day-care centres, mainly in refugee settlements. Fees are on a sliding scale so that families pay according to their income. There are no fees for children whose parents receive public assistance. In addition, the voluntary sector operates day-care centres for pre-school children and centres for school-age children with the support of social welfare services. These centres are especially sensitive to the needs of families experiencing financial problems and adjust their fees accordingly.

Services for older people and persons with disabilities are provided by social welfare services and the voluntary sector with governmental support. They aim to promote independent social functioning for as long as possible within the family and the community at large. Services include home care and day care at a local level. Residential care is used only when other solutions are not sufficient to meet individual needs on a 24-hour basis. Through the Public Assistance Law, the government may pay for home care and day care in full or in part, depending on the income of the person requiring the service. It may also purchase services from the private sector, such as residential care or "tele-care" which is a system of immediate response and aid to persons living alone.

Governmental, nongovernmental and private caretakers provide home-care services for older persons and persons with disabilities. Day care and "meals-on-wheels" services have been developed mainly by the voluntary sector.

4. Community involvement

Recognizing the principle of community participation as both an aim and a means of social development, social welfare services pursue citizens' involvement in decision-making and planning innovative services by cooperating closely with community bodies. They encourage community response to social needs by providing technical advice and monetary support, in the form of grants,

to nongovernmental voluntary organizations for the development of needed social services and programmes on a local level.

Such supportive services developed in partnership with the voluntary sector are provided in urban, semi-urban and rural areas and include:

- 56 day-care centres for pre-school children;
- 71 day-care centres for the care and protection of school-age children after school while their parents are at work;
- 106 services for elderly persons, as described above;
- 48 services for people with special needs, including day care, home care, training, etc;
- 53 group support services for persons with mental or physical illnesses, persons who are victims of family violence, persons who are prone to substance abuse, etc.

Specific policies and measures

Housing

The percentage of households in Cyprus that own their home has risen from 64% in 1992 to 68.4% in 2001 and is significantly higher than the EU-15 average (59% in 1998). Housing facilities are of good standard. Almost all households have a water supply (99.7%) while most households have a kitchen (99.6%), bathtub (99.0%), toilet (99.8%) and supply of hot water (97.5%).

The government operates a variety of housing schemes for vulnerable people (e.g. refugees and low-income households) and for the revival of disadvantaged areas. Nevertheless, there has been a lack of any comprehensive housing policy and little coordination between different housing schemes. As a result, the government set up the Housing Policy Agency in 2001 with a mandate to evaluate existing housing policies and to formulate a national housing policy.

Facilitating participation in employment

The major activity in employment measures has been the development of human resources. Additional measures, aiming to improve the employability of certain categories of the labour force, include the self-employment scheme for tertiary education graduates, the self-employment scheme for older persons (63 years and over) and a number of other programmes to enhance the employment opportunities of persons with disabilities (schemes for self-employment; reimbursement of training cost; reimbursement of cost for adjusting the work environment; supported employment, which targets persons with severe

disabilities). The total expenditure on these four schemes for the employment rehabilitation of persons with disabilities rose from £C 44 783 (€76 131) in 1996 to £C 106 506 (€181 060) in 2002.

The Law Providing for Persons with Disabilities (Law 127(I)/2000) provides, inter alia, for equal treatment in the field of employment, the operation of employment schemes, creation of employment opportunities in the public sector exclusively for persons with disabilities and the provision of incentives to private employers for the employment of persons with disabilities.

Furthermore, the law provides for the establishment of the Pan Cyprian Council for People with Disabilities (PCPD): a central coordinating and consultative body with the aim of contributing towards policy issues relating to people with disabilities. The PCPD is chaired by the Minister of Labour and Social Insurance and consists of representatives of governmental services, NGOs and the social partners.

Lifelong learning

Adult initial and continuing education in Cyprus is provided through public education institutions. Adult education includes classes on a range of subjects, evening secondary schools, evening technical classes, evening classes in technical schools and training courses.

The Human Resource Development Authority (HRDA) is the main promoter for initial out-of-school and continuing vocational training in Cyprus. It is a semi-governmental organization, which reports to the government through the Minister of Labour and Social Insurance. The mission of the HRDA is to create the conditions necessary for the planned and systematic training and development of human resources in Cyprus, at all levels and in all sectors, in order to meet the economy's needs within the overall national socioeconomic policies.

The HRDA's activities encompass the formulation of an integrated training and human resource development policy (e.g. through the approval and financing of a variety of training activities); continuous assessment of the economy's needs (e.g. through research studies and surveys); modernization of the training system (e.g. training infrastructure support scheme – de minimis); distribution of information to enterprises and the general public; and analysis of the 'acquis communautaire' in the training field. The HRDA's activities are divided into two main clusters – initial and continuing training. In addition, the HRDA operates two schemes – consultancy services and training infrastructure support.

Reconciliation of work and family life

Measures on the reconciliation of work and family life are incorporated in the legislation, policies and programmes of social welfare services, with an emphasis on women who are (still) the main caregivers of dependent family members (e.g. children, older persons and persons with disabilities). In order to encourage women's participation in the workforce, social welfare services promote the development of a wide range of family services by the nongovernmental sector, which may deliver services more efficiently and effectively at local level. Social welfare services provide technical and financial assistance to community welfare councils and other nongovernmental organizations within the framework of the grants-in-aid scheme.

Social welfare services are mandated to set and monitor the implementation of standards on childcare, adult day care and residential care for older persons and persons with disabilities.

Through the grants-in-aid scheme, the government aims to continue its efforts to provide more and improved local day-care centres for parents who need them, especially in disadvantaged or remote communities.

Provisions in favour of primary family caregivers, who tend to be women, are incorporated in the Public Assistance and Services Law of 1991 as follows.

- All things being equal, the monthly amount of public assistance allowance is higher for working single parents.
- It is possible for informal carers to receive monthly fees towards care services for a dependent family member (e.g. an older person or a person with disabilities) who is a public assistance beneficiary.
- A public assistance recipient may be provided with governmental, non-governmental or private home care and/or day care. This provision may relieve some of the burden of informal carers in order to encourage their participation in the labour market.

Finally, the introduction of a new law on parental leave in January 2003 has contributed to the formation of supportive measures for working parents. The new legislation provides for a 13-week period of unpaid leave for the care of a biological or adopted child. The parent may use this right until the child reaches the age of 6 years or 12 years, in the case of an adopted child. A parent may also take seven days per year due to a child's illness, an accident or other serious family reasons.

Voluntary organizations

The role of social partners is institutionalized at all levels of policy-making and implementation. The tripartite cooperation has a successful history, which is expected to continue and develop in the future. Social voluntary organizations play an important role in almost every field of social welfare in Cyprus. Through

a variety of advisory councils, established by legislation or decisions of the Council of Ministers, the government consults with NGOs in an increasing number of policy areas such as ageing, special needs, disability, family violence and drug abuse.

Governmental services, social partners and NGOs are all represented in advisory councils. For example, according to legislation, non-governmental organizations for persons with disabilities are organized under the Pan Cyprian Council for People with Disabilities (PCPD). This was established in 2000 as a central coordinating and consultative body with the aim of contributing towards policy issues relating to people with disabilities.

The social voluntary sector is organized under the Pan Cyprian Welfare Council (PWC), which is the highest coordinating body of voluntary social welfare organizations in Cyprus. In addition to the PWC, almost all NGOs for persons with disabilities (a total of 7 NGOs) are organized under the Pan Cyprian Council for People with Disabilities (PCPD).

The PWC membership records illustrate the organized structure of voluntary social welfare in Cyprus. There are 6 district welfare councils, 37 Pan Cyprian and 234 district/local social welfare voluntary organizations. The PWC members represent a wide range of interests of civil society: older people, people with disabilities, young people, children, families, persons with chronic illnesses, drug addicts, etc. Social programmes are implemented in various fields such as: health, rehabilitation, recreation, day care, residential care, home care, preventive and supportive services. Programmes and services aim to promote social cohesion and address social needs at both local and national levels.

In general, NGOs command a growing number of assets and mobilize large human resources both salaried and volunteer. Very few NGOs, however, can be considered financially sufficient. An increasing number depend, to a large extent, on national funding which in some cases determines the organizations' existence. This has major implications for the way NGOs are funded, the quality of programmes and services and the planning and continuity of management.

Persons with disabilities

The laws concerning the Rights of Persons with a Mental Handicap (1989), Providing for Persons with Disabilities (2000) and Special Education (1999), provide the legal framework for the promotion of disabled people's social rights. A range of measures is systematically promoted in education in order to comply fully with the provisions of the law. At the same time, several schemes are promoted by the Department of Labour in order to encourage the employment of persons with disabilities.

Other disadvantaged groups

Immigration (e.g. asylum seeking) is a relatively recent phenomenon in Cyprus. Although all persons residing in Cyprus, including immigrants, enjoy the same rights as permanent citizens, special services had to be developed by the government (e.g. special accommodation arrangements and school attendance for children) and the nongovernmental sector (e.g. a resource centre) in order to meet their needs.

Another group of the population at risk of exclusion are those who use drugs. Both governmental and non-governmental sectors operate intervention programmes for addicted persons, but the increasing trend of drug use suggested a need for a more integrated strategy against drugs. The government responded to that need with the establishment of the Cyprus Anti-Drugs Council in 2001. The Council operates as a national body with overall responsibility for drug issues in the country and is mandated to coordinate, plan and evaluate all actions and interventions against drugs. The Cyprus Anti-Drugs Council is also responsible for the design, development and implementation of the National Drugs Strategy and the Action Plan on Drugs, both currently in the drafting process.

