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The former Yugoslav Republic of Macedonia

Health system review

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Health Systems in Transition

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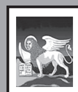

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Preface

The Health Systems in Transition profiles are country-based reports that provide a detailed description of a health system and of reform and policy initiatives in progress or under development in a specific country. Each profile is produced by country experts in collaboration with the Observatory's 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 detailed guidelines and specific questions, definitions and examples needed to compile a profile.

Health Systems in Transition profiles seek to provide relevant information to support policy-makers and analysts in the development of health systems in Europe. They are building blocks that can be used:

- to learn in detail about different approaches to the organization, financing and delivery of health services and the role of the main actors in health systems;
- to describe the institutional framework, the process, content and implementation of health 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 systems and the exchange of experiences of reform strategies between policy-makers and analysts in different countries.

Compiling the profiles poses a number of methodological problems. In many countries, there is relatively little information available on the health system and the impact of reforms. Due to the lack of a uniform data source, quantitative data on health services are based on a number of different sources, including the European Health for All database, national statistical offices, Eurostat, the Organisation for Economic Co-operation and Development (OECD) health

data, the International Monetary Fund (IMF), the World Bank, and any other relevant sources considered useful by the authors. Data collection methods and definitions sometimes vary, but typically are consistent within each separate series.

A standardized profile has certain disadvantages because the financing and delivery of health care differs across countries. However, it also offers advantages, because it raises similar issues and questions. The Health Systems in Transition profiles can be used to inform policy-makers about experiences in other countries that may be relevant to their own national situation. They can also be used to inform comparative analysis of health systems. This series is an ongoing initiative and material is updated at regular intervals. Comments and suggestions for the further development and improvement of the Health Systems in Transition series are most welcome and can be sent to: info@obs.euro.who.int.

Health Systems in Transition profiles and their summaries are available on the Observatory's web site at www.euro.who.int/observatory. A glossary of terms used in the profiles can be found at the following web site: www.euro.who.int/observatory/Glossary/Toppage.

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The Health Systems in Transition (HiT) profile on The former Yugoslav Republic of Macedonia was written by Dragan Gjorgjev (Republic Institute for Health Protection), Angelina Bacanovic and Snezana Cicevalieva (both from the Ministry of Health), Zlate Sulevski (Health Insurance Fund, Skopje) and Susanne Grosse-Tebbe (European Observatory on Health Systems and Policies). Susanne Grosse-Tebbe also edited the profile with Jennifer Cain (then European Observatory on Health Systems and Policies) editing earlier versions. Josep Figueras was the European Observatory on Health Systems and Policies' research director responsible for the HiT profile. The HiT builds upon an earlier edition, published in 2000, that was prepared by Steve Hajioff in cooperation with Gordana Pecelj and Fimka Tozija.

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

The Observatory team working on the Health Systems in Transition profiles is led by Josep Figueras, Director, and Elias Mossialos, Co-Director, and by Reinhard Busse, Martin McKee and Richard Saltman, Heads of the Research Hubs. Technical coordination is led by Susanne Grosse-Tebbe.

Giovanna Ceroni managed the production and copy-editing, with help from Nicole Satterley and with the support of Shirley and Johannes Frederiksen (layout). Administrative support for preparing the Health Systems in Transition profile on The former Yugoslav Republic of Macedonia was undertaken by Pieter Herroelen.

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The HiT reflects data and information available in February 2006.

List of abbreviations

ALOS	Average length of stay
BBP	Basic benefits package
CCEE	Countries of central and eastern Europe
CEHAP	Children's Environment and Health Action Plan
CIS	Commonwealth of Independent States
CME	Continuing medical education
DMFT	Decay-missing-filled teeth
DOT	Directly observed treatment
DRG(s)	Diagnosis related group(s)
EDL	Essential Drug List
ENT	Ear, nose and throat department
EU	European Union
GMP	Good manufacturing practice
GP	General practitioner
HCI(s)	Health care institution(s)
HCL	Law on Health Care
HESME	Health, environment and safety management in enterprises
HIF	Health Insurance Fund
HiT	Health Systems in Transition profile
HTA	Health technology assessment
JICA	Japan International Cooperation Agency
IMR	Infant mortality rate
MDG	Millennium development goals
NGO(s)	Nongovernmental organization(s)
OSCE	Organization for Security and Co-operation in Europe
PAD	Project appraisal document
PHC	Primary health care
PLD	Positive List of Drugs
PSMAL	Public Sector Management Adjustment Loan
RIHP	Republic Institute for Health Protection
WHO	World Health Organization

List of institutions frequently referred to in the HiT

Ministry of Health (Министерство за здравство)

Health Insurance Fund (Фонд за здравствено осигурување)

Food Directorate (Дирекција за храна)

Bureau for Drugs (Биро за лекови)

Health and Sanitary Inspection (Здравствена и санитарна инспекција)

Macedonian Medical Association (Македонско лекарско друштво)

Doctors Chamber (Лекарска Комора на Македонија)

Dentists Chamber (Стоматолошка Комора на Македонија)

Pharmaceutical Chamber (Фармацевтска Комора на Македонија)

Open Society Institute (Институт Отворено Општество)

School of Public Health (Школа за Јавно Здравство)

Skopje Clinical Center (Клинички Центар Скопје)

Republic Institute for Health Protection (Републички завод за здравствена заштита)

Regional Institutes for Health Protection (Заводи за здравствена заштита)

Hygienic Epidemiological Units (Хигиенско Епидемиолошки станици)

State Statistical Office (Државен завод за статистика)

Institute for Occupational Health (Институт за медицина на труд)

Adverse Drug Reaction Center (Центар за следење на несакани дејства на лекови)

National Drug Information Centre (Национален фармако-информативен Центар)

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Executive summary

The former Yugoslav Republic of Macedonia, situated in the middle of the Balkan Peninsula, covers an area of 25 713 km^2 and has a population of 2 022 547 (2002), making it one of the relatively small countries in Europe. In autumn 1991, after 45 years as part of the Socialist Federal Republic of Yugoslavia, the country gained independence in a peaceful secession and established the political system as a parliamentary democracy. Peaceful and stable relations with the all neighbouring countries and accession to the European Union (EU) and the collective security system of the North Atlantic Treaty Organisation (NATO) are considered the foreign policy priorities. Economic reforms have focused on fully establishing market economy structures, including deregulation and the introduction of the necessary privatization trends in the public sector, liberalization of international trade, etc. Alongside facing a number of unforeseen obstacles owing to regional instability, such as the NATO campaign in Kosovo and the country's civil unrest in 2001, reform implementation has been faced with frequent political changes. Since independence The former Yugoslav Republic of Macedonia has seen five prime ministers and 13 different compositions of government. During the same period 10 ministers of health have been appointed, which indicates the stewardship challenges for continuous and consistent health policy.

Life expectancy at birth for both sexes in The former Yugoslav Republic of Macedonia has increased slightly from 72.12 years in 1991 to 73.53 years in 2003. However, this figure is still much lower than in western Europe and was five years below the EU average of 78.49 years in 2004.

The former Yugoslav Republic of Macedonia shares the disease prevalence pattern of that of other European countries: cardiovascular diseases, cancer, mental health problems, injuries and violence, and respiratory diseases represent the most prominent causes of morbidity and mortality. Several public health and

health care indicators show that the country is outperforming those of central and south-eastern Europe and its EU neighbours in some areas. For example, owing to a number of policy interventions, there is evidence of a decreasing trend in communicable diseases and in the period 2001–2004 infant mortality was halved.

Following independence, The former Yugoslav Republic of Macedonia set up an insurance-based health system with the Government and the Ministry of Health providing the legal framework for operation and stewardship, and the established Health Insurance Fund (HIF) being responsible for the collection of contributions, allocation of funds and the supervision and contracting of providers. The Ministry of Finance, with its role in setting the annual state budget, including the funds for health, as well as sharing with the Ministry of Health the chairmanship of the HIF, and the Ministry of Local Self-Government, with its aim to strengthen the communities' role in primary health care (PHC) delivery, as well as prevention and health promotion activities, represent additional important actors in the system. Doctors', dentists' and pharmacists' chambers are responsible for licensing health professionals, and the medical associations are responsible for drawing up clinical guidelines.

Health care is delivered through a system of health care institutions, covering the country's territory relatively evenly. The health facilities range from health care stations and centres at PHC level and specialty-consultative and inpatient departments at secondary level, to university clinics and institutes at tertiary level, with the latter also carrying out research and educational activities. Recently the medical centres at municipal level have been functionally and legally divided into primary health care on the one hand and specialist-consultative and hospital care on the other. Moreover, some tertiary-level institutions also deliver secondary care, and the system has yet to implement the necessary regulatory framework to ensure proper gatekeeping and referral practices. Recent years have seen substantial growth of the private sector, especially in the field of primary health care. Most dental offices have been privatized, and pharmacies are in the process of privatization.

The country's compulsory health insurance system provides universal coverage, and the current benefits package is considered very comprehensive, but also very costly.

The funds generated by the collection of contributions represent the main source of financing for the health sector. In 2004 the contributions accounted for more than 95% of the public resources available for health care delivery and other health insurance-related benefits and activities. In view of the necessary expenditure the revenue is insufficient. Moreover, premium collection mechanisms are still considered unsatisfactory, and transfers from the central

budget to finance prevention programmes, for example, remain outstanding. In this way the HIF has accumulated a significant deficit.

According to WHO estimates, total health expenditure as a percentage of gross domestic product (GDP) in The former Yugoslav Republic of Macedonia amounted to 6.8% in 2002. This represents a significantly lower figure than that of most of the other ex-Yugoslav countries and the EU. In the same year the health care expenditure in US$ (with purchasing power parity) per capita amounted to US$ 341, with 84.7% of health expenditure coming from public sources. Data on private expenditure, especially out-of-pocket payments and the financial burden they might constitute, are neither detailed nor precise, therefore data analysis focuses on the expenditure of the HIF: in line with the trend over the preceding decade, the major share in 2004 (over 90%) covered service delivery costs, followed by pecuniary compensation of insured individuals (6.5%) and the fund's administrative costs (2.2%). Expenditure for investment in the health sector (0.7%) continued to be insufficient.

Since independence, The former Yugoslav Republic of Macedonia has embarked on a number of reform initiatives in the field of health care. All reform initiatives are undertaken with the aim of sustaining access for the whole population to a comprehensive health system, as well as improving the quality of health services and enhancing financial sustainability. A number of reforms have been very successful and have brought about positive changes in the health sector. At present the system is facing a number of challenges, however, including the need to overcome the legacies of the health system that was in place until 1991. These challenges include: strengthening of human resources planning and training, including the reduction of the oversupply of staff, especially in the PHC sector; strengthening of continuing medical education; and introducing admission quota to training facilities. Moreover, the health care facilities need to be rationalized in order to redistribute limited resources more effectively and thereby to improve the infrastructure of facilities, as well as the quality especially of PHC services. The reorganization of medical centres at primary care level, privatization trends and reforms regarding the remuneration of providers – with the introduction of a capitation-based system at primary care level and an annual global budget allocation for inpatient care – represent important developments in this field. Furthermore, regulation of the pharmaceutical sector will need to be strengthened, promoting improved procurement procedures and rational drug prescription practices. Overall, sustainable health financing will need to be secured, including adequate funding for preventive programmes and capital investments. To this end the Ministry of Health will need to strengthen its policy formulation, implementation and monitoring capacities, while the HIF will need to enhance its budget planning, monitoring and reporting instruments.

1 Introduction and historical background[1]

Geography

The former Yugoslav Republic of Macedonia covers an area of 25 713 km^2, thus belonging to the group of relatively small countries in Europe. Situated in the middle of the Balkan Peninsula, the country's neighbours include Serbia and Montenegro to the north, Bulgaria to the east, Albania to the west and Greece to the south, with land boundaries totalling 850 km. The relief structure of The former Yugoslav Republic of Macedonia is characterized by numerous mountains, rivers, valleys and ravines. The area comprises about 79% hilly, mountainous terrain; 19% plains; and 2% is covered by water (see Table 1.1). In terms of the elevation level the lowest point is the River Vardar at 50 m and the highest point is Golem Korab at 2764 m above sea level. The country's average altitude is 830 metres *(1)*. The climate is mild continental, with some Mediterranean influence.

Table 1.1 Basic geographic data

The former Yugoslav Republic of Macedonia	Surface in km^2	%
Water surfaces	488	1.9
Plain terrains	4 900	19.1
Hilly, mountainous terrains	20 323	79.0
Total	25 713	100.0

Source: State Statistical Office of the Republic of Macedonia. Statistical Yearbook of the Former Yugoslav Republic of Macedonia, 2002.

[1] The 2006 edition of The former Yugoslav Republic of Macedonia Health Systems in Transition (HiT) profile is an update of the previous version published in 2000 and builds on the hard work of the team of authors and editors undertaken at that time. To view the 2000 version, please visit the European Observatory on Health Systems and Policies' web site or use the following web link directly: http://www.euro.who.int/document/e72508.pdf.

Fig. 1.1 Map of The former Yugoslav Republic of Macedonia

Source: United Nations Cartographic Section.

Historical background

The territory was first colonized by Slavic peoples in the sixth century AD, and came under Bulgarian rule 3 centuries later, which then lasted some 300 years. Over the following centuries, rule over the ancient province of Macedonia was contested and passed back and forth between the Serbs, the Bulgarians and the Byzantine Empire. In 1371, Macedonia was conquered by the Ottoman Empire, under whose ambit it remained for 500 years.

With the collapse of the Ottoman Empire and the regional rise of nation states in the late 19th and early 20th centuries respectively, Macedonia's status became more volatile. The country had already ceded to Bulgaria when, in the wake of the Balkan wars of 1912–1913, Macedonia was partitioned, with Aegean Macedonia becoming part of Greece, and Vardar Macedonia being incorporated into the new Kingdom of Yugoslavia.

The Socialist Republic of Macedonia was established from Vardar Macedonia in 1944 as a part of the Socialist Federal Republic of Yugoslavia. In spite of a long-standing policy to maintain the language and cultural identity of ethnic minority groups, there is a long history of ethnic tensions in The former Yugoslav Republic of Macedonia. In the wake of similar tendencies in the northern Yugoslavian Republics, in 1989 the Socialist Federal Republic of Macedonia moved towards pluralism in its political organization, amending the Constitution to allow multiple political parties.

On 8 September 1991, after 45 years as part of the Socialist Federal Republic of Yugoslavia, a people's referendum was held at which 95.08% of voters signalled their assent for an independent Republic of Macedonia. Unlike some of the other republics, The former Yugoslav Republic of Macedonia's secession from Yugoslavia was peaceful.

The first multiparty elections were held shortly after, and on 17 November 1991 the Assembly of the Republic of Macedonia endorsed the Constitution, defining the country as a sovereign, independent and democratic state.

International recognition of the new state, especially by Greece, was problematic. In 1994 this resulted in a trade embargo, with Greece denying access to the Greek port of Thessaloniki, an important trade route. The logjam caused significant economic hardship and was only lifted in late 1995. Owing to these sensitivities, the interim name recognized by the United Nations in April 1993, i.e. The former Yugoslav Republic of Macedonia, remains. Diplomatic and trade links were re-established with Greece in 1996.

In 2001, deep political tensions between ethnic Albanians and Macedonians erupted into armed conflict. Fighting between the groups left a significant mark on the social and economic development of The former Yugoslav Republic of Macedonia and an internationally brokered peace agreement to end the crisis was enlisted. The Ohrid Framework Agreement, signed on 13 August 2001, indicated an end to the crisis and the establishment of a complex process of change in the constitutional and political organization of the country. It set out the fundamental principles upon which the future of the country's democracy was to be based, promoting the peaceful and harmonic development of civil society through respect for the ethnic identity and the interest of all citizens of The former Yugoslav Republic of Macedonia. The agreement required the 1991 Constitution to be amended, which has since then led to changes in several areas of the country's legislation. The process of decentralization, for example, encompasses all areas of social and political life, including the health system.

Political context

The former Yugoslav Republic of Macedonia is a parliamentary democracy. It is a country in transition both economically and politically, striving to form closer ties with the European Union. In 1991, major economic and political reforms were initiated that are ongoing to date, some of which include, for example, the introduction of a multiparty system, the establishment of plural and democratic governance structures that foster professionalism in public administration, as well as a shift towards a market economy.

The political system was established with the Constitution of 1991. The latter determines the basic principles of democracy, establishing civil freedoms and dividing the power into legislative, executive and judicial branches. The executive branch is divided between the president, the Government and the prime minister. Representatives of The former Yugoslav Republic of Macedonia's political institutions are directly elected by citizens through general elections.

There are more than 40 registered political parties in The former Yugoslav Republic of Macedonia. This number is not static, however. Depending on the political circumstances surrounding elections, parties frequently merge to form coalitions and separate after elections if they are not elected into power.

The foreign policy of The former Yugoslav Republic of Macedonia focuses on three main priorities.

1. Development of peaceful and normalized relations with all neighbouring countries.
2. Accession of The former Yugoslav Republic of Macedonia to the European Union. To this end the official application for EU integration was submitted in 2004. With Macedonia having completed the comprehensive set of EU questionnaires to evaluate the state's organization and legislation as well as the reform initiatives under way, in December 2005 the country became an official candidate, and it is hoped that discussions and negotiations towards EU accession can be taken forward in the near future.
3. Accession of The former Yugoslav Republic of Macedonia to the collective security system of the North Atlantic Treaty Organisation. Becoming a full member of NATO's Partnership for Peace programme on 15 November 1995 signals a step towards this.

The former Yugoslav Republic of Macedonia became a member of the Organization for Security and Co-operation in Europe (OSCE) on 13 October 1995 and was admitted to the Council of Europe on 9 November of the same year. The country is, furthermore, a member of 39 international organizations and agencies and is a signatory to key international legal treaties, such as the

Universal Declaration of Human Rights (United Nations), the International Covenant on Civil and Political Rights (United Nations), the Convention on the Elimination of All Forms of Discrimination against Women (United Nations), the Convention against Torture and Other Cruel, Inhuman or Degrading Treatment or Punishment (United Nations and Council of Europe), the Convention on the Rights of the Child (United Nations), the Statute of the World Health Organization (WHO), the United Nations Declaration of Millennium Development Goals (MDGs), the Convention on the Protection of Human Rights and Fundamental Freedoms (Council of Europe), legal acts of the International Atomic Energy Agency (IAEA), etc. At present additional treaties, such as the European Convention on Social Security and the WHO Framework Convention on Tobacco Control, are in the process of ratification.

During its 14 years of existence, The former Yugoslav Republic of Macedonia has seen five prime ministers and 13 different compositions of Government. During the same period, 10 ministers of health have been appointed which indicates the stewardship challenges for continuous and consistent health policy. Against this background the maintenance of the functions of the health sector is a success in itself. Reform of the system does and will continue to require both foreign and domestic resources, as well as a coordinated approach to the allocation of these resources.

Economic development

Since 1991, The former Yugoslav Republic of Macedonia's domestic economy has seen radical reforms in order to fully establish market economy structures. Key goals of the reforms have been to re-establish private property ownership, to create a clear distinction between private and public sectors, deregulation, liberalization of international trade, stabilization of inflation, and the development of small- and medium-scale enterprises *(2,3)*.

However, in the course of reform implementation, the country has encountered several unforeseen obstacles due to regional instability, the NATO campaign in Kosovo and the country's own civil unrest in 2001. Nevertheless, even under these difficult circumstances, The former Yugoslav Republic of Macedonia has continued to follow its path of reform.

The early 1990s saw hyperinflation of the country's currency, the denar. Since 2001 the Central Bank has employed a very strict monetary policy to avoid inflation, and this has resulted in macroeconomic stabilization as well as fostering price stability in goods and services. The economy of The former Yugoslav Republic of Macedonia has seen slight growth over the past years,

presented, for example, by the increasing trend of the indicator US$ PPP (purchasing power parity) per capita (from US$ 5086 in 2001 to US$ 6794 in 2003). However, the figure is still very low compared to the EU averages in 2003, which amounted to US$ 26 779 for the countries belonging to the EU before May 2004, and US$ 12 989 for the countries joining the EU in May 2004. The budget deficit, with the exception of the year 2001, has been correctly projected at around 2% of gross domestic product (GDP), consistent with the countries of the Stability and Growth Pact eurozone. Average salaries have grown in real terms by more than 4%. At the same time, however, 0.4% deflation has been observed. The latter seems to point to an unfavourable trend in personal consumption in relation to GDP and investment growth. However, the Economist Intelligence Unit projects an annual GDP growth of 4% in the period 2005–2006, as industrial production (notably in the steel sector) picks up, real interest rates decline and modest export recovery continues.

In the near future the country will continue to face a shortage of investment capital. Against this background, one of the strategic goals and priorities of the Government is, besides an increase in national savings, the creation of an environment which is more favourable to a bigger inflow of foreign investment. In this context, the Government has approved an investment programme inviting direct foreign investment. In addition, reforms have introduced arbitrage and more efficient protection of the creditors' capital through adequate payment instruments. Furthermore, legislation has been passed regulating, for example, equal treatment of domestic and foreign investors, real estate usage by foreigners, protection of intellectual property rights, etc.

In 2001, The former Yugoslav Republic of Macedonia implemented the European Union Co-operation Agreement, opening the way to closer trade ties as well as foreign aid. Since then, additional trade agreements have been established with other European Free Trade Association (EFTA) countries, Ukraine, Albania, and Bosnia and Herzegovina. These agreements are expected to support an intensified flow of capital, goods and services.

Another reform priority of the Government of The former Yugoslav Republic of Macedonia is the restructuring of the banking sector. Moreover, as stated above, structural and legal reforms aim to increase the efficiency of the public sector, with the latter being considered a potential development generator. The reforms strive to introduce privatization trends, i.e. where possible, monopolistic structures are abolished to make way for the introduction of elements of competition. These reforms will be taken forward in accordance with the market opening and the EU integration process.

Reform initiatives currently discussed suggest that the Government's economic policy will continue to be based on a mix of macroeconomic stability and structural reforms.