The Government Strategic Plan 1999–2003 (Goals of the Department for Social Welfare Services) aims to support families in the informal care of older family members and to expand formal home care for older people, so that the latter remain in the community for as long as possible. This plan also aims to create employment opportunities for older people so that they participate in community life. Its principal measures include: a support programme for informal caregivers, the expansion of the programme for home caregivers and a scheme for the integration of older people into the labour market.

Mental health

In Cyprus, as in the rest of the EU, mental health disorders have become more prevalent. This has required radical reform of the mental health sector, in line with WHO mandates. This reform, as described in the most recent Mental Health Act, shifts away from the traditional institutionalized care that has been provided under court order in the sole psychiatric hospital in the country, towards greater social integration of the patients. There is also great emphasis on mental health education and prevention.

Epidemiological studies have shown that approximately 70% of the population in need of mental-health support are using services provided by the state (WHO EMRO, World Health Day 2001). It was found that 20% of the general population in Cyprus suffers from a psychiatric disorder (point-

prevalence), a figure similar to that in other western European populations. Furthermore, 15% of the population suffer from general anxiety, while 7% suffer from depression.

Mental health care organization and delivery

Mental health services are offered by both public and private sectors, the latter mainly on an outpatient basis. Specialized care such as individual and group psychotherapy; detoxification from legal and illegal substances; child and community psychiatry; together with the gradual decentralization of mental health services and the establishment of community services, has contributed to the reduction in the number of patients in Athalassa Psychiatric Hospital. Numbers have fallen from 584 in 1990 to 151 in 2000 (a 74% decrease over a 10-year period).

The provision of psychiatric services in Cyprus changed considerably after the 1998 mental health reform. In 1977, there was only one psychiatric hospital – Athalassa Hospital in Nicosia. This had 700 patients, all of whom were admitted under court order. Two psychiatric units in general hospitals (Nicosia and Limassol) with a combined capacity of approximately 50 beds admitted patients on a voluntary basis.

Following regulations proposed by the World Health Organization, new legislation referring to admission, treatment and care of the mentally ill was enacted in 1997. The new Mental Health Act emphasises the rights of the mentally ill and creates multidisciplinary teams of lawyers, psychiatrists, psychologists and social workers dedicated to ensuring protection of these rights and delivery of high quality services, primarily in a community setting. The Act has also substantially changed the way mentally ill patients are admitted to the psychiatric hospital, enabling voluntary admission.

In line with the new mental health legislation, a five-year plan was developed in 1998 for extended decentralization of mental health services and the expansion of prevention-oriented services in the community. Covering the period 1998 to 2003, the plan divided the country into five mental health administrative sectors. Each sector is supervised by a mental health centre, which offers most of the facilities required for patient rehabilitation. Priority is given to social inclusion, social cohesion and de-stigmatization. The main objective of the plan is to develop services within the community that will enable the patient to be supported within their own family environment, maintaining social activities through every possible means. Particular policies focus on prevention and rehabilitation.

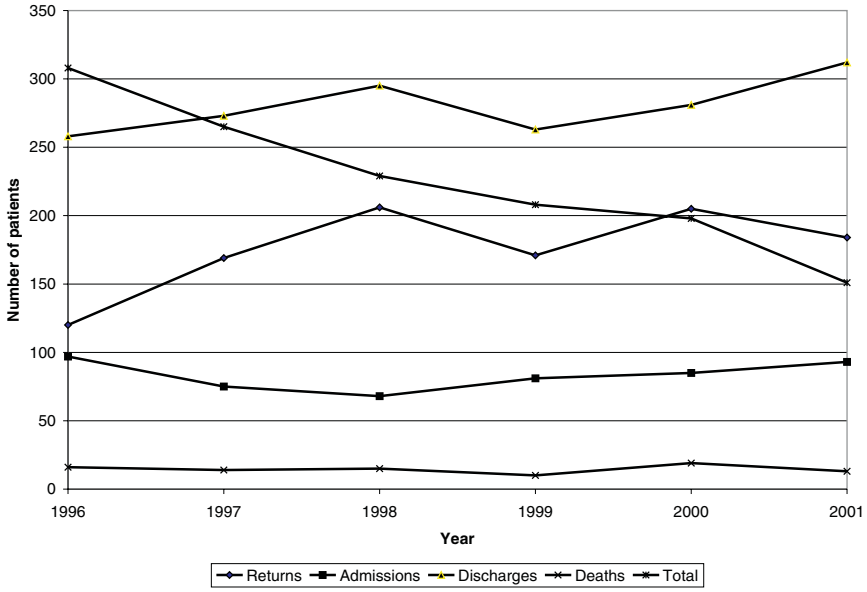
These new mental health provision trends contributed to the decline in the occupancy of the Athalassa Psychiatric Hospital and the development of community psychosocial rehabilitation facilities. This decline likely explains the overall decline in public hospital beds as depicted in Fig. 19. This depicts the gradual but consistent move of patients from institutionalized settings to more community-based environments. The decongestion of wards in the Athalassa Hospital, accompanied by renovations and the improvement of patient to care provider ratio has resulted in an enhancement of physical conditions and improved quality of care. Fig. 22 depicts the number of admissions, readmissions, discharges and deaths of patients in Athalassa Hospital from 1996 to 2001.

Data in Fig. 22 validate the steady reduction in the number of institutionalized patients in the psychiatric hospital and the concurrent increase in the number of patients discharged into community settings. It is clear that admissions have remained relatively stable and at a low level (ranging between 68 admissions in 1998 and 97 admissions in 1996). In 2001, Athalassa Psychiatric Hospital released 42 patients to community care: 37 entered elderly home units, 5 returned to their families. Meanwhile, the two psychiatric units in general hospitals have maintained their number of beds (approximately 50). Nonetheless, total admissions in general hospitals' psychiatric wards have remained unchanged: although Nicosia admissions dropped from 485 in 1990 to 444 in 1997, those in Limassol rose from 318 in 1990 to 419 in 1997. The two general hospitals have outpatient departments that offer mental health services, whereas a multidisciplinary team was recently deployed in the new Paphos General Hospital to provide mental health services on an outpatient basis.

This move to community care settings for the mentally ill has necessitated the design and implementation of a fully developed support network in the community which includes psychiatric wards in rural general hospitals, mental health outpatient departments, community mental health centres, sheltered apartments, day centres, vocational training facilities, social cooperatives and rehabilitation centres. The development of such a network enables easy access to mental health services anywhere on the island, within the community, leading to early detection and effective treatment of the disorder and to a reduction in the time required for treatment and rehabilitation.

There has been a noteworthy increase in supportive centres (5 outpatient clinics, 2 detoxification centres, 1 information and counselling centre, 2 community psychiatric nursing centres, 3 day-care centres, 1 group home and 3 hostels) in all five administrative sectors. The Therapeutic Unit for Addicted People (THEMEA) offers various supportive and rehabilitation programmes to addicts, tailored to the particularities and specific problems of each case.

Fig. 22. Athalassa Psychiatric Hospital occupancy, 1996–2001



Source: Ministry of Health, Annual Report, 2001.

"Perseus" Prevention Centre offers special counselling services, psychotherapy programmes for individuals, couples and families as well as vocational training programmes. Tables 22, 23 and 24 depict the number of patients currently living in community care, a comprehensive list of services offered to these patients per administrative sector (district) as well as planned developments in the field of community care (settings).

Table 22. Mental health patients in the community

District	Population	Patients in the community care	% of population
Nicosia	272 000	838	0.31%
Paphos	116 000	116	0.10%
Limassol	192 000	260	0.14%
Larnaca	150 000	260	0.17%
Total	730 000	1 474	0.20%

Source: Ministry of Health, Department of Mental Services, 2002.

Meanwhile, given the move to community care, the Ministry of Health has been planning some changes in the structure and function of the Athalassa Psychiatric Hospital, which include:

- design, organization and implementation of:
  - deinstitutionalization and social inclusion initiatives
  - programmes for the improvement of quality of life indicators for chronic patients;
- continuous decrease in the number of patients, leading to the gradual closure of most wards and the creation of a mental health centre in their place;
- ongoing professional development (education) initiatives for mental health personnel.

Table 23. Mental health services offered in the community, per sector

Sector	Population	Patients in community care	Services offered
Nicosia, sector A	132 000	344	Day centre THEMEA Counselling centre Illicit drugs counselling centre
Nicosia, sector B	140 000	452	THEMEA Counselling centre Illicit drugs counselling centre
Paphos	116 000	116	Community nursing services Depot clinic Outpatient mental health services (Paphos, Pyrgos, Polis, Fyti, Panagia, Salamis)
Limassol	192 000	260	Psychiatric clinic THEMEA Community nursing services Day centre Depot clinic Mental health outpatient services (Old Hospital, Agro)
Larnaca and Ammochostos	150 000	260	Community nursing services Psychosocial rehabilitation centre Day centre Depot clinic Mental health outpatient services (Old Hospital, Paralimni, Athienou, Kofinou, Lefkara)

Source: Ministry of Health, Department of Mental Services, 2002.

Table 24. Community settings, 2002

Sector	Population	Patients in community care	Planned community settings
Nicosia, sectors A and B	272 000	838	Second day centre Vocational training centre Inpatient unit for children and adolescents Day centre for children and adolescents Sheltered apartments
Paphos	116 000	116	Day centre
Limassol	192 000	260	Decentralization of hospital mental health Outpatient departments Second day centre Detoxification unit for illicit drugs Vocational training centre
Larnaca and Ammochostos	150 000	260	Vocational training centre New sector for Ammochostos Daily mental health outpatient services Strengthening of community nursing services

Source: Ministry of Health, Department of Mental Services, 2002.