A matter of concern is the unemployment rate, which in 2005 amounted to 36.5%. The effects are illustrated by, among other factors, the Head Count Index, which is a measurement of the percentage of people living below the poverty line. In 2004 this figure was recorded as 29.3% *(1)*. An analysis revealed that the unemployed (especially those with low educational profiles and/or those living in urban settings), members of socially vulnerable households, pensioners and farmers are the population groups most at risk. As is well documented by a multitude of studies, poverty has a serious impact on the health status of the population and also, in the case of The former Yugoslav Republic of Macedonia specifically, on the accessibility of health services.

Table 1.2 Some macroeconomic indicators

	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004
Real rate of GDP (%)	-1.1	1.2	1.4	3.4	4.3	4.6	-4.5	0.9	2.8	2.9
Consumer price inflation (average)	115.7	2.3	2.6	-0.1	-0.7	5.8	5.3	1.8	1.2	-0.4
Inflation (average) (%)	15.7	2.3	2.6	-0.1	-0.7	5.8	5.5	1.8	1.2	-0.4

Source: Ministry of Finance. Bulletin, 2005 *(3).*

In the light of the structural and economic challenges The former Yugoslav Republic of Macedonia is facing, the sustainability of the health care system in general and its funding in particular have been identified as top priorities of the reform agenda. In this context the Health Insurance Fund, as an extra-budgetary fund responsible for managing resources equal to 5% of GDP, will be especially closely monitored. To this end, and supported by the World Bank, The former Yugoslav Republic of Macedonia has in recent years adopted a strong programme for improving public expenditure and public financial management and procurement, with the objective of improving governance, transparency and accountability in the public sector.

Overall health status

Population development

According to the latest national census held in 2002, the total population of The former Yugoslav Republic of Macedonia amounted to 2 022 547 inhabitants,

with 59.5% living in urban areas. The census also showed that since 1991, the year of independence, the population has grown by 5.4%. Moreover, the population density has increased from 64 inhabitants per km² in 1971 to 79 per km² in 2002. The 2002 census showed an ethnic composition of 64.18% ethnic Macedonians, 25.17% Albanians, 3.85% Turks, 2.66% Roma, 1.78% Serbs and 0.4% Vlachs. 64% of the population are Christian (0.5% are Catholic) and 36% are Muslim.

Table 1.3 Demographic and socio-economic indicators in The former Yugoslav Republic of Macedonia and EU averages, 1991, 1995, 2000, 2004

	1991	1995	2000	2004	EU average	EU-15 average	EU-10 average
Life expectancy at birth, in years	72.13	72.21	73.42	73.54 (2003)	78.49	79.1 (2003)	74.39
Life expectancy at birth, in years, male	69.88	70.04	71.18	71.12 (2003)	75.32	76.12 (2003)	70.23
Life expectancy at birth, in years, female	74.53	74.48	75.74	76.11 (2003)	81.55	81.98 (2003)	78.5
Infant deaths per 1000 live births	28.25	22.67	11.81	11.29 (2003)	4.75	4.46 (2003)	6.64
Abortions per 1000 live births	665.12	491.54	389.21	315.55 (2001)	225.71 (2003)	227.58 (2003)	206.38
% of population aged 65+ years	7.97	8.81	10.1	10.69 (2003)	16.42	16.97	13.59
Live births per 1000 population	18.18	16.35	14.46	13.33 (2003)	10.31	10.51	9.28
Crude death rate per 1000 population	7.72	8.31	8.51	8.88 (2003)	9.78	9.76 (2003)	10.51

Source: European Health for All database, January 2006.

Note: EU: European Union; EU-15: Member States before 1 May 2004; EU-10: Member States joining the EU on 1 May 2004.

Current data show that almost all demographic and socioeconomic indicators have seen an upwards trend in recent years. However, most figures are still lower than in EU countries and continued efforts will therefore be needed to further improve the health status of the population (see Table 1.3).

As shown in Table 1.3, life expectancy at birth for both sexes in The former Yugoslav Republic of Macedonia has increased slightly from 72.13 years in 1991 to 73.54 years in 2003, while the gap between the sexes remains almost the same (4.6 years in 1991 compared to 4.9 in 2003), with women expected to live longer than men. Life expectancy in The former Yugoslav Republic of Macedonia is much lower than in other countries and in 2004 was five years below the EU average of 78.49 years (*4*). Differences in life expectancy between

countries can be attributed, among many other factors, to differences in adult mortality, this being dependent on socioeconomic status and standard of living, as well as lifestyle.

In The former Yugoslav Republic of Macedonia as well as in many other countries a trend towards an ageing population can be observed: the 2002 census showed that 22% of the population were under the age of 14 and 10% were above the age of 65. Specifically, from 1990 to 2003 the percentage of the population over 65 years of age increased from 7.97% to 10.7% (males 4.8% and females 5.8%) and the percentage of the population aged 0–14 years decreased to 21.1% (males 10.9% and females 10.2%). However, figures also suggest that the trend towards an ageing population is far less pronounced in The former Yugoslav Republic of Macedonia than in most neighbouring central and south-eastern European countries (in 2003 only Albania had a younger population with 7.87% over 65 years) or the EU (in 2003 the percentage of the population over 65 years on average amounted to 16.13%, in 2004 it was 16.42%).

As shown in Table 1.3, the rate of live births per 1000 people in The former Yugoslav Republic of Macedonia decreased from 18.2 in 1991 to 13.3 in 2003. With this figure, however, The former Yugoslav Republic of Macedonia still ranks second, after Albania with 15.2 live births per 1000 people, and to this end the inverse trends are far more pronounced in the EU countries, with an average of 10.3 live births per 1000 people in 2003, as well as in 2004.

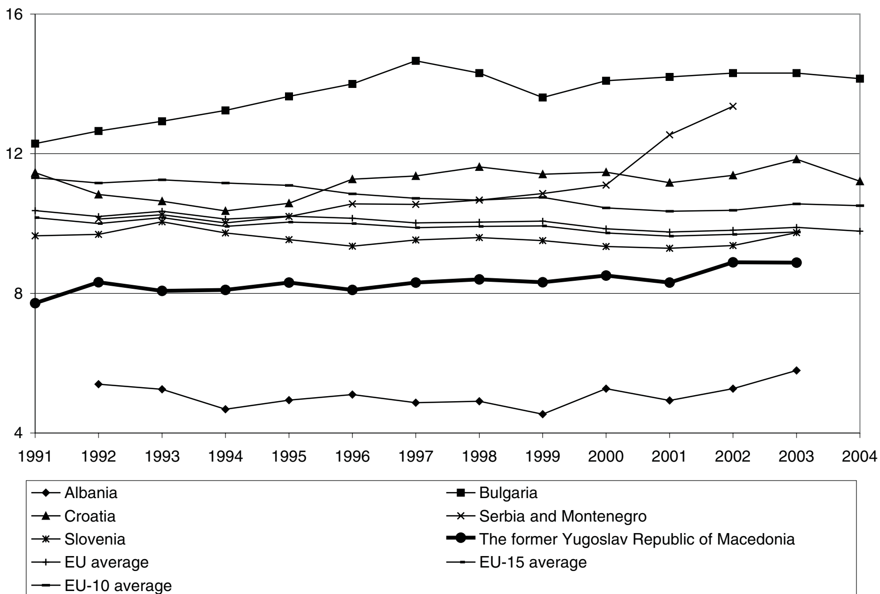
Abortions as a contraceptive and a family planning method are still common among women of The former Yugoslav Republic of Macedonia, even though the rate of abortions per 1000 live births had decreased from 665 in 1991 to 316 in 2001. In comparison with other European countries this rate is still high; the average for countries belonging to the EU before May 2004, for example, was 226 in 2003.

One of the very positive developments in The former Yugoslav Republic of Macedonia in the last decade concerns the infant mortality rate (IMR) that continued to fall and has halved, from 28.25 infant deaths per 1000 live births in 1991 to 11.29 in 2004. However, this figure is still three times higher than the EU average of 4.75 (see Table 1.3). A decrease in IMR up to 2002 can partly be attributed to the many policy interventions carried out: significant outcomes have been achieved with the Perinatal Project (1999–2001) as part of the Health Sector Transition Project (for details see Chapter 6 on health care reforms). The project improved access to intensive care facilities with modern equipment and evidence-based methods of treatment. It was implemented by the Ministry of Health with the World Bank providing financial support, the Royal Prince Alfred Hospital, Sydney, providing technical assistance and the United Nations Children's Fund (UNICEF) Baby-Friendly Hospitals Initiative

providing overall coordination. The data collected in 2002 from 16 hospitals (covering over 93% of births) showed a 21% decrease in the perinatal mortality rate. Moreover, there was a decrease of 36% in early neonatal deaths in babies weighing over 1000 g (the figure 11.8 per 1000 live births in 2000 dropped to 7.7 in 2002), reflecting that the postnatal thrust of the programme could be achieved *(5,6,7)*. The fact that the IMR had been increasing again in 2003 to reach 11.29 deaths per 1000 live births in 2004 might in part be attributed to the discontinuity of some of the interventions previously carried out, owing to a lack of funding.

The crude mortality rate in The former Yugoslav Republic of Macedonia has shown a steadily increasing trend from 7.72 per 1000 people in 1991 to 8.88 in 2003. This rate is high compared to Albania, with 5.79, but much lower than other EU countries and many of The former Yugoslav Republic of Macedonia's neighbouring countries, such as Bulgaria, Croatia and Slovenia.

Fig. 1.2 Crude mortality rate for The former Yugoslav Republic of Macedonia, selected countries and EU averages



Source: European Health for All database, January 2006.

Note: EU: European Union; EU-15: Member States before 1 May 2004; EU-10: Member States joining the EU on 1 May 2004.

Important morbidity and mortality indicators

Unlike in some of the neighbouring countries to the north, where the determinants of mortality are better understood, and economic decline and increasing income inequalities, for example, have been shown to correlate with an increase in premature mortality among men, so far, little research has been carried out on the causes of mortality patterns in The former Yugoslav Republic of Macedonia.

Circulatory diseases are the leading cause of death in The former Yugoslav Republic of Macedonia, accounting for nearly 57% of all deaths in 2003. The standardized death rate (SDR) per 100 000 inhabitants for circulatory diseases has increased from 527 in 1991 to 599 in 2003, which is more than double that of the EU average of 262.38 in 2003. Overall mortality from malignant

Table 1.4 Morbidity and mortality indicators in The former Yugoslav Republic of Macedonia and EU averages, 1991, 1995, 2000, 2004 (or latest available year)

Text	1991	1995	2000	2004	EU average	EU-15 average	EU-10 average
SDR, diseases of the circulatory system per 100 000	527.53	603.83	582.18	599.06 (2003)	262.38	233.2 (2003)	447.99
SDR, malignant neoplasms per 100 000	139.51	149.19	163.63	165.07 (2003)	184.23	177.94 (2003)	220.90
Tuberculosis incidence per 100 000	35.19	39.98	31.63	31.72	11.85	9.68	23.12
SDR external causes of injury and poisoning per 100 000	40.88	30.83	37.88	32.9 (2003)	42.83	37.81 (2003)	71.24
Clinically diagnosed AIDS incidence per 100 000	0.00	0.25	0.20	0 (2003)	1.58	1.79	0.50
Cancer incidence per 100 000	142.46	276.39			463.76 (2002)	468.17 (2000)	437.88 (2002)
New HIV infections reported per 100 000	0.05	0.31	0.35	0.30	5.34	6.75	2.79

Source: European Health for All database, January 2006.

Note: EU: European Union; EU-15: Member States before 1 May 2004; EU-10: Member States joining the EU on 1 May 2004.

neoplasms as the second most significant cause of death has also increased over the past 10 years, from SDR 140 per 100 000 in 1991 to 165 per 100 000 in 2003, which is still lower than the EU average of 184 in 2004. External causes (injuries and poisoning) are the third leading cause of death (the SDR in 2000 was 37.9). Respiratory diseases rank fourth, with bronchitis, emphysema and asthma accounting for more than 60% of these deaths. Diseases of the endocrine and digestive systems – with a substantial proportion (approximately 40%) of the latter attributed to chronic liver diseases and cirrhosis – represent the fifth and sixth most significant causes of death, respectively. Important risk factors for these conditions could be alcohol consumption and hepatitis infections, the latter being among the five most frequent infectious diseases in The former Yugoslav Republic of Macedonia *(8)*.

The cancer incidence in The former Yugoslav Republic of Macedonia has seen an increasing trend, though, unfortunately, during the last decade there have been flaws in its recording. However, the increase has been particularly notable in cancer of the lung and prostate among men, and cancer of the breast and cervix among women. Mortality from cancer related to tobacco and alcohol abuse has increased rapidly in the last decade, reflecting changes in consumption. Given the long lag phase in the progression of many types of cancer, it can be expected that rates will continue to rise for some years to come.

In 2000 suicides accounted for 20% (7.6 per 100 000) of deaths and traffic accidents for 14% (5.4 per 100 000), the latter representing one of the lowest rates reported in the WHO European Region. The number of murder cases almost doubled in the period 1991–2000, amounting to 8% (3.1 per 100 000 people).

During the 1990s the incidence of tuberculosis (TB) decreased significantly, reaching the lowest rate of 27.61 per 100 000 inhabitants in 1999. Supported by the WHO and the World Bank, The former Yugoslav Republic of Macedonia has successfully implemented the directly observed treatment (DOT) strategy, halving the number of patients with active tuberculosis between 1997 and 2001, and reducing the average length of hospital stay in both general and specialist hospitals by more than 20% *(9)*. However, the Kosovo crisis and the conflict in The former Yugoslav Republic of Macedonia, resulting in a rise in the number of refugees and displaced citizens, have had negative impacts on the health of the population, such as an increase in the incidence of TB, among other effects. In 2004 the incidence of TB was 31.72 per 100 000, representing a rate almost three times higher than the EU average of 11.85 (see Table 1.4).

According to the national data and the Joint United Nations Programme on HIV/AIDS (UNAIDS) database, up to 2005 a total of only 16 HIV-positive and 59 AIDS cases had been registered in The former Yugoslav Republic of Macedonia, with the first HIV-positive case being recorded in 1987 and the first AIDS case diagnosed in 1989. As most of the cases had been registered at a late stage of the HIV infection or after the patient had already developed AIDS, 46 out of the total of 59 people have died. In 2005 eight new AIDS cases were diagnosed. The male-to-female ratio in 2005 was 2.1 to 1, compared to a 1.02 to 1 ratio some years ago. Investigations into transmission methods revealed that heterosexual intercourse accounted for 56%, and homosexual for 13%. An additional 13% was attributed to intravenous drug use and 8.7% to haemophilic treatment. In 4.3% of cases, transmission from mother to child had occurred and for 5% the transmission method remains unknown, but may also be attributable to homosexual practices. For a variety of reasons, including cultural, religious or social traditions and irrespective of their ethnic origin, it is still very difficult for people to speak openly about their sexual behaviour *(10).*

Table 1.5 Trends in health risks in The former Yugoslav Republic of Macedonia and EU averages,1991, 1995, 2000, 2004 (or latest available year)

	1991	1995	2000	2004	EU average	EU-15 average	EU-10 average
Persons injured in road traffic accidents per 100 000	113.59	129.25	83.50	95.47 (2003)	296.39 (2003)	318.52 (2003)	181.94 (2003)
Average number of calories available per person per day (kcal)	2460	2529	2638	2655 (2002)	3494 (2002)	3522 (2002)	3335 (2002)
% of total energy available from fat	22.68	23.98	28.15	25.63 (2002)	37.47 (2002)	38.51 (2002)	31.75 (2002)
Average amount of cereal available per person per year (in kg)		144.5	127.1	132.3 (2002)	120.68 (2002)	117.32 (2002)	139.74 (2002)
Average amount of fruits and vegetables available per person per year (in kg)		250.1	291.8	304.6 (2002)	226.53 (2002)	235.74 (2002)	153.15 (2002)
% of regular daily smokers in the population, age 15+	–	–	–	–	28.84 (2003)	28.41 (2003)	30.34
Pure alcohol consumption, litres per capita	2.64	2.69	2.6	1.85 (2002)	9.3 (2003)	9.38 (2003)	8.88 (2003)

Source: European Health for All database, January 2006.

Note: EU: European Union; EU-15: Member States before 1 May 2004; EU-10: Member States joining the EU on 1 May 2004.

In international comparison the available data on lifestyle factors in The former Yugoslav Republic of Macedonia do not seem to be very reliable and further field surveys should be conducted to consolidate these data. However, currently available data suggest that citizens of The former Yugoslav Republic of Macedonia are less frequently victims of traffic accidents, drink much less alcohol, and eat slightly better (fewer calories, less fat, more fruits and vegetables), for example. Accurate data on smoking habits are missing.

The low and overall decreasing trend regarding traffic accidents observed since 1996 (with a death rate of 8 per 100 000) seems to reflect more a stagnation of road traffic than improved road safety: the incidence of road injuries (95 per 100 000 in 2003) is three times lower than the EU average of almost 297 per 100 000 in 2004. Traffic traumatism in children and youths is a priority public health problem. The most recent mortality data show that road traffic injuries account for 30–50% of all injuries causing death in children and adolescents in different age groups *(1)*. Severe traffic injuries are the leading cause of hospitalization (10%) and in 10% of cases the most severe traffic injuries have left children and youths disabled *(11)*. A study in the year 2000 suggests that children and youths up to the age of 24 represent 43.6% of all injured people and 26.5% of casualties dying in car or traffic accidents. Over the coming years traffic is expected to increase and already a positive correlation between number of drivers, vehicles, accidents and deaths can be observed, whereas in western European countries the number of accidents and injured is higher but the death rate is much lower, owing to effective preventive interventions.

The traditional diet of citizens of The former Yugoslav Republic of Macedonia includes a high intake of fruit and vegetables. Figures for 2002 record the average number of calories per day as 2655, a figure representing 800 calories less than the EU average. Similarly, the percentage of energy (approximately 25%) available from fat consumed is significantly lower than the EU average of 37.5%. The nutritional status of children in The former Yugoslav Republic of Macedonia, although close to western European standards, is faced with a number of challenges, such as poor economic development, environmental constraints and poor health promotion. Although acute forms of malnutrition do not seem to be a public health problem, marginal forms, particularly as far as micronutrients are concerned, may occur in some population groups. According to anecdotes from clinicians and public health specialists, anaemia is a public health concern, although there is no quantitative information available to verify this claim. A clinical study of 100 infants aged 1–12 months in 2000 showed a 25.6% prevalence of mild/moderate anaemia, attributed to improper child feeding habits, such as the use of cows' milk for feeding from the first few months of life *(12)*. Action might be taken among vulnerable groups or regions to evaluate the feasibility of nutrition support programmes.

The state of oral health of the population in general and of children in particular is far from adequate. In some epidemiological studies in 2000, the registered index for decayed, missing and filled teeth (DMFT-12) is over 5 *(13)*. In comparison, in 2000 the DMFT-12 index was 1.47 in the 15 countries belonging to the EU prior to May 2004 and 3.71 in the 10 countries joining the EU in May 2004 (see European Health for All database, January 2006 *(4)*). Against this background there is a need at national level for properly organized preventive programmes to improve dental hygiene.

Historical overview of the health system

The roots of modern health care in The former Yugoslav Republic of Macedonia date back to the 9th century. The first church and monastery hospital on the present day territory of The former Yugoslav Republic of Macedonia was founded in Ohrid. During Ottoman rule, medical practice in The former Yugoslav Republic of Macedonia was not well developed. The first detailed information on how to preserve good health originates from the 17th century.

The foundations of a modern public health system were laid after 1861. Then, one physician in each town or larger village was appointed with the mandate to examine the sick at least twice a day, free of charge and regardless of the financial standing of the patient. In cases where the patient was not able to come to the first-aid station, the physician was obliged to provide a home visit. During this period, Turkish authorities paid much more attention to military hospitals. The best equipped were the ones in Bitola, Salonika and Skopje. Over the course of the first two decades of the 20th century, the health system experienced a shortage of medical doctors. From 1922, with the arrival of doctors educated in France and other countries allied with Serbia as well as from the Medical Faculty in Belgrade, where significant numbers of citizens of The former Yugoslav Republic of Macedonia studied, the number of medical doctors began to increase. During this time, the utmost attention was paid to preventive health care. Huge efforts were undertaken to fight malaria. To this end, the first hygiene institution was established in 1921 in Skopje. Later, these centres were also established in Bitola, Struga and Stip. The role of the state hospital was of particular importance. Founded in 1919 with a bed capacity of 80, it expanded its capacity to 250 beds in the late 1930s. It was moved to its present location in Vodno, the hill above Skopje, in 1928, when apart from the five existing departments (internal diseases, surgery, gynaecology and obstetrics, dermatology and venereal diseases and ophthalmology), four new departments

(paediatrics, lung disease, infectious diseases and psychiatry) and two new sections (ear, nose and throat (ENT) and orthopaedics) were established.

A new chapter in the development of the health system was opened after the Second World War. With the establishment of the Socialist Federal Republic of Yugoslavia and the creation of the Socialist Republic of Macedonia, the highly decentralized Yugoslavian health system was put in place: responsibility for the provision of health care was decentralized to municipal level. Accordingly, 30 municipalities owned and operated health facilities offering care at primary, secondary and tertiary levels. The system led to significant oversupply and duplication of services. Furthermore, it did not promote the functional separation of the different levels of care. Financing was for the most part local and set against a background of long-term resource constraints *(14)*.

In general, the period from 1945 to 1990 was marked by an intensive development of health care delivery structures. Shortly after the Second World War the Agency for Social Policy and Health as well as new administrative and territorial units were established to create hospitals, first-aid stations, dispensaries, centres, laboratories and inspection services to be available at district and municipal levels. Despite the rapid growth of the health sector immediately after the war, the population continued to have unmet health care needs, as there was an extreme shortage of medical personnel at the end of the Second World War. Therefore, health training courses were organized for lower- and medium-level personnel; by 1949 these were attended by 318 individuals. The creation of the Medical Faculty in Skopje in 1947 represents a memorable event for the health system of The former Yugoslav Republic of Macedonia. The Faculty of Dental Medicine was founded in 1959 and studies in pharmacy were established in 1977.