Mental health outpatient departments are continuously expanded and upgraded in order to develop the necessary capacity to offer easily accessible services to patients. The provision of comprehensive mental health services reduces the need for specialized inpatient mental health services. Between 1996 and 2001 the number of visits to the separate mental health outpatient departments increased by 2036.

Mental health expenditure

The cost for each inpatient in the Athalassa Psychiatric Hospital has been rising steadily. In 1999 it was estimated to be around €128.02 per inpatient day, in 2000 around €138.4 and in 2001 €143.59. In 2001, €16 364 727.4 was spent on mental health services, compared to €16 130 947.31 in 2000 (1.5% increase) and €15 418 559.26 in 1999 (6.14% increase). Of the total costs in 2001, 57.5% constituted functional costs of the Athalassa Hospital and 42.5% was spent on the remaining services.

Mental health personnel

Table 25 presents the current number of staff employed in mental health services, with nurses making up the majority of mental health personnel.

Table 25. Mental health personnel per sector, FTEs, 2003

Administrative sector	Setting	Psychiatrists	Clinical Psychologists	Nursing personnel	Occupational therapists
Nicosia	Athalassa Hospital	5	2	230	9.5
	Psychiatric Clinic	4	1	25	2
	THEMEA		0.75	17	0.5
	Day centre		0.25	2	2
	Sector A	1	1	16	1
	Sector B	2	1	17	1
	Perseus		1	2	
	Child and adolescent psychiatric clinic	3	2	6	
	Prison		1		
Limassol	Psychiatric Clinic	2	2.5	26	2
	Social services	2.5	0.5	10	
Larnaca		2		13	
Paphos		1.5		5	
Total		23	13	371	18

Source: Ministry of Health, Department of Mental Services, 2002.

Human resources and training

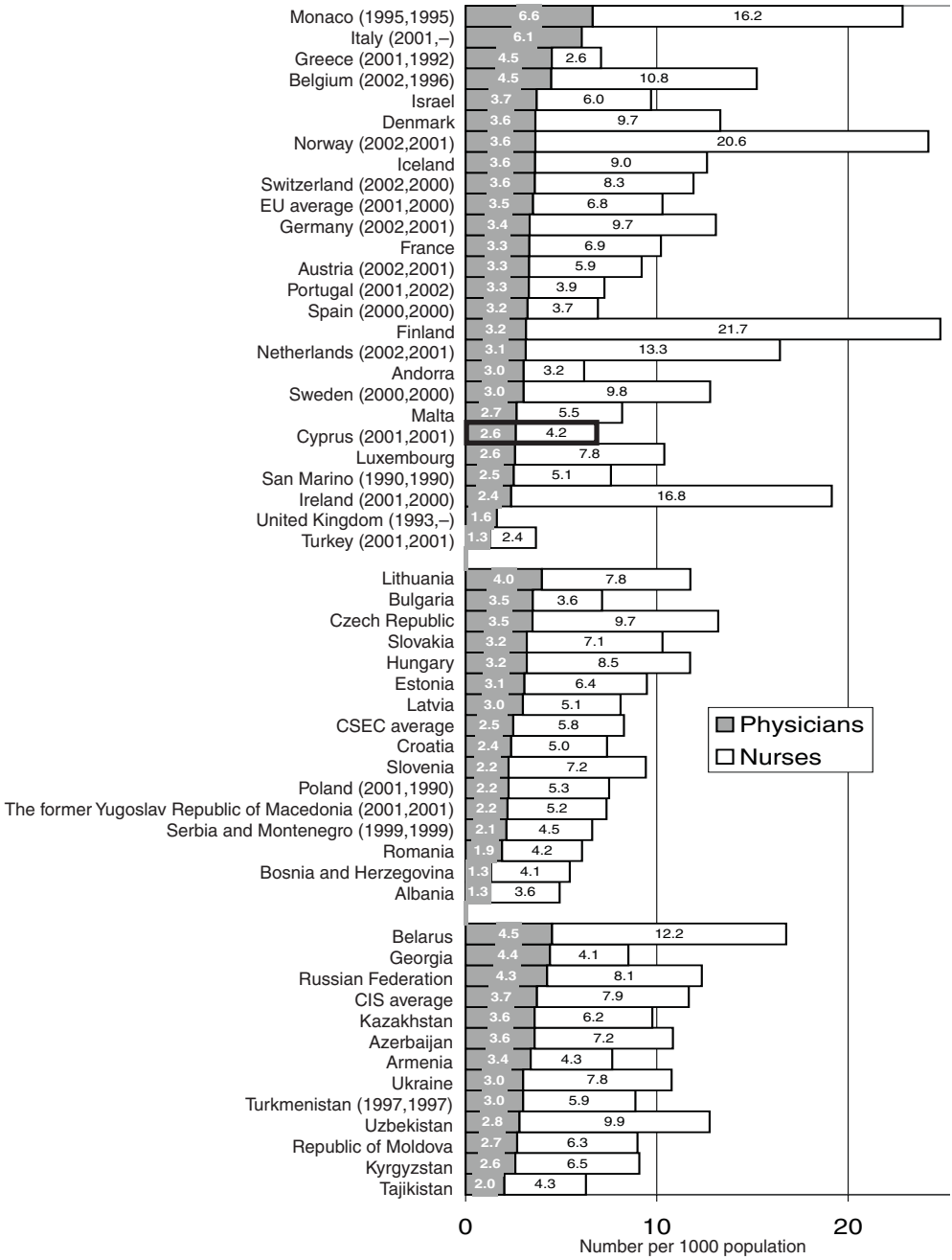
Physicians

The number of active physicians in Cyprus has risen constantly over the past years. Of a total of 1863 physicians 1805 are active, a rate of 2.7 per 1000 population. As shown in Fig. 23, the number of physicians per 1000 population is lower than the EU-15 average (3.3).

All public sector physicians are salaried employees of the Ministry of Health and belong to a centralized civil service staffing system that allocates them to posts based on defined needs. Doctors cannot move from their post unless another vacancy becomes available.

The number of doctors employed in the private sector has grown disproportionately in comparison to the public sector. In 1980, of 560 active doctors: 234 were employed in the public sector, 326 in the private sector. In 2001, of 1839 active doctors: only 537 were employed in the public sector (an increase of 129%), 1302 (an increase of 300%) in the private sector.

Fig. 23. Number of physicians and nurses per 1000 population in WHO European Region, 2002 or latest available year (in parentheses)



Source: WHO Regional Office for Europe health for all database.
Note: CIS: Commonwealth of independent states; CSEC: Central and south-eastern European countries; EU: European Union.

Nurses and other health professionals

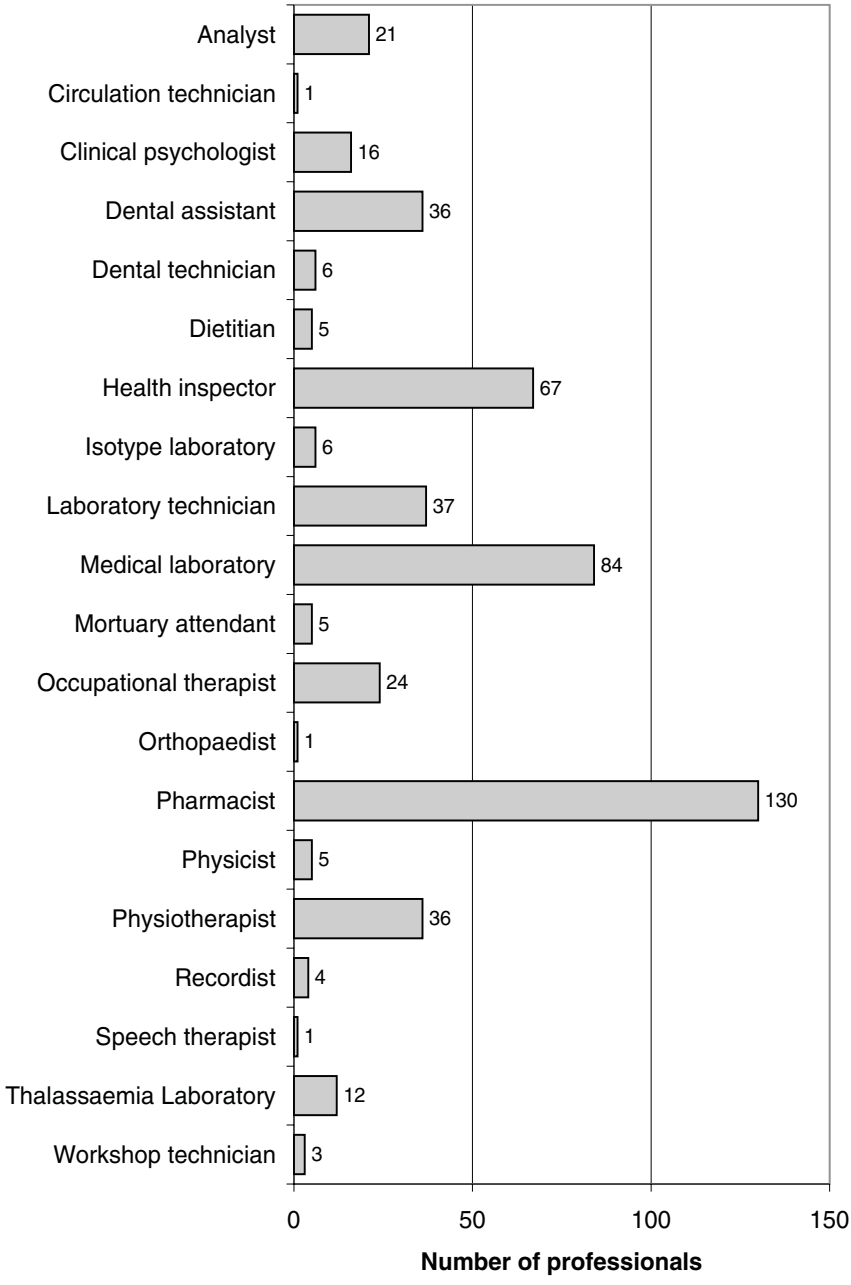
Although the private sector employs the most doctors, the large majority of nursing staff is employed in the public sector. In 1980, of 1707 nursing staff: 1427 were employed in the public sector, only 280 in the private. In 2001, of 2892 nurses (69.4% increase from 1980): 2152 were employed in the public sector (51% increase), 740 (164% increase) in the private. The significant increase in the number of private sector nursing staff shows a trend towards greater utilization of nursing staff in private sector settings.