The break-up of the Socialist Federal Republic of Yugoslavia and in its wake the establishment of The former Yugoslav Republic of Macedonia as an independent democratic country mark the beginning of yet another era in the history of the country's health system. The Law on Health Care (HCL) of 1991 enshrines the basis of the current health insurance-based system, including its organizational structure and the disposition of funding streams, as well as the responsibilities and rights of the system's individual actors (for details see Chapter 2 on organizational structure and management).

2 Organizational structure and management

Following independence at the beginning of the 1990s, The former Yugoslav Republic of Macedonia set up an insurance-based health care system with the Government and the Ministry of Health providing the legal framework for operation and stewardship, and the Health Insurance Fund being responsible for the collection of contributions, allocation of funds and the supervision and contracting of providers. At present the system is facing a number of challenges, including the need to overcome the legacies of the health system formerly in place. These challenges include the need to rationalize the provider structures, to reduce the oversupply of personnel in the health sector and to secure sustainable health financing, including adequate funding for preventive programmes and capital investments. To this end the Ministry of Health will need to further strengthen its policy formulation, implementation and monitoring capacities, while the HIF will need to enhance its budget planning, monitoring and reporting instruments.

As described in the HiT of 2000 *(14)* and in line with the highly decentralized health system structures that had been in place in the Socialist Federal Republic of Macedonia, the beginning of the 1990s saw a health system that was organized in stand-alone, self-managing communities: the health services delivery system was owned and managed by 30 municipalities and the City of Skopje, with only the projects requiring large-scale capital investments being centrally coordinated. Accordingly, the financing of the system was primarily managed at municipal level with a solidarity fund at central level providing finance for those municipalities whose revenues did not allow the provision of health care in a sustainable manner. As each individual municipality developed its own structures for health care delivery, the decentralized system led to fragmentation of service delivery and significant oversupply and duplication of both facilities and services. Moreover, a series of different units was established that frequently

contained elements of primary, secondary and tertiary care. Owing to the strong independence of the municipalities with regard to both decision-making and financial management, the influence of central Government on the overall development of health care at local (municipal) level was minor.

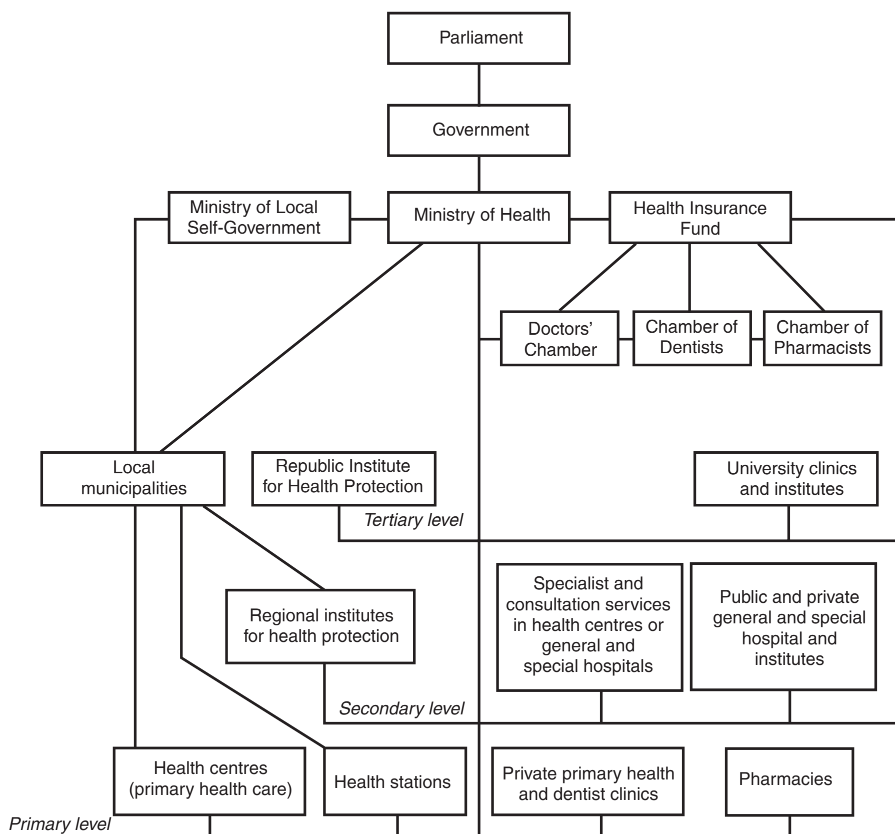
Against this background, the development of a new law was initiated: the Law on Health Care (HCL) of August 1991 laid the groundwork for the current health system in The former Yugoslav Republic of Macedonia (*15*) and has served as the framework for health policy ever since. Based on the HCL, and later by means of a separate Health Insurance Law, the system of compulsory health insurance was established. Equity, solidarity and reciprocity, as well as the provision of universal coverage for the population, have been defined as its core values. The HCL defines the system's organizational structure, including the establishment of the Health Insurance Fund and the funding mechanisms to be put into place. The law also defines the rights and responsibilities of the different actors, such as the individual citizen, the employer and the state, concerning health and health care delivery. The individual is responsible for his/her own health; the employer is responsible for the provision of a healthy working environment, including specific health care for workers; and the state holds responsibility for a healthy living environment. In addition, the state is responsible for the provision of preventive health care for the population and for guaranteeing access to health care, the latter also being emphasized in the Constitution of The former Yugoslav Republic of Macedonia.

The Health Insurance Fund, with a central office in Skopje and branch offices at local level, has been set up to facilitate the collection of health insurance contributions. The geographical allocation of resources is based on plans and analyses by the central office. With the adoption of the Law on Health Insurance in April 2000, the HIF has become an independent institution monitored by the Ministry of Health. Decisions are made by the HIF Management Board, the composition of which is specified in the law. Secondary legal acts are drawn up to further specify individual provisions of the law and facilitate its enforcement.

So far the newly established structures have been characterized by large-scale inefficiencies in performance, as they are forced to operate in an environment that has been deprived of adequate resources for a long period of time. As a legacy of the system of locally controlled delivery structures and in the absence of uniform performance standards, inequalities in health care delivery persist. Moreover, and contrary to the legal provisions, at present there is insufficient financial support from the central budget for the preventive health care programmes (see section on the Ministry of Finance below for further details).

The main actors of the health sector are shown in Figure 2.1.

Fig. 2.1 Health system – organizational chart



As described above, the HCL established the organizational structure of the system with the Ministry of Health and the Government in charge of health policy formulation and implementation, the Health Insurance Fund responsible for the collection and management of funds, and the health care institutions (HCIs) responsible for service delivery. The health facilities range from health care stations and health care centres at primary health care level and specialty-consultative and inpatient departments at secondary level, to university clinics and institutes at tertiary level, the latter also carrying out research and educational activities under the responsibility of the Ministry of Education. The last few years have seen considerable growth of the private sector, especially at primary care level. The Ministries of Health and Finance share the rotating chairmanship of the HIF Management Board. The Ministry

of Local Government has taken on some responsibilities in the primary care sector, especially in preventive health. The professional chambers monitor professional standards and have recently developed a new licensing system; the medical associations develop new clinical guidelines; and the Ministry of Defence supervises health care provision for army personnel in the military hospitals. The Ministry of Labour and Social Affairs, apart from supervising the health care rights of workers, also covers the insurance contributions of the needy, the unemployed and pensioners.

Ministry of Health

The Ministry of Health's core functions focus on health policy formulation and implementation, priority-setting and the monitoring of the health system's performance.

The Ministry of Health analyses the organizational set-up of health care institutions and identifies any need for restructuring processes and/or for the establishment of new institutions or departments. For example, to monitor the management efficiency of the HIF the ministry has established a special unit. In addition, the Ministry of Health is represented on the Management Board of the HIF, and it also monitors and assesses any impact of intersectoral activities on the health sector. With regard to the management of the health care system, the Ministry of Health is accountable to the Government *(16)*.

The need for the Ministry of Health to develop a stronger role in policy development, implementation, monitoring and analysis, and to establish its role as the leader of strategic development in the health sector, including human resources policy, has long been recognized but has proven difficult to address. Capacity needs to be developed to monitor the financial and general performance of the HIF, which will require both additional reporting requirements between the HIF and the ministry, and the strengthening of the latter's capacity to interpret and act on those reports. The HIF's accountability to the Ministry of Health regarding its financial decisions needs to be strengthened, with the ministry playing a more active role in preparing the annual budget and particularly in setting global budgets for providers *(17)*.

Major segments of the health care system are defined by the Law on Health Care. Additional regulations specify matters such as protection against communicable diseases, the establishment of the health reporting system, pharmaceuticals, food safety, pregnancy termination, organ transplantations, etc. For the supervision of these topic areas the Ministry of Health has established a number of specialized units, such as the State Sanitary and Health Inspectorate

and the Bureau for Drugs. The latter supervises registration and licensing procedures for drugs, remedial medicines and medical devices, and participates in the preparation of the essential and positive drugs lists.

The Food Directorate is a new organizational structure in the Ministry of Health and is responsible for food safety surveillance. Its establishment represents a step forward in the process of harmonizing system structures with EU legislation.

In the context of continuing the privatization of health services provision, there is also a need to strengthen the regulatory framework for consumer protection.

The Health Insurance Fund

In accordance with the Law on Health Care, the Health Insurance Fund was set up in 1991 with the aim of establishing a compulsory health insurance system and helping to restructure the greatly decentralized health system. Health insurance is based on the principles of comprehensiveness, solidarity, equity and the efficient utilization of resources. The fund supervises the insurance system, collecting the contributions of insured people and contracting with the providers *(18,19)*. In 2002 the fund also started contracting with private primary health care facilities, introducing a capitation-based payment system. In addition, the fund collects data on the insurance coverage of the population and ensures service provision according to the defined benefits package.

Initially, the HIF operated within the Ministry of Health and the director was appointed by the Government of The former Yugoslav Republic of Macedonia. The adoption of the Law on Health Insurance in 2000 made the fund an independent institution. At present the HIF Management Board consists of a representative of the fund, the Ministry of Health and the Ministry of Finance respectively, as well as six representatives of service users. Recent amendments to the law require a rotating chairmanship of the board by the Ministry of Health and the Ministry of Finance, as well as granting both the power to veto any decision. The Director of the Health Insurance Fund is appointed by the fund's Management Board, provided the Government of The former Yugoslav Republic of Macedonia approves the appointment decision.

The fund's central office in Skopje undertakes management-related normative and legal, economic and analytical, and financial and accountancy activities. It exerts control functions over, and ensures adequate information exchange with, the 30 branch offices that have been established at municipal level, aiming to guarantee uniformity in the fund's performance throughout the country. The

branch offices all share the same structure, with separate departments for the collection of contributions, for provider payment operations and for the monitoring of service provision according to the agreed benefits package. The branch offices report to the central office.

The HIF needs to improve its budget planning capacities, including the setting of global budgets for providers, as well as establishing capital investment as a cost item. However, it is acknowledged that budget planning is jeopardized if agreed transfers of funds from the central budget are delayed (for details see section on the Ministry of Finance below) *(20)*. Furthermore, the HIF needs to strengthen its budget monitoring and reporting instruments as well as developing a set of corrective measures in the event that budget monitoring reveals discrepancies with projected goals. Budget projections suggest that the HIF's financial viability could be greatly enhanced if 10% was covered by the central budget. Unfortunately, at present less than 0.5% of the HIF budget is covered by the central budget to support the provision of the preventive programmes.

In the framework of the Health Sector Transition Project, supported by the World Bank, a series of activities have been initiated, aiming to strengthen the fund's capacity to manage resources and to train staff. The project has supported the implementation of the Law on Health Insurance, the development of secondary legislation and the upgrading of the fund's information system. These activities are ongoing and include the development of a tendering process for contracting with providers and the development of performance indicators for health care institutions (for more details see Chapter 6 on health care reforms).

Ministry of Finance

The Ministry of Finance, in cooperation with other ministries, agrees the state budget. In consultation with the Ministry of Health, the funds for the health sector are defined annually and include preventive public health programmes, such as compulsory immunization campaigns; programmes against AIDS, TB, brucellosis and communicable diseases; comprehensive health checks for children and young people; mother and child health programmes, etc. As stated above, the Ministry of Finance is part of the HIF Management Board and takes turns with the Ministry of Health to chair it. The Ministry of Finance is also involved in the planning and approval of the HIF budget.

Ministry of Education

The Ministry of Education is responsible for all educational institutions and programmes. In addition, it is responsible for the management of any scientific projects in the country, including international technical cooperation projects. The faculties of medicine, dentistry and pharmacy operate under the auspices of the ministry and are responsible for the teaching as well as the practical training and specialization programmes of physicians, dentists, pharmacists and nurses. Furthermore, the ministry supervises secondary schools offering medicine, dentistry and pharmacy courses, as well as the advanced schools for nurses and radiology technicians, and is responsible for the practical training of nurses and other health professionals.

Based on legal provisions, the Government and the faculties annually define the number of individuals of different ethnic backgrounds to be eligible for admission to, and stipends for, state-run higher education institutions.

Ministry of Transport and Communications

The Ministry of Transport and Communications is responsible, inter alia, for the areas of housing and communal activities. It supervises the infrastructural development of the country, including the management of state-owned building land, public transport and telecommunications. Although it is not directly involved in the health care sector, its activities can have a significant impact on the health sector and on population health.

Ministry of Labour and Social Policy

Apart from having responsibilities in the domains of labour, employment and social policy, the Ministry of Labour and Social Policy is responsible for the protection of children and adolescents, women and individuals with specific needs, and for guardianship issues and family affairs. In addition, it holds responsibility for the implementation of existing international conventions and policies in the field of social insurance. The ministry covers the health insurance of financially deprived and socially vulnerable people, individuals with specific needs and population groups such as war veterans and their families. Via the pension funds the ministry also indirectly covers pensioners’ contributions.

Ministry of Defence

As the Ministry of Defence does not have its own health insurance fund, contributions for military personnel are paid to the HIF, which in turn makes payments to the military hospitals. The staff of the military hospitals receive salaries through the Ministry of Defence. With HIF funding, military hospitals also deliver health care services to insured civilians. However, in an effort to improve efficiency, many services are outsourced to the state system as well as to private practice.

Ministry of Environment and Physical Planning

This ministry is responsible for monitoring the environment, ensuring the protection of water resources, soil and air against pollution, and supervising solid waste disposal and physical planning. Some of the competencies of the Ministry of Environment and Physical Planning are closely linked to the health sector, especially in the public health field. To this end, one of the most important activities to be pursued in cooperation with the Ministry of Health is the collection and use of environmental health data and information in order to ensure the timely assessment of health risks. Currently, the ministries are working in partnership towards the creation and promotion of the Children's Environment and Health Action Plan (CEHAP), a commitment taken on at the Budapest Conference for Environment and Health in 2004.

Ministry of Local Self-Government

The Ministry of Local Self-Government aims to strengthen local self-Government. To this end it monitors developments at local and regional level, aiming to define standards regarding the structure and population size of territorial units, to assess needs at local level and to support geographically well-balanced regional development. The Government has approved a special programme to transfer some responsibility from central to local level. In the ongoing process of decentralization of the health system the Ministry of Local Self-Government cooperates closely with the Ministry of Health. With this in mind, the municipalities have been asked to appoint representatives in the management boards of the PHC institutions. Decentralized activities in the field of preventive health care and health promotion have yet to start.

Professional groups

The doctors', dentists' and pharmacists' chambers are responsible for licensing and supervising the professional conduct of their respective professional groups. In order to improve the performance of health care personnel and thereby to enhance the quality of health services the chambers have been granted the authority to extend, renew and deprive individuals of working licences. However, implementation of this on the ground is yet to be carried out.

Other organizations exist, such as the Macedonian Medical Association and the Macedonian Nursing Association. These organizations were established after the Second World War and are internally subdivided by specialty. They are responsible for continuing professional development, including the preparation of clinical guidelines.

Health care workers are represented by a single trade union, which negotiates terms and working conditions.

Nongovernmental sector

At present, the role of civil society in the health sector is limited. However, there are several nongovernmental organizations focusing on the health sector. The Public Health Program of the Open Society Institute has played an especially important role in this, supporting, both technically and financially, the establishment of the School of Public Health and the organization of regular annual forums to discuss health sector-related issues. Furthermore, in the scope of the Project for Healthy Communities *(21)* it has provided a public health management training programme on decentralization for local health managers. Capacity-building activities aim to strengthen the development of information systems at the Ministry of Health and the set-up of professional medical associations. Unfortunately, the Open Society Institute terminated a large part of the programme in 2005, but will continue to support the School of Public Health.

There is political commitment to expanding the involvement of non-governmental organizations (NGOs), as well as to strengthening cooperation with international agencies active in the areas of mental health, violence and injury prevention, HIV/AIDS prevention, etc.

General public

Despite the fact that service users are represented in the Management Board of the Health Insurance Fund, public involvement in the formulation of health policy is limited. However, the Project for Health Sector Transition has carried out a survey aiming to assess public opinion regarding reforms and the state of affairs in the health sector. NGOs dealing with the protection of patient rights are emerging.

Private sector

The Law on Health Care of 1991 allows private medical practice (for details see Chapter 4 on the health care delivery system) and the law's amendments in 2004 and 2005 have further extended the scope for privatization. Accordingly, a very intensive process of privatization has started, especially in the PHC sector. In 2005 the private sector employed roughly one third of all physicians working in primary care. This trend is expected to intensify further, as there are plans to extend privatization to the PHC clinics of medical centres. Moreover, the privatization of dentists' offices at PHC level has been completed recently, and the process of privatizing publicly-owned pharmacies by sale or leasing has been initiated. The sale thus far of 20 pharmacies has provided the central budget with €6.5 million. Four private hospitals have been established covering the following specialties: general medicine, gynaecology/obstetrics, cardio-surgery and ophthalmology.

The Ministry of Health performs comprehensive inspections prior to awarding private facilities a working licence. While licence renewal is not mandatory, continuous supervision is anticipated. In addition, the Ministry of Health has recently started to draw up a "medical map" (*carte sanitaire*) to provide the planning and regulatory basis for further expansion of the private sector, i.e. in future, licences for opening private clinics or hospitals will be determined according to need.

Contracts with the Health Insurance Fund can be issued only after the licence to work has been obtained. All private facilities will be able to apply for contracts with the HIF. The latter, however, will have the right to contract selectively.

Decentralization of the health system

The former Yugoslav Republic of Macedonia represents a case study of a system moving from highly decentralized to more centralized structures. However, at present the political aim is to move back to a decentralized system. As stated above, the system in place in the Socialist Federal Republic of Macedonia (pre-1991) was highly autonomous and decentralized, with health service provision and financing controlled and managed at municipal level *(15).* With the transition to an independent country, there was a need for central health planning and for this purpose the Ministry of Health was established in 1991. The Law on Health Care was passed in the same year setting out a process to centralize the financing and stewardship functions, at the same time aiming to preserve some autonomy for the provider structures at local level. Against a background of limited resources, the need for an effective central planning infrastructure took precedence over the development of a management role at regional level. The establishment of the Health Insurance Fund contributed to the further strengthening of the central strategic and operational planning.

However, amendments to the law in 1995 acknowledged the importance of local involvement in decision-making and therefore proposed the establishment of management boards in the health care institutions. Initially, the latter were composed of representatives of employees and representatives appointed by the Parliament of The former Yugoslav Republic of Macedonia. In 2004, however, the boards for PHC facilities were extended to accommodate municipal representation. In addition, hospitals have recently started to receive annual budgets, thus providing for greater independence of the directors and management boards of the respective institutions. Furthermore, for contracted hospitals a set of performance indicators has been introduced to support monitoring functions.

Increased autonomy of health care institutions will require adequate regulatory structures to be put in place. In addition, the institutions will need to be granted some degree of autonomy in the planning of human resources, i.e. the right to hire new staff or to end contracts.

Apart from municipalities being involved in the management of local health care facilities, the Law on Local Self-Government also envisages municipalities having more competencies, especially in the areas of health promotion, preventive activities, and occupational and mental health, as well as in the

provision of healthy living environments. To this end the Ministry of Health plans to empower local representatives to play a more proactive role in problem assessment and analysis, priority-setting and health promotion activities. Such initiatives include, for example, the Healthy Communities Project *(21),* the decentralized governance and management of the Medical Faculty and the Open Society Institute's joint health project, the Health, Environment and Safety Management in Enterprises (HESME) initiative (*22*) , the Environmental Health Action Plans (*23*), etc.

3 Health care financing and expenditure

As outlined in the previous chapter, the health system of The former Yugoslav Republic of Macedonia represents a health insurance-based system. Payroll-dependent contributions are collected and the funds managed by the Health Insurance Fund. Together with the Ministry of Health, the HIF steers the sector and agrees contracts with service providers. Health insurance coverage is universal and the benefits package comprehensive.

Challenges in the sector are as follows: since independence, the health sector has experienced a 40% cut in revenue, and at present the contributions from insured individuals represent the main source of revenue for the public sector, which, in view of the necessary expenditure, is insufficient. There is a need to rationalize the health care delivery structures as well as to enhance human resources planning and training. This, together with currently weak financial management capacities at the HIF and outstanding transfers from the central state budget to the health sector, has led to a significant HIF budget deficit.

Reform priorities therefore include strengthening HIF governance and the health policy-making environment; improving budget planning and budget control, financial management and procurement at the HIF, the Ministry of Health as well as the HCIs; the rationalization of health care providers, including reforms of the established payment systems; controlling the oversupply of medical staff; promoting continuing medical education (CME); rational drug prescription and reviewing the benefits package.

Main system of financing and coverage

In the compulsory health insurance system of The former Yugoslav Republic of Macedonia the funds generated by the collection of contributions represent the main source of financing of the health sector. In 2004 the contributions accounted for more than 95% of the public resources available for health care delivery and other health insurance-related benefits and activities. In the same year, the revenue generated from contributions, specifically the share coming from gross salaries and allowances, was highest (around 59% of the total revenue), followed by contributions from pension and disability insurances (22.5%), contributions for temporarily unemployed people (13.42%) and finally contributions from the Ministry of Labour and Social Policy, providing insurance coverage for war veterans, social beneficiaries, etc., with a share of less than 1%. Co-payments by insured people and transfers from the state budget (to finance a number of preventive programmes) constituted additional, though rather small, sources of revenue. Other revenue, including donations, is not available on a regular basis and in 2004 did not exceed 5%. The revenue structure is shown in Table 3.1.