All public sector nurses are registered. Of the nurses employed in the private sector: only 15.8% are registered, 84.2% (primarily foreigners) are not. Only 3.1% of the public sector nurses work in community settings (Ministry of Health, 2001). A survey conducted in 1993 found general qualified nurses in the public sector to be overly concentrated in hospitals and, reflecting the more general focus on acute care in the health care system, no developed system of community nurses (Cyprus Development Bank, 1993). Although the psychiatric sector appears to have an active policy of shifting nurses from hospitals into the community, no substantial change can be implemented without the introduction of a primary care system. Moreover, despite the excessive centralization of most functions concerned with the management of nurses outside each individual hospital, the Ministry lacks a strategic role in setting, updating and enforcing standards for nurses in both public and private sectors and actively seeking ways and means to ensure an adequate supply.

The consultancy team concluded that a number of major changes should be implemented in order for nursing manpower policies to become more effective. They suggested the ministry should devolve the management of nursing resources to each individual hospital where more flexible arrangements (e.g. negotiation and agreement on shift patterns) could be easier to introduce. They underlined the importance of upgrading existing training arrangements, together with discontinuing the practice of allocating staff to courses according to their seniority. In the private sector, enactment of regulations on the minimum economic size of clinics and adequate nursing cover on a 24-hour basis were deemed necessary prerequisites for the attainment of an adequate supply of qualified nurses. “Imported” nurses were found to impact on the quality and overall quantity of nurses, for which an explicit policy on gradual substitution of foreign nurses with locally trained ones would be required. By upgrading the school of nursing through an active research role and international linkages, the profession would gain added value and local training would be recognized to be equal to that of foreign nurses.

Other health care professionals working in the public sector are depicted in Fig. 24, which reveals the most common specialties in the public sector to be

Fig. 24. Health care professionals in the public sector, 2001



Source: Ministry of Health, 2002.

pharmacists, medical laboratory specialists, health inspectors, physiotherapists, dental assistants and laboratory technicians.

Training

As Cyprus has no medical school, primary training of health care professionals takes place primarily in Greek and British universities or in other universities abroad. Doctors also specialize in these hospitals although a specialization scheme to train medical practitioners in general practice is under way in Cyprus.

With the new reform under way, a medical school is expected to be established in Cyprus and extensive funds allocated to research projects.

Pharmaceuticals

In contrast to most EU-15 Member States, Cyprus' pharmaceutical market is divided into two distinct sectors: public and private. These operate independently at all levels. Despite their similar size of £C 30 million, the total import prices (cost, insurance and freight - CIF) usually are lower in the public sector because of tendering. Furthermore, wholesale and retail margins are added in the private sector (see Table 26). Both sectors supply prescription and over-the-counter (OTC) products.

The public sector is funded by the Government Medical Services through budgets approved by parliament and included in the national budget every financial year. Patient coverage is dependent on financial status criteria, where 80% of all products in this sector are provided free to inpatients and outpatients. About 700 products in the public sector are available through hospital pharmacies only. In 2002, 2052 pharmaceutical products registered in Cyprus were available to all patients through private pharmacies.

Pricing pharmaceutical products

Pharmaceutical products and prices are governed at national level. Each medicinal product possessing market authorization to be sold in Cyprus must be priced according to the fixed maximum wholesale or retail price. The Minister of Health determines this price after consultation with the Medicinal Products Price Control Committee (MPPCC).[7] The pricing method is the same

[7] Formerly called the Drug Price Control Committee.

Table 26. The pharmaceutical market

Year	Private sector value – retail prices (in £C thousands)	% Increase	Public sector value – public procurement prices (in £C thousands)	% Increase
2000	44 976	7.0	17 351	29.3
2001	46 969	4.4	22 727	31.0
2002	50 036	6.5	27 167	19.5

Source: Department of Pharmaceutical Services, Cyprus Ministry of Health.

for all pharmaceutical products, including patented medicines, generics and OTC products. Law 70 (I) 2001 regulates any preparation that is included in the list of controlled pharmaceuticals. Pharmaceuticals cannot be placed on the market unless the Minister of Health, in consultation with the MPPCC, has fixed the price. A price list is available to both private pharmacies and the public. The pricing method is the same for ethical, generics and OTC products, distinguishing between imported and locally produced pharmaceuticals.

A Ministerial Decision on Pharmaceutical Products for Human Use (28 February 2003) changed the method of calculating wholesale and retail prices for imported products as follows.

- The MPPCC obtains a certificate, issued by the competent authority of the exporting country, indicating the ex-factory price offered to wholesale dealers in the exporting country.
- Up to 6% is added to the ex-factory price to cover CIF charges. This is the maximum accepted CIF price (basic price).
- The maximum wholesale price is fixed at 25% higher than the basic price. This margin includes promotional expenses and customs fees. In the event that the wholesale price of the pharmaceutical product does not exceed £C 1.50 these margins do not apply and the wholesale price can be set at + 50% on the basic price.
- For products imported from Greece an extra 12% is added to the basic price to cover expenses for free medical samples. If these samples are not provided the extra 12% is not added.
- The maximum retail price is fixed at 33% higher than the wholesale price.

Prices that have been calculated using this formula must remain valid for at least one year.

The establishment of the maximum price is dependent on specific formulae that differ for domestically produced and imported pharmaceutical products.

Further differences prevail in the price-setting methods used for medicines imported from Greece and products from other countries of origin. Currently, Cyprus uses the ex-factory price from the exporting country as a basis to establish private pharmacy prices. It has been argued that this may provide an incentive for importers to obtain medicines from high priced countries in order to obtain higher profits in absolute terms. Table 27 illustrates how the price is set for parallel imported medicinal products.

In contrast, locally produced products are priced according to a basic price determined by the manufacturer. This price must be lower than that of an imported original product in order to be accepted by the MPPCC. Similarly to imported products, the maximum wholesale price can be fixed at 25% higher than the basic price and the retail price at 33% higher than wholesale.

Prior to the implementation of this pricing method, the old system entailed: i) competent authorities in the country of origin issuing a certificate indicating the ex-factory price offered to wholesalers in the exporting country; and ii) the addition of markups as detailed in Table 28. The most notable changes have been the decrease of wholesale margins from 30% to 25% and the increase of retail margins from 30% to 33%.

Pharmaceutical pricing decision-makers

The Minister of Health makes pricing decisions, in consultation with the Medicinal Products Price Control Committee (MPPCC). This committee is appointed by the Ministerial Council and has eight members:

- two officials serving in the pharmaceutical services of the Ministry of Health;
- one official serving in the Ministry of Finance;
- one official serving in the Ministry of Trade, Industry and Tourism;
- one private sector pharmacist (proposed by the Pan Cyprus Pharmaceutical Society);
- one person with knowledge and experience of pharmaceutical wholesaling (proposed by local importers);
- one person with knowledge and experience of pharmaceutical manufacturing (proposed by local manufacturers);
- one person proposed by the Pan Cyprus Association of Consumers.

These members serve for a three-year term from their date of appointment.

Table 27. The pricing methods for imported medicinal products

Greece as country of origin	Other countries of origin
Ex-factory price in the country of origin (A) + 12% for medical samples = B Accepted ex-factory price + Shipping and handling not to exceed 6% of B = C Accepted CIF price + 25% on C for wholesale price = D Wholesale price + 33% on D for retail price = E Retail price	Ex-factory price in the country of origin (A) + Shipping and handling not to exceed 6% = B Accepted CIF price + 25% on B for wholesale price = C Wholesale price + 33% on C for retail price = D Retail Price

Source: Department of Pharmaceutical Services, Cyprus Ministry of Health.

Table 28. Old pricing method for imported medicinal products

Any country of export
Ex-factory price in the country of origin (A) + 13% for CIF charges = B Maximum CIF price + 6.5% (5% promotional expenses + 1.5% custom fees) (+ 12% for Greek products ONLY if medical samples are provided) = C Basic Price + 30% on C for wholesale price = D Wholesale price + 30% on D for retail price = E Retail price

Source: Kokkinou, 1997.

Reimbursement and patient co-payments

As with the overall health care coverage in Cyprus, pharmaceutical products are provided to different groups of patients at different costs. Individuals entitled to free medical care by the government medical services are also entitled to free medicines. Patients entitled to reduced-fee services are reimbursed at 50%, private patients are not reimbursed.

A pharmaceutical product can be reimbursed only if it is included in the list prepared by the Drugs Committee of the Department of Pharmaceutical Services. This official list (yellow book) is the formulary of hospital drugs that is procured by the public sector.

In order for a new product to be added to the reimbursement list (Formulary of Hospital Drugs) a formal drug request form has to be submitted by a specialist

physician practising in a public hospital. A group of clinical pharmacologists evaluates the products based on the current literature on three main evaluation criteria: efficacy, safety/toxicity and cost. Products can be removed from the formulary once they are withdrawn from the market or when equivalent products become available at a lower cost.

Medicines can be prescribed by doctors working in government hospitals and outpatient clinics and are dispensed by government pharmacies to eligible patients. These government pharmacies can dispense only prescriptions from government doctors, who cannot have a private practice. However, the Ministry of Health can authorize private physicians' prescriptions to be dispensed from public pharmacies for specific categories of patients (i.e. cancer patients). The hospital list of drugs is smaller than the number of available drugs in the market.

The community councils are currently involved in determining eligibility to income-tested free-of-charge or at-reduced-fees care. It is estimated that over 90% of prescriptions in 2001 were not subject to a patient co-payment.

Importers/wholesalers

There are about 60 importers of pharmaceutical products for human use in Cyprus (if pharmacies who occasionally import their own medicines are included, the number rises to 110). The top 8–10 importers account for approximately 50% of the trade in medicines.

The laws governing parallel importation of medicinal products in Cyprus are regulated under Articles 21–25. The Drugs Council oversees the issue of parallel import licenses subject to the importer fulfilling specific requirements and relevant documentation (Article 22). The parallel imported product must be: covered by the marketing authorization of the medicinal product (referred to as the "reference product"); manufactured by the same company for which the marketing authorization has been granted (Article 23-2b); and sold under the same name (Article 23-3). Additionally, market authorizations must be valid in both the Member State from which the product is imported and Cyprus (Article 23-2c).

Repackaging of the medicine is permitted only when authorized by the Drugs Council and the authorization is valid for five years. The product of importation must be "identical" to the reference product.

Authorized wholesalers in Cyprus must meet specific obligations which include: (i) they must perpetually have available, and be able to deliver in a short period of time, an adequate supply of medicinal products to meet the

requirements of the geographical area specified in their wholesale distribution authorization (Article 84e); (ii) they must have an emergency plan to recall products effectively from the market when deemed necessary (Article 84c); (iii) they must comply with the principles and guidelines of good distribution practice (EU Council Directive 92/25/EEC and Article 84h).

In many cases wholesalers are also marketing authorization holders because of the small size of the Cyprus market. As of 1st May 2003, wholesale margins were reduced to 25%.

Pharmacy sector

Pharmacies are the exclusive distributors of medicinal products to the population including all prescription and non-prescription/OTC products (with the exception of aspirin that can be sold elsewhere, i.e. in supermarkets). Moreover, 0.3% of physicians have dispensing rights. There is a total of 616 pharmacists in Cyprus. There are 436 private pharmacies in the private sector, employing 456 pharmacists. Of these pharmacies, the majority (around 440) are owned by sole proprietary pharmacists, 20 are company-owned chains and 5 are partnerships.

A non-pharmacist may not own a pharmacy and a pharmacist must always be present when drugs are dispensed. On average there is one pharmacist per pharmacy. In addition, there are 140 pharmacists working in the public sector and 40 hospital pharmacies that are open to the public. Recent regulation will control the number and geographical distribution of pharmacies. Currently there is no clawback of profits on pharmacies by the government. Approximately 20 pharmacists work as medical representatives or in the industry.

Demand side measures

Demand side measures provide appropriate incentives to doctors and pharmacists, who influence the patient/consumer demand for pharmaceutical products. Such methods are currently lacking in the Cyprus pharmaceutical market. Physicians are required to prescribe pharmaceuticals included in the Formulary of Hospital Drugs and must strictly follow specific prescribing guidelines. In order to assist physicians with their prescribing, the Drug Information and Poison Control Centre maintains a library with the latest pharmacological and medical texts, medical and pharmaceutical journals and newsletters. The library also boasts an extensive computerized database that is available to all physicians upon request.

Examples of these demand side measures include: fixed or indicative budgets for doctors, fixed budgets for pharmaceutical expenditure, practice guidelines, cost-effectiveness guidelines, positive or negative lists and formularies, controlling the number of products available, prescription audit and ceilings on promotional expenditure. Furthermore, doctors can use information systems for effective prescribing. These systems can also serve for monitoring, evaluation and audit. Other information sources geared at physicians include educational detailing and independent information provided by government authorities and insurance funds.

The dispensing practices of pharmacists can control the mix of medicinal products demanded. Such measures include: allowing pharmacists to substitute lower cost medicines (such as generics and parallel imported products), increasing their advisory role and increasing the availability of OTC products. Furthermore, encouraging the acceptance and creating appropriate incentive structures for generics could increase their market. Generic substitution may be permitted and methods of remunerating pharmacists may provide an incentive for this practice.

Consumption of medicinal products

In Cyprus in 2002, the total annual gross turnover of human medicines was £C 77.2 million (€131.8 million).

As detailed in Table 29, in 2002 the value of pharmaceutical product sales in the private sector totalled about £C 50 million, an increase of 6.5% from 2001 (at retail prices). If CIF values were used for the private sector the total would be £C 25.5 million, similar to that of the public sector for the same year. This total value[8] can be broken down into prescription medicines, accounting for 77.3% and OTC products accounting for 22.7% (at retail prices). As shown in Table 30, the top 50 most expensive products (by value) accounted for only one fortieth (2.5%) of this volume, while the top 50 most sold products (by volume) accounted for over one quarter (27.0%) of the total volume of sales.

In comparison, the total value of sales in the public sector was £C 7.2 million, an increase of 19.5% from 2001. The top 50 most expensive products (by value) accounted for 15.56% of the global annual cost while the top 50 most sold products (by volume) made up almost half of this total (48.7%) (see Table 30). As the 50 most sold products have a disproportionate representation in the public sector, making up only 27% of the private sector, there will be

[8] at retail prices.

Table 29. Value of pharmaceutical sales, 2002 (£C)

Year	Public sector (public prices)	Private sector (retail prices)	Private sector (CIF prices)
1998	12 605 612	37 215 238	18 986 684
1999	13 423 184	42 034 413	21 734 535
2000	17 350 604	44 976 153	23 528 501
2001	22 727 165	46 969 051	24 320 271
2002	27 167 447	50 035 662	25 489 985

Source: Department of Pharmaceutical Services, Cyprus Ministry of Health.

implications if distribution is extended to the latter. A possible explanation for this high concentration in the public sector is the consumption of expensive anti-cancer therapies.

According to the Anatomic Therapeutic Chemical (ATC) classification system, Table 31 shows the classes for the majority of the total annual volume of sales in the private sector were: anti-infectives for systemic use – penicillins, cephalosporins, vaccines (17.1%); nervous system – analgesics (14.1%); alimentary tract and metabolism – antacids, anti-ulcer (12.8%); and cardiovascular system – statins, antihypertensives (12.0%). By contrast, in the public sector, the products that comprised the greatest proportion of the total sales were: antineoplastic and immunomodulating agents – interferon, cyclosporin (20.6%); cardiovascular system treatments – statins, cardiac therapy (17.3%); followed by treatments for blood and blood-forming organs (12.8%).

Table 30. Proportion of total product sales by the top 50 most expensive and top 50 most consumed products

	Public sector (public prices)	Private sector (retail prices)
Value of top 50 most expensive	4 226 324	1 231 632
% of total of top 50 most expensive	15.60%	2.50%
Value of top 50 most consumed	13 224 333	13 507 450
% value of top 50 most consumed	48.70%	27%
Total value of sales	27 167 447	50 035 662

Source: Department of Pharmaceutical Services, Cyprus Ministry of Health.

While there are currently no initiatives for generic substitution, a great proportion of the pharmaceuticals used in government hospitals are generics due to the low prices at which they are purchased.

A legislative proposal was recently submitted to the House titled "Amended Pharmacy and Poison Law 2003", which suggests geographical and population criteria for the opening of new pharmacies.

Table 31. Volume of sales based on ATC classification

ATC	Description	Public sector value	% of Public sector total	Private sector retail value	% of private sector total
A	Alimentary tract and metabolism	1 216 933	4.5%	6 422 531	12.8%
B	Blood and blood forming organs	3 475 616	12.8%	1 421 446	2.8%
C	Cardiovascular system	4 707 171	17.3%	5 995 101	12.0%
D	Dermatologicals	389 232	1.4%	3 591 908	7.2%
G	Genitourinary system and sex hormones	701 415	2.6%	4 156 362	8.3%
H	Systemic hormonal preparations, excl. sex hormones	662 110	2.4%	645 342	1.3%
J	General anti-infectives for systemic use	2 855 829	10.5%	8 554 279	17.1%
L	Antineoplastic and immunomodulating agents	5 587 592	20.6%	167 298	0.3%
M	Musculoskeletal system	929 155	3.4%	4 476 993	8.9%
N	Nervous system	2 906 122	10.7%	7 074 824	14.1%
P	Antiparasitic products, insecticides and repellents	43 109	0.2%	143 390	0.3%
R	Respiratory system	1 136 552	4.2%	5 315 678	10.6%
S	Sensory organs	280 775	1.0%	1 716 728	3.4%
V	Various	2 220 644	8.2%	353 782	0.7%
RM	Raw materials	55 192	0.2%	0	0.0%
	Total Value	27 167 447	100.0%	50 035 662	100.0%

Source: Department of Pharmaceutical Services, Cyprus Ministry of Health.