Table 3.1 Structure of the revenue of the Health Insurance Fund (in percentage)

	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004
Revenues										
Contributions	97.8	94.5	97.9	94.3	92.6	96.8	97.8	91.8	92.0	95.1
Contributions from salaries and allowances	70.0	64.8	66.4	63.7	61.0	60.6	63.6	57.0	57.3	58.9
Contributions from pension and disability insurance	25.0	21.7	22.8	20.8	20.0	20.7	21.2	21.9	21.7	22.5
Contributions from Bureau for Employment for Temporarily Unemployed	2.3	7.5	8.4	9.4	11.2	15.2	12.6	12.5	12.6	13.4
Transfers from the Ministry of Labour and Social Policy	0.5	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.5	0.3
Other revenues	2.2	5.5	2.1	5.7	7.4	3.2	2.2	8.2	8.0	4.9

Source: Ministry of Finance. Bulletin, 2005.

The table shows that contributions from salaries and allowances as a share of total revenue have been declining (from 70% in 1995 to 58.91% in 2004), while contributions for temporarily unemployed people have been rising (from

2.26% in 1994 to 13.42% in 2004). These trends reflect the increasingly difficult labour market. Even though the contributions for unemployed people constitute a financial burden for the central budget, political support remains strong for having payroll-dependent contributions into a single health insurance fund, representing the main source of health system financing.

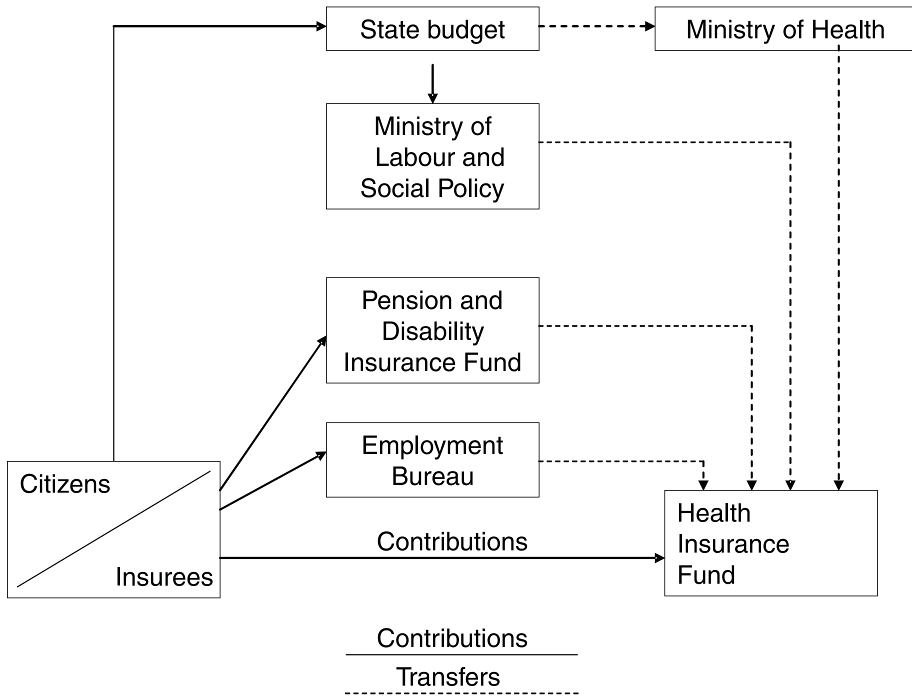
Insurance coverage encompasses nearly the entire population. General coverage includes employed and self-employed individuals, people working in the agricultural sector, temporarily unemployed people, pensioners, disability insurance-related beneficiaries, war veterans, social welfare beneficiaries, etc. Accordingly, in 2004, 1 873 836 insured people were registered, but it is estimated that at present approximately 150 000 citizens of The former Yugoslav Republic of Macedonia are for one reason or another not covered by social health insurance. Of the registered insured inhabitants, over 86% pay contributions; of the remaining 14%, most are unemployed. As stated above, contributions are payroll-dependent and insured individuals can be grouped into seven categories as follows:

1. Employed and self-employed individuals;
2. Self-employed people in the agricultural sector;
3. Pensioners;
4. Temporarily unemployed individuals, disabled people, war veterans, and social welfare beneficiaries;
5. Citizens of The former Yugoslav Republic of Macedonia employed abroad (provided they are not insured by a foreign employer) and foreign citizens working in The former Yugoslav Republic of Macedonia (the latter pay a flat-rate contribution);
6. Members of soldiers’ and prisoners’ families;
7. Clergy and members of monastic orders.

In addition to their regular health insurance contribution, employees pay a supplementary contribution of 0.5% of their gross salary for compulsory health insurance in case of injury at work and occupational disease. Supplementary insurance also exists to protect the individual against the risks of working in potentially hazardous working environments, providing the insured with 100% financial coverage in the event of their taking sick leave.

As shown below, at present the HIF budget draws almost exclusively on funds accumulated by contribution collection. The revenue is insufficient, in view of the necessary expenditure, on items such as expensive treatment procedures or expensive drugs. Analysis of the reasons for the lack of public funds for health care reveals a complex picture. Although premium collection mechanisms have been strengthened over recent years, they are still considered

Fig. 3.1 Sources of Health Insurance Fund revenue



Source: Compiled by the authors, based on information from the Health Insurance Fund.

unsatisfactory. Contribution payments for private sector employees, including self-employed people and farmers (an area in which there is both under-reporting of obligations and evasion of payments), as well as for public sector employees need to be enforced. Moreover, many working citizens fraudulently register themselves as unemployed in order to receive free health care (upon registration as unemployed the individual receives a set of coupons which form the basis for health service delivery).

The benefits package

The compulsory health insurance offers financial coverage to insured people for the delivery of health care services as defined in the basic package. The Health Insurance Law specifies the full range of benefits covered by the health insurance system, with the package being described in further detail in a separate Act.

The current package is considered very comprehensive and very costly. In view of the low level of revenue, it is felt necessary to review the package by comparing it to international practices and taking into account demographic

and epidemiological characteristics as well as fiscal sustainability issues. The revision process is ongoing and currently the design of two types of package is even being considered: an essential package for all citizens (including preventive check-ups, immunization, coverage of part of the positive list of drugs (PLD) and treatment of a range of communicable diseases) and an optional package with higher co-payments.

To be entitled to use the full range of benefits the insured has the right, and the obligation, to select a doctor in the PHC sector, i.e. a GP, as a gatekeeper.

The basic package of health services currently includes the following items:

(a) In primary health care:

- health status check-up;
- medical measures and procedures to improve the health status of the individual, including the implementation of preventive, therapeutic and rehabilitation measures;
- provision of emergency medical aid, including ambulance transportation when necessary;
- treatment at the beneficiary's home;
- health care related to pregnancy and child delivery;
- prevention, treatment and remedy of oral and dental diseases;
- drugs included in the positive list of drugs.

(b) In specialized and consultative health care (based upon referral from the selected PHC doctor):

- anamnesis and diagnosis of diseases and injuries;
- specialized therapeutic and rehabilitative procedures;
- prostheses and other appliances, auxiliary medical devices and materials and dental prosthetic devices, according to indications.

(c) In hospital health care (based upon referral from the previous levels):

- diagnosis and treatment of diseases and injuries, rehabilitation services, nursing services, accommodation and catering for the hospitalized;
- drugs included in the positive list, as well as auxiliary materials;
- up to 30 days' accommodation and catering for an escort of a hospitalized child up to three years of age.

Especially in the context of hospital care, insured individuals and their family members are entitled to reimbursement for travel and subsistence expenses (if necessary including a professional escort), the latter only applying, however, to cases when patients are required to use health care services outside their place

of residence, for example for dialysis, or for sight, hearing or speech outpatient rehabilitation, or treatment abroad.

As mentioned above, health promotion and disease prevention measures and activities represent an important part of the BBP. The programmes covered include: prevention, detection and elimination of communicable diseases; comprehensive health check-ups for children, pupils and students; women's protection in pregnancy, child delivery, nursing and family planning; infants' and young children's health care; health promotion; and programmes aiming to prevent substance abuse and drug addiction.

The BBP excludes health services that are not considered vital for the individual's health. These include various kinds of check-ups at the insured person's personal request, cosmetic surgery, spa treatment, treatment for acute alcoholic intoxication, termination of pregnancy for nonmedical reasons, services considered to be "extra-standard", drugs not included in the PLD, issuing of all types of medical certificates and assessment of working ability, non-compulsory vaccination, etc. These types of health care services may be covered by voluntary health insurance (see section on voluntary health insurance below).

As mentioned earlier, the compulsory health insurance system does not cover health services linked to occupational health, such as comprehensive health check-ups assessing the impact of (potentially hazardous) working conditions and other preventive measures aimed at employees' protection. Nor does the system cover check-ups of population groups such as school personnel, recruits, drivers of motor vehicles, personnel of aircraft, etc. or preventive health services for professional sportspeople.

In addition to the coverage of health care services as defined in the BBP, compulsory health insurance provides financial compensation (e.g. for sick leave, pregnancy and maternity leave). Over the years, these items have represented substantial budgetary expenses for the HIF (6–10%). To this end, recent reform initiatives aim to alleviate this problem and limit HIF expenditure.

Complementary sources of finance

Co-payments

Co-payments have been introduced to counteract any excess use of health services or consumption of drugs, as well as to provide additional resources for financing the health care system. While originally not part of the National Health Plan, co-payments were introduced in 1992 by a ministerial decree. The co-payment regulations were reviewed in 2000 and in 2001 a new decree on co-

payments was issued *(24)*. Co-payments have to be made by insured people for the use of health services and drugs at all levels of care and a list specifies the services and drugs concerned. The maximum co-payment is set at 20% of the total cost of the health services or drugs in question, at 20% of the total cost of approved treatment abroad and at 50% of the cost for prostheses and orthopaedic appliances. Co-payments are set in fixed amounts as inverse variations of the prices for health care services, i.e. the co-payments for more expensive services are fixed at a proportionally lower percentage and vice versa.

While assessing the scale of co-payments, an individual's social status is taken into account. For example, insured individuals with a family income below the average net salary are entitled to pay lower co-payments. Special conditions and/or exemptions also apply for children under five years, youths from 5 to 18 years and insured people over the age of 65 *(24)*. Exemption from co-payments applies to the following population groups:

- children of families below a certain annual threshold income;
- beneficiaries of regular financial support, and those accommodated in social welfare institutions or foster families;
- mentally ill individuals;
- insured individuals in need of prostheses for upper and lower extremities, hearing prostheses, orthoptic appliances, wheelchairs, or medical appliances supporting the function of physiological ingestion and excretion.

Some services, such as a medical examination by a general practitioner (GP) or a call to the emergency services, are exempt from co-payments.

A number of preventive programmes are also exempt from co-payments, including:

- mother and infant health programmes and health care services, drugs and other expenditure incurred at delivery or for treatment of children up to one year of age;
- comprehensive health check-ups for school students of all age groups;
- compulsory immunization programmes;
- treatment of a number of non-infectious and infectious diseases;
- medical examinations and treatment of patients with TB, brucellosis and AIDS;
- inpatient treatment of drug addicts in acute condition (up to 30 days) and alcohol and drug addicts treated in walk-in centres (up to 30 days).