Health care technology assessment

Public Tenders Law N. 102(I)/97, its amendments, and the Public Tender (General) Regulations K.P.D. 104/99 with their amendments govern the purchase of goods for the public sector.

This framework maintains that the procedure for purchasing goods for the public sector depends on their value. For high technology medical equipment, the following procedure applies.

1. Department of Medical and Public Health Services appoints project team to prepare specifications for the equipment required and define any other tender conditions according to the legislative framework.
2. Potential providers commonly submit their proposals in two separate and sealed envelopes containing the technical proposal and financial proposal respectively. Usually a full maintenance contract is purchased with the equipment, ranging from five to seven years post warranty.
3. Draft specifications prepared by the project team are announced in the Official Journal of the Cyprus Government and made available to all prospective providers for comments. A period of four to six weeks is usually allowed for providers to comment and suggest improvements to the tender specifications.
4. Project team evaluates comments and suggestions submitted and prepares a detailed report, with additional comments and suggestions, which is submitted to the Permanent Technical Committee of the Main Tender Board for approval.
5. Project team is invited to support its report during a hearing at which the Technical Committee scrutinizes the report and makes its own recommendations to ensure the application of fair competition principles between the prospective providers. Usually a minimum of four providers should be able to compete.
6. Final tender is published in the Official Journal of the Cyprus Government, allowing at least 52 days for providers to draft and submit proposals. The Main Tender Board opens and evaluates the technical proposals to assess whether the general tender requirements have been met. The financial proposals remain sealed in a safe. Having met the condition of compliance with general requirements, technical proposals are sent to the Department of Medical and Public Health Services for evaluation.
7. There, a tender evaluation team is appointed, usually project team members and end users. The team evaluates the technical proposal and prepares a technical evaluation report for submission to the Main Tender Board

Technical Committee. Evaluation includes initial assessment against the set prerequisites and award of preset marks to the various technical specifications. Ranking is in descending order with the most complete proposal receiving the highest mark.

8. Main Tender Board Technical Committee, at a common meeting with the evaluation team, scrutinizes the technical evaluation report. A short report with its recommendations, together with the evaluation team's report, is sent to the Main Tender Board for final approval.
9. When the Main Tender Board is satisfied with the ranking of the technical proposals, the financial proposals of the successful technical proposals are opened. Financial proposals of unsuccessful technical proposals are returned unopened.
10. Financial proposals are assessed by the evaluation team, which writes the final report/recommendation for the successful tender. Evaluation is based on a formula that combines evaluation marks with suggested price (cost effective approach).

Over the past two years, this procedure has led to the purchase of much medical equipment throughout the island. All medical equipment for the new Nicosia General Hospital and Ammochostos Hospital is being purchased according to the above procedure. These two hospitals will be ready for full operation by the end of 2004.

In the private sector, medical equipment is purchased by direct negotiation between the purchaser and the equipment provider.

Following Cyprus' entry to the European Union, on 1 May 2004, it became necessary for all medical equipment placed on the Cypriot market to meet the relevant European Union Directives. These have been transcribed into Cypriot laws and the regulations and infrastructure required to implement them are being set up.

Financial resource allocation

Third-party budget setting and resource allocation

The Ministry of Health's budgetary formulation is very detailed, largely a replication of the previous year's budget adjusted for inflation and identified pressure areas, and subject to delays.

Financial management and planning for hospitals does not have a high profile within the administrative system. Senior management has little control over resources used in each hospital, which mainly are allocated to each hospital by the Ministry of Health. Budgetary formulation at hospital level is limited to those specific areas for which the hospital has direct responsibility and for equipment bids.

Budgetary control revolves around a centralized and bureaucratic system and focuses on identifying cost pressures at the macro level and sharing these with the Ministry of Finance in order to secure additional resources. There is no budget profiling for either the overall Ministry of Health budgets or those of individual hospitals. Nor is there much delegation of a largely centralized accounting system. The latter produces information based on cash receipts and payment principles, thus it does not include the assessment of debtors and creditors at the end of each accounting period.

Doctors and nurses are part of the civil service system, allocated to hospitals through a centralized system, and can move only when a vacancy becomes available. There is currently a blurred picture of the relationship between hospital needs and the alleged lobbying involved in the distribution of medical staff.

Given that a hospital is not normally the budget holder there is little or no information on spending, this results in little awareness of cost and no incentive for control or economy. Central tendering and supply systems lead to lack

of quality control and insensitivity to users' needs in addition to distancing decision-making from those with direct knowledge and understanding of the hospital function.

Payment of hospitals

The annual hospital budget is included in the Ministry of Health annual budget and allocated to each hospital based on need, primarily on a historical basis adjusted for inflation. All public hospitals' expenditure is included in this annual budget.[9]

Nonetheless, there are provisions for minor patient co-payments when secondary health care is provided. These co-payments are calculated on the basis of regulations enacted in 2000 and 2002 (K.P.D. 225/2000, K.P.D. 660/2002) that group citizens in the following categories for entitlement to secondary health care services.

(a) Citizens who hold a Category A identification card. These include childless single, divorced, bereaved or married individuals who do not live with their spouse, and whose annual income does not exceed €15 570, members of families whose income does not exceed €31140, adjusted by €1730 per dependent child, members of families with more than three children and those who live in the northern part of the island and their family members (see Table 32).

(b) Citizens who hold a Category B identification card. These include childless single, divorced, bereaved or married individuals, who do not live with their spouse, and whose annual income is over €15 570 but does not exceed €20 760 and members of families whose income is over €31 140 but does not exceed €38 060, adjusted by €1730 per dependent child (see Table 32).

(c) The President of the Republic of Cyprus; President of the House of Commons; members of the Minister Cabinet and the House of Commons; President and members of the Public Service and the Educational Services Committees; former Presidents of the Republic, House of Commons and the Public Services and Educational Services Committees; as well as former members of the Minister Cabinet, House of Commons and committees mentioned above who have performed such duties for a period of over

[9] The salaries of outposted staff (ie. Ministry of Finance staff working in Ministry of Health hospitals, mainly as administrative and clerical staff) and the cost of pensions for all former employees are not included in this budget.

12 months; active and retired public servants, members of the Cypriot Police Force, Army, National Guard, and the educational services of the Ministry of Education; Cypriot volunteers to the Greek Army; mayors and presidents of local communities and students in the University of Cyprus, National Health Services School, College for Arboriculture, Tourist Schools financed by the Republic, the Technical Institute and the Police Academy.

(d) Citizens who do not fall under one of the above categories and are therefore not entitled to free health care as described below.

Patients belonging to categories A and C do not incur any charges when hospitalized, and until 2002 paid €1 per outpatient visit. Since 2002, people over 65 do not pay the €1 co-payment. Patients belonging to category C pay a contribution of €17.30 per day when hospitalized in the emergency unit or first class rooms, €8.65 in second class rooms and €5.19 in third class rooms.

Patients belonging to category B must bear 50% of the costs and charges defined in the regulations above, per procedure, or a determined sum per procedure based on their income, should that sum be lower than 50% of the charge levied.

Patients belonging to category D are not entitled to free hospitalization and are required to pay a percentage of the cost of the services according to their family's income capacity. Under no circumstances can this exceed the whole charge determined for the specific procedure.

A patient from Category D who requests emergency transportation by ambulance is required to pay €13.84 for a distance of up to 10 kilometres and

Table 32. Regulation 9 on patient contributions, secondary health care

Annual income	
(a) individual with no dependents	Copayment on the cost of service, calculated as % of the charge, based on income
Income up to €15 570	0
Income between €15 570–€25 950	20%
Income between €25 950–€34 600	25%
Income equal or above €34 600	30%
(B) family member	
Income up to €31 140	0
Income €31 140, adjusted by €1730 per dependent child, up to €34 600	20%
Income between €34 600–€43 250	25%
Income equal or above €43 250	30%

Sources: Ministry of Health, Regulations 225/2000 and 660/2002.

€0.70 for every additional kilometre.

The introduction of the National Health Insurance Scheme in the next five years is expected to alter greatly the way secondary health care is provided and financed. The implementation of gatekeeping roles for GPs, together with greater emphasis on timely and qualitative provision of primary health care services, is expected to rationalize the need for expensive secondary care services. This should limit secondary care services to cases of real need and further strengthen the potential for the introduction of a (Diagnostic Related Groups) DRG-based costing methodology for hospital services.

Payment of physicians in ambulatory care

In the public sector, primary care and hospital doctors are salaried employees; in the private sector, physicians are paid on a fee-for-service basis. Private physicians set their prices without any regulatory mechanism although the Medical Association sets a minimum, but no maximum, fee. Without regulation, market forces are the main influence on price setting in the private sector. Thus, prices may be kept low due to the large number of physicians practising in the private sector; private patients must pay €8 to consult a specialist and €5 to visit a general practitioner. The pending government medical services regulation increases these fees to €16 and €10.50 respectively.

A recent study found that fees charged in the private sector for the same medical services are not consistent across either specialties or regions (Ministry of Health, 2002). For instance, for an electrocardiogram cardiologists charge, on average, three times more than pathologists and five times more than general practitioners. Also, specialized medical examinations vary in price across all specialists, ranging from an average of approximately €7 for general practitioners to €18 and €20 for cardiologists and radiologists respectively. Prices not only differ across specialities, but also across regions. For instance, specialized medical examinations in Nicosia, Limassol and Paphos cost almost twice as much as those in Famagusta. The primary cause of the varied pricing is unclear but it could reflect differing abilities to pay among the clientele, degrees of severity or market forces.

Under the proposed NHIS, every family will be registered with a GP contracted by the Ministry on a capitation basis and there will be a uniform pricing policy for both public and private sectors.

Health care reforms

Proposals for health care system reforms

The main reforms for the health care system in Cyprus focus on: the organizational and financial infrastructure, as proposed by the Nuffield Institute; the introduction of the NHIS; the health for all strategy; and accession to the EU. The following sections describe these reforms.

The Nuffield Institute strategic plan

In 1993 the Nuffield Institute (Oxford, UK) was asked to propose a new organizational structure for the Ministry of Health and to assist with reorganization of the public hospitals. Although some progress has been made, the health care system in Cyprus is still in need of major improvement. The Strategic Plan 1999–2003 sets reform of the organizational structure and financial infrastructure of the health care system as priorities. The Plan provides for, among others:

(i) improvement of public health and preventive activities

(ii) integration of policies and coordination between public and private sectors

(iii) creation of a medical school and encouragement of medical research

(iv) introduction of changes aimed at harmonizing Cyprus' health system with the EU.

So far, progress on the plan includes:

(i) creation of a district level authority for decentralization

(ii) administrative separation of primary and secondary health care

(iii) extension of health centres' working hours

(iv) increase in programmes for health promotion and prevention of diseases.

Furthermore, there have been some improvements at the secondary and tertiary level of health care provision, such as:

(i) completion of the Institute of Neurology and Genetics

(ii) completion of new Limassol General Hospital

(iii) finalization of plans for new Nicosia General Hospital, expected to be operational by the end of 2004

(iv) finalization of plans for Ammochostos General Hospital, expected to be operational by the end of 2004.

The introduction of the NHIS

The challenges for the Government of Cyprus are to reduce the rising costs of health care and the inequalities in access to health care services, and to improve the quality and financing of the health care system in order to achieve the following objectives: maintain the progress achieved in controlling communicable diseases; reduce the incidence of chronic diseases; and sustain the environment in a way that safeguards the quality of life.

The introduction of the NHIS within the next five years is by far the most crucial and important planned reform. It will:

(i) Provide general and specialized medical services, inpatient care (except chronic mental health care), diagnostic tests, drugs, rehabilitation services, dental care for children up to 15 years old and medical treatment abroad. There will be no co-payments for any covered services, although the NHI Agency may impose a co-payment on drugs (cannot exceed 10% of cost). Table 33 presents the services that will be covered and excluded, according to the NHIS.

(ii) Change the structure of health care services delivery as well as the way providers are remunerated for their services. Primary care physicians will be paid a capitation rate which may be risk adjusted and vary with a physician's accumulated years of experience. Specialists will be paid on a fee schedule, negotiated by the NHI with their organizations. Hospital service payment has not yet been determined. Hsiao and Jakab (2003) recommended that payment for services in public hospitals should be determined according to their current average cost, private hospital payments will be set at the level of current charges.

Table 33. Benefits, NHIS

Covered medical services	Excluded medical services
All primary care physician visits	Over the counter drugs
Visits to specialists referred by GPs	Long-term care
Inpatient and ambulatory services in contracted public and private hospitals	Treatment for thalassaemia and chronic inpatient psychiatric services will continue to be provided by public facilities under separate budget free to patients and excluded from NHI.
Sponsored services abroad	Public health and preventive services will continue to be provided directly by the Ministry of Health under separate budget and excluded from NHI.
Prescription drugs, prosthetic and orthopaedic devices	
Laboratory tests and radiological imaging services provided by contracted facilities	
Preventive dental services for those under 15	
Ambulance services	

Source: Hsiao and Jakab, 2003.

(iii) Introduce elements of competition between private and public sectors to stimulate greater efficiency, quality and effectiveness in the provision of health care services.

(iv) Help improve institutional capacity, organizational structure and human resources through changes necessary to provide the infrastructure necessary for implementation of the NHIS.

Cost of implementing the NHIS

Hsiao and Jakab (2003) estimated the cost of implementing the legislation for a National Health Insurance System by developing an actuarial cost model. The model separates services into two sectors: public and private. Health services are divided into several categories: primary care, specialist services, ambulatory surgery, inpatient hospital services, outpatient pharmaceuticals, dentistry, psychiatric services, and laboratory and radiology services. For each category of health service, they estimated the quantity of service that would be used once the NHIS has been implemented and a unit price for each quantity. The

expenditure for each category of service is the product of price and quantity. The total cost is the sum of the predicted expenditure of all categories of services covered under NHIS.

The authors assumed that all eligible Cypriot citizens with permanent residency in Cyprus would enrol and be covered. Turkish Cypriots were not included in the covered population. The resulting estimate did not consider European Union laws and practices that might have financial impacts on Cyprus post accession. The results are presented in Table 34.

The NHIS law specified the earnings subject to NHI contributions. The estimated total 2002 revenue for NHIS as specified in the law would amount to £C 303 million (€524.5 million), as presented in Table 35.

The estimates suggest that the expected revenue and expenditure are roughly balanced. However, the authors underlined that there is little margin for error. They particularly emphasized that the financial solvency of the NHIS depends largely on competency in administering the programme, negotiating reasonable prices with providers, establishing a sound GP system and controlling sponsored services abroad.

Table 34. Estimated cost of the NHIS, year 2002 (in £C million)

Covered service category	Cost in £C million for the whole population
Primary care	
Physician	26 (44.98)
Drugs	41 (70.93)
Outpatient specialty services	
Physician	22 (38.06)
Drugs	18 (31.14)
Day surgery	6 (10.38)
Inpatient hospital services	96 (166.08)
Laboratory tests	17 (29.41)
Radiology and imaging	19 (32.87)
Accident and emergency	7 (12.11)
Dental	8 (13.84)
Sponsored services	
Home	11 (19.03)
Abroad	13 (22.49)
Total cost for covered services	284 (491.32)
NHI administrative cost (5%)	14 (24.22)
Grand total cost	298 (515.54)

Source: Hsiao and Jakab, 2003.

Table 35. Estimated contribution income for the NHIS, year 2002 (In £C million)

	Earnings base for NHIS 2000 in £C million and (€ million)	Contribution rate (%)	Expected income for NHIS in £C million and (€ million)
Private sector	1 638 (2 833.74)	9.10	149.06 (257.87)
Government employees			
Public service	553 (956.69)	9.10	50.32 (87.05)
Government workers	88 (152.24)	9.10	8.01 (13.86)
Self-employed	575 (994.75)	8.10	46.58 (80.58)
Public service pensioners	87 (150.51)	6.55	5.70 (9.86)
Social insurance pensioners	267 (461.91)	6.55	17.49 (30.26)
Social pension beneficiaries	18 (31.14)	6.55	1.18 (2.04)
Total		8.63	278.34 (481.53)
Interests	1 093 (1890.89)	2.00	21.86 (37.82)
Rents	54 (93.42)	2.00	1.08 (1.87)
Dividends	95 (164.35)	2.00	1.90 (3.23)
Total		2.00	24.84 (42.97)
Grand total		average 7.08	303.18 (524.5)

Source: Hsiao and Jakab, 2003.

Table 36. Estimated net increase in the government health budget upon fully implementing the NHIS, year 2002 (in £C million)

Contributions paid by employers, workers and pensioners to be matched by government	£C 152 million (€262.96 million)
Cost of NHIS covered services currently funded by the government budget to the public sector	£C 125 million (€216.25 million)
Net additional cost	£C 27 million (€46.71 million)

Source: Hsiao and Jakab, 2003.

The introduction of the NHIS will provide adequate and equitable access to a comprehensive health care system for all citizens. It should also improve the efficiency of health provision in Cyprus at both macro- and micro-economic levels, given that certain steps are undertaken towards:

(a) greater decentralization of managerial responsibilities from Ministry of Health to public hospitals and Ministry's gradual transformation to a policy-making body regulating public and private sector providers;

(b) immediate reform of the financial management system through the introduction of modern cost accounting systems;

(c) establishment of rules and regulations to assure clinical quality of medical services;

(d) greater continuity of care for patients through the development of a robust GP system.

At the same time, it is inevitable that introduction of the NHIS will lead to:

(i) savings of approximately €25.86 million per annum (1996 prices) due to the introduction of the system of capitation payments for family physicians;[10]

(ii) increases in pharmaceutical, laboratory and radiology costs due to all primary care being delivered by independent contractors;

(iii) increase in examination costs due to shift from public hospital based family physicians to the private sector;

(iv) savings of €10.35 million (1996 prices) due to bulk purchasing drugs and establishing a drug list;

(v) additional costs of €6.89 million due to the shift from over-the-counter to prescription drugs, under the NHIS the cost of the latter will not be covered;

(vi) savings from bulk purchasing laboratory and radiology services and cost based pricing;

(vii) savings of €3.45 million due to 10% reduction in fees paid to specialists and hospitals;

(viii) reduction in services offered by public hospitals which will be forced to compete with private hospitals.

The behavioural changes expected to result from the introduction of the proposed NHIS are related mainly to insurance and the level of demand.

[10] In 1996 the cost per capita for primary care was €77.60, the capitation rate would be set at a level to produce a net income of €55 170 for a family physician with 1550 registered patients. Under these assumptions, the capitation rate would be approximately €45 per person per year.

(a) People covered by private insurance and those with no insurance are expected to increase their utilization of public health provision to the level of those who are now fully covered by the government plan.

(b) Those currently paying out-of-pocket health care costs are expected to increase their demand.

(c) An increase in demand for health care provided by the private sector is also expected, because those now using the public sector will take advantage of the shorter waiting time in the private sector.

Health for all

The World Health Organization (WHO) provides support to the Ministry of Health and to the health care sector in developing health policies in accordance with the health for all (HFA) strategy. This was adopted in 1977 and launched at the Alma Ata Conference in 1978 because the differences in the health of people across and within countries were considered politically, socially and economically unacceptable. The central vision for HFA (as updated in 2000) in Cyprus is the same as in the rest of the world. WHO promotes the exchange of knowledge and collaboration between Cyprus and other Member States within its HFA framework.

HFA represents an important aspect of health policy in Cyprus. Cyprus, having recognized the importance of health to sustainable human development, is prepared to face the new challenges by:

- reforming the health care system, giving public health care the central role, in order to reduce disparities and inequalities in health and improve the efficiency and effectiveness of the health care system;
- enhancing the recognized interrelation between socioeconomic status and health status, by engaging in intersectoral collaboration between services and ministries, especially in regards to agriculture, stockbreeding, industry, education, housing and transport;
- shifting health care focus to those in need, following changes in disease patterns and the problems caused by population ageing, and the activities required for disease prevention.

Strategic actions on the new priority public health areas based on HFA mandates are under development in cooperation with WHO. However, implementation of these new strategies will require extensive reform of the public health services sector in Cyprus, as detailed in the section on public health services.

Accession to the EU

Cyprus was the first country amongst all candidate countries successfully to harmonize its legislation with EU law. The Luxembourg European Council of December 1997 drew up a specific pre-accession strategy for Cyprus and considered that its accession should contribute to civil peace in the island and reconciliation of the two communities. The Council adopted a Regulation in March 2000 on the implementation of operations in the framework of a pre-accession strategy for the Republic of Cyprus and the Republic of Malta [Regulation (EC) No 555/2000-Official Journal L 78 of 16.03.2000]. This strategy is based on:

- establishment of the accession partnership;
- support for priority operations to prepare for accession, as defined within the partnerships;
- participation in certain Community programmes and agencies.

Objective

The objective of the partnership for accession was to provide a single legal framework for the working priorities identified in the Commission's regular report (1999) on Cyprus's progress towards accession, the financial resources available to help implement these priorities and the conditions which apply to this aid. The partnership underpinned a range of instruments to support applicant countries in their accession processes.

These instruments included a national programme for adopting the Community acquis (NPAA), joint evaluation of medium-term economic priorities, the pact against organized crime, national development plans and other sectoral programmes required for participation in the Structural Funds after accession. In 2002, the partnership for accession served as the starting point for preparing an action plan to reinforce the administrative and judicial capacity of Cyprus.

Although these instruments would not form an integral part of the partnership, their priorities would be compatible.

The implementation of the partnership would be monitored under the Association Agreement.

Priorities

The priorities were divided into two groups: short and medium term. Cyprus was capable of resolving or making progress on the priority issues of the first

group before the end of 2000. The priority issues of the second group had to be dealt with fully by the end of 2003.

Cyprus achieved the political and economic criteria priorities. It also achieved the priorities in free provision of services, free movement of capital, taxation, statistics, customs union and financial control. In the other areas, it partly achieved the priorities.

In 2002, the priorities of the partnership for accession were revised (Decision 2002/84/EC). This revision formed the basis of the Commission's assessment in its 2002 report.

The priorities were:

- reinforcement of institutional and administrative capacity
- internal market
- justice and home affairs
- environment
- energy
- political criteria
- economic policy
- agriculture and fisheries
- transport
- employment and social affairs
- regional policy and cohesion.

In relation to the 31 chapters required for Cyprus' harmonization with the EU acquis, health related matters were considered in the following chapters.

Chapter 1: Cyprus, having made all the necessary transpositions and amendments, is implementing the legislation required for the harmonization of foodstuffs, pharmaceuticals, cosmetics, precursors and medical devices. The Ministry of Health carries out enforcement of "Food Control and Sale Law". The administration has been upgraded to meet the new requirements and personnel are undergoing training. The State General Laboratory has become accredited.

Chapter 2: Legislation amendments have been made for: (a) free movement of doctors, dentists, pharmacists, nurses, midwives and paramedical professionals (b) medical treatment of European citizens.

Chapter 7: The health inspectors of the Ministry of Health are assigned responsibility for the control of food of non-animal origin (imported and locally processed) intended for the local market. Responsibility for foodstuffs of animal origin belongs to the Veterinary Department.

Chapter 13: Social Policy and Employment (Public Health)

A network for the surveillance and control of communicable diseases has been developed at the level of the medical and public health services of the Ministry of Health, based on EU Decisions 2119/98, 2000/96, 2000/57 and 2002/253 and is expected to contribute to the field of early detection and response to communicable diseases. The system will enable the exchange of information with similar EU networks.

The Quarantine (Public Health) Law and Regulations were amended in April 2003 in order to comply with the above-mentioned EU decisions.

A health monitoring and information system needs to be developed in order to obtain health data and indicators comparable to the EU system. Cyprus is participating in the Public Health Programme 2003–2008 and is in the process of implementing a national health monitoring system. Although computerization of the public health services started some time ago, no health information system is available. A contemporary hospital information system will be installed in the new Nicosia General Hospital.

Chapter 22: The Ministry of Health implemented a strict monitoring programme for water supply. For bathing water, a monitoring programme was introduced to address the requirements for microbiological and chemical parameters in coastal areas.

Chapter 24: The Cyprus Anti-Drug Council and Fund, provided for by a law enacted in July 2000, is responsible for the preparation and implementation of a national drug strategy and the coordination of public and private initiatives to reduce drug supply and demand.

Cyprus has achieved considerable progress in the transposition and implementation of the drugs acquis through establishment of the Reitox Focal Point (European Monitoring Centre for Drugs and Drug Addiction-Reitox), by providing the legal mandate necessary to accomplish its goals.

In addition, direct communication with the European Monitoring Centre for Drugs and Drug Addiction (EMCCDA) (Enlargement Section) has commenced.

The administrative capacity of the Cyprus Anti-Drug Council will be augmented by the process of twinning. This project aims to strengthen the administrative capacity of the Council, particularly in relation to the establishment of the national Focal Point, implementation of the National Action Plan on Drugs and formation of the National Coordinating Agency.

Conclusions

Cyprus ranks fairly high in international comparisons of health and health care standards. For instance, life expectancy at birth for men and women is slightly higher than the average of the – prior to 1 May 2004 – EU-15 countries and there is significant public health infrastructure on the island. However, tobacco consumption is a major health threat at 68% higher than the EU-15 average. Also, rates of obesity among Cypriots, particularly men, are significantly higher than the EU-15 countries. These are two of the emerging health problems that need to be addressed in order to prevent reversal of the positive trends in life expectancy.

Health services provision in Cyprus is financed from general taxation and direct payments to providers and supplied (in addition to government employees and a few small other groups) to everyone in need. However, the organization and management of the system is outdated and inefficient. These shortcomings have created opportunities for expansion of the private health sector. In many cases, even those who are eligible for free medical care from the public sector choose to purchase health services from the private sector. Demand for private health care in Cyprus is particularly strong at primary level, among younger age groups and wealthier households. In recent years, increasing demand for private secondary health care has led to the creation of private clinics with facilities for specialized treatment. This situation is reflected in the fact that public health provision in Cyprus accounts for less than 40% of the overall health expenditure, a very low proportion compared to the other EU countries.

The health system in Cyprus faces many challenges. There is a need to develop a national benefits package. There is also a need to ensure adequate payment mechanisms and associated incentives for doctors and hospitals. Currently, there is little incentive to function efficiently and economize due to payment mechanisms of fee-for-service for doctors, and open-ended payments

for hospitals. The Cypriot population is ageing, with important implications for the health care system, specifically: reduction of the labour force, shrinking social security revenues and potentially increasing health care costs. There is no developed market for health insurance. There are inadequate facilities for continuing medical education. There is no comprehensive health data collection mechanism and information and technology should be improved, particularly in hospitals. There is inadequate inspection and control of private sector services. As suggested in the Nuffield Report, hospitals require new management systems for improved efficiency and quality. Finally, systems for monitoring pharmaceutical prescribing and quality should be introduced. The current situation is expected to improve with the implementation of newly-introduced legislation on regulating the establishment and operation of private hospitals.

The main challenges arising from the structural weaknesses of the public health system in Cyprus could be addressed when the planned NHIS becomes operational in the next five years. The NHIS will create a monopoly purchaser in the health care system, with the potential to define the terms of reference for the provision and quality of services. Through the new NHIS, several changes are expected to take place. First, infrastructure will be developed to support public sector health provision. Second, it is expected that health care funding will be secured through compulsory insurance contributions. Third, comprehensive equitable access to health care will be granted to the entire population. Fourth, payment mechanisms will be changed in order to address the lack of efficiency incentives. Specifically, primary care physicians will be paid a capitation rate, which may be risk adjusted, and specialists will be paid on a fee schedule negotiated between their organizations and the NHI. Finally, the introduction of competition between the public and the private sectors is expected to result in improved infrastructure and quality in public health.

Furthermore, with increased competition, the Ministry of Health will relinquish its managerial and control powers over individual public sector providers, assuming a role regulating the relationship between public and private sector providers. Individual public sector health care providers are also expected to become semi-autonomous and to invest in updating their managerial and accounting systems to ensure greater competitiveness with their private sector counterparts.

Such major changes are expected to enhance the quality of services offered in both public and private sectors and ensure that Cypriots enjoy more effective and efficient health care service provision.

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