Furthermore, the treatment of dialysis patients, drugs for the treatment of patients after organ transplantations, treatment of malignant diseases (including chemotherapy, radiotherapy and surgery), treatment against diabetes, hormone

treatment for child growth and treatment of haemophilia are also exempt from co-payments.

A department at the HIF is responsible for disseminating information on co-payments. Guidelines have been drawn up and distributed to facilities, as well as to insured people, but there is still need for continuous communication.

The experience to date suggests that the system of co-payments has had limited impact on reducing excess demand for inpatient treatment and the consumption of prescription drugs, especially in the primary health care domain. Internal analyses of the HIF revealed that so far co-payments have not led to significant resource increases to finance health care, as they amount to only 3–4% of the total fund revenue. Furthermore, the exemptions from co-payments which have been introduced have a negative impact on this figure. The co-payments are considered to be HIF income, but in practice they are paid to health care institutions when utilizing services and drugs and only in 2003 have the HCIs started to transfer the revenue from co-payments to the HIF.

Other revenue

The legal provisions of the health sector require the state budget to provide resources for the implementation of a number of health promotion and disease prevention programmes, especially those targeting poor social and educational standards and/or poor living conditions. Furthermore, the state budget is expected to cover treatment costs for individuals or population groups not covered by the compulsory health insurance. In practice, for a long time the share of resources from the central budget in the total revenue of the HIF was less than 1%. Against the background of the HIF budget deficit, there seems to be scope and need to increase the financing of health care from the central budget.

Enterprises and other organizations pay health care institutions to provide health services to their employees, such as specific health check-ups focused on occupational hazards. These payments also constitute (a small amount of) revenue in the health care domain.

Additional revenue for HCIs originates from donations and contributions from national and international organizations and individuals. There are no precise data available on the scale of these resources.

Furthermore, health institutions are paid directly by non-insured individuals as well as insured people who use health services that are not included in the basic benefits package (BBP). As is to be expected, the services provided in private health institutions are also paid for directly.

Data on out-of-pocket patient payments and the financial burden they might constitute are neither detailed nor precise. However, there is some evidence that direct cash payments also increasingly take place in public facilities, and this should be monitored closely, perhaps through household budget surveys, as this might allow an assessment of the discrepancy between reported co-payments and actual household expenditures.

Voluntary health insurance

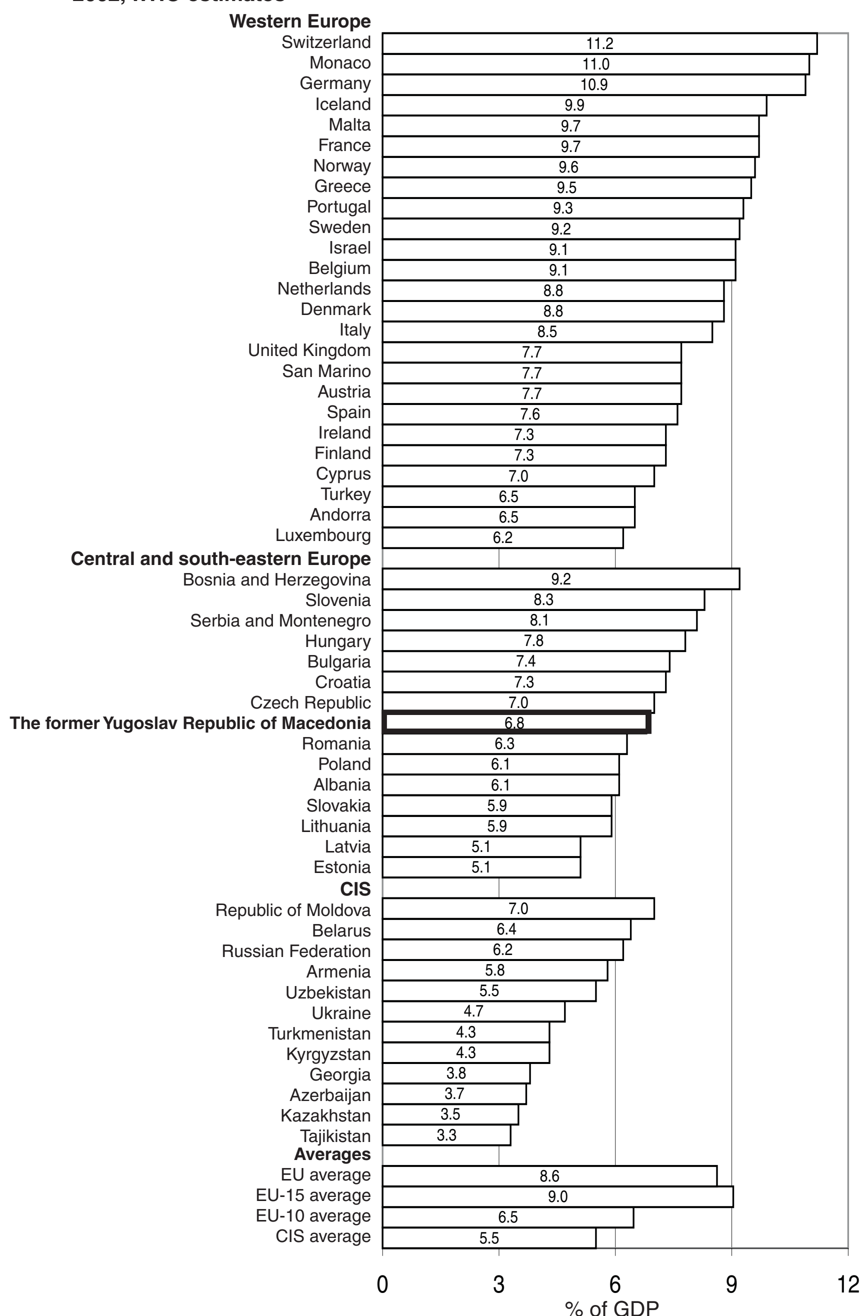
The Law on Health Insurance provides the option to introduce voluntary health insurance for health care services that are not covered by the BBP. These services mainly concern cosmetic surgery, "extra-standard" health services, spa treatment, drugs that are not covered by the PLD, orthopaedic and other appliances, etc., that are not included in compulsory health insurance. The legal provisions require that individuals can sign up for voluntary health insurance only as a supplement to their compulsory health insurance. Although the legal framework is in place, in practice, voluntary insurance has not been established. Concerns have been raised that price barriers for consumers will prevent voluntary health insurance from succeeding on the market. Furthermore, the current compulsory benefits package is considered sufficiently comprehensive so that the need for supplementary insurance seems limited.

Health care expenditure

According to WHO estimates for 2002 total health expenditure as a percentage of GDP in The former Yugoslav Republic of Macedonia amounted to 6.8% for that year. This represents a significantly lower figure than that of most of the other ex-Yugoslav countries (for example, Bosnia and Herzegovina spent 9.2%, Slovenia 8.3%) and the EU (8.6%) (see Fig. 3.2 and Fig. 3.4). In the same year the health care expenditure in US$ PPP per capita amounted to US$ 341 (see Fig. 3.3,) with 84.7% of health expenditure coming from public sources (see Fig. 3.4).

Data on health care expenditure as recorded by the official statistics office represent data on the expenditures of the Health Insurance Fund only. Owing to a lack of information and clarity on private expenditure for health care, especially on out-of-pocket payments (see section on other revenue, above), for the purpose of this report the analysis of data on health care expenditure is limited to the data on the fund's expenditure (see Table 3.2).

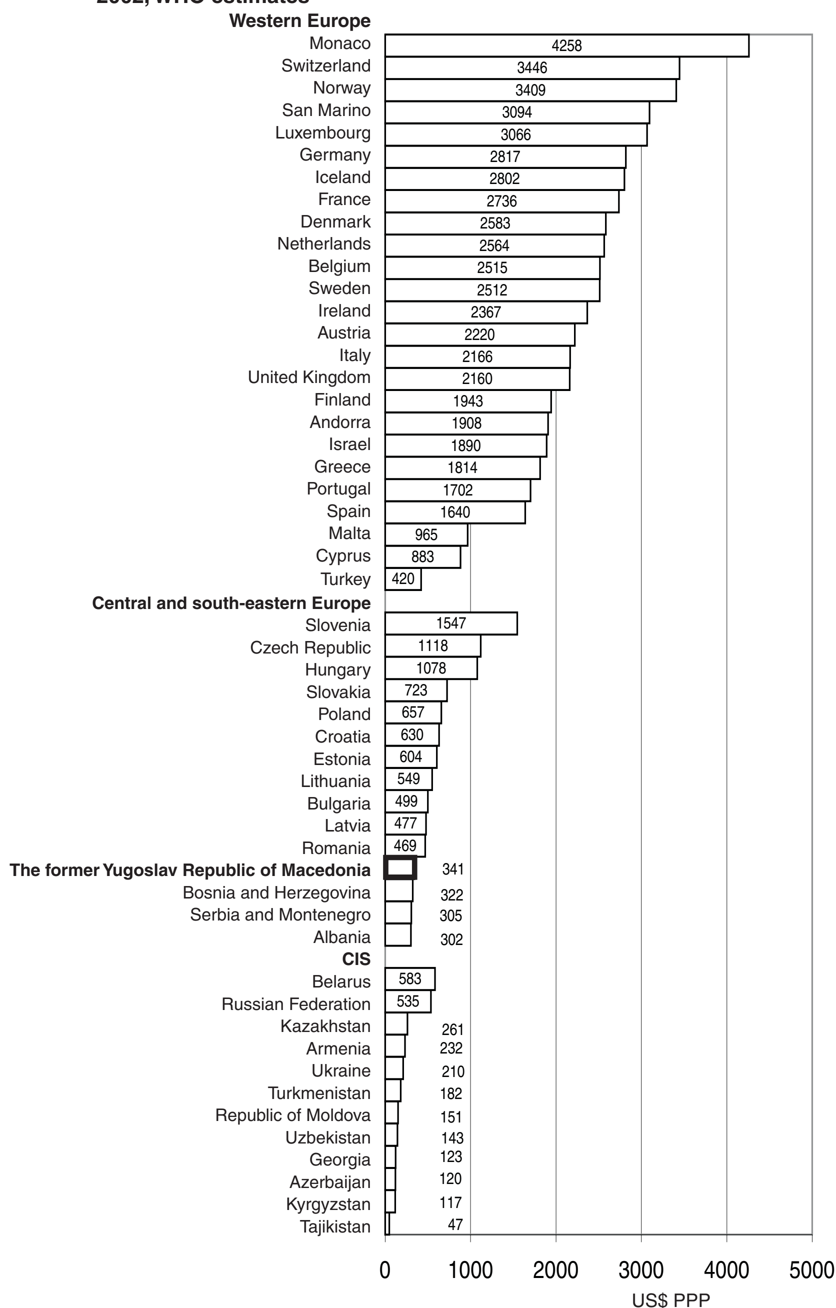
Fig. 3.2 Total expenditure on health as a % of GDP in the WHO European Region, 2002, WHO estimates



Source: European Health for All database, January 2006.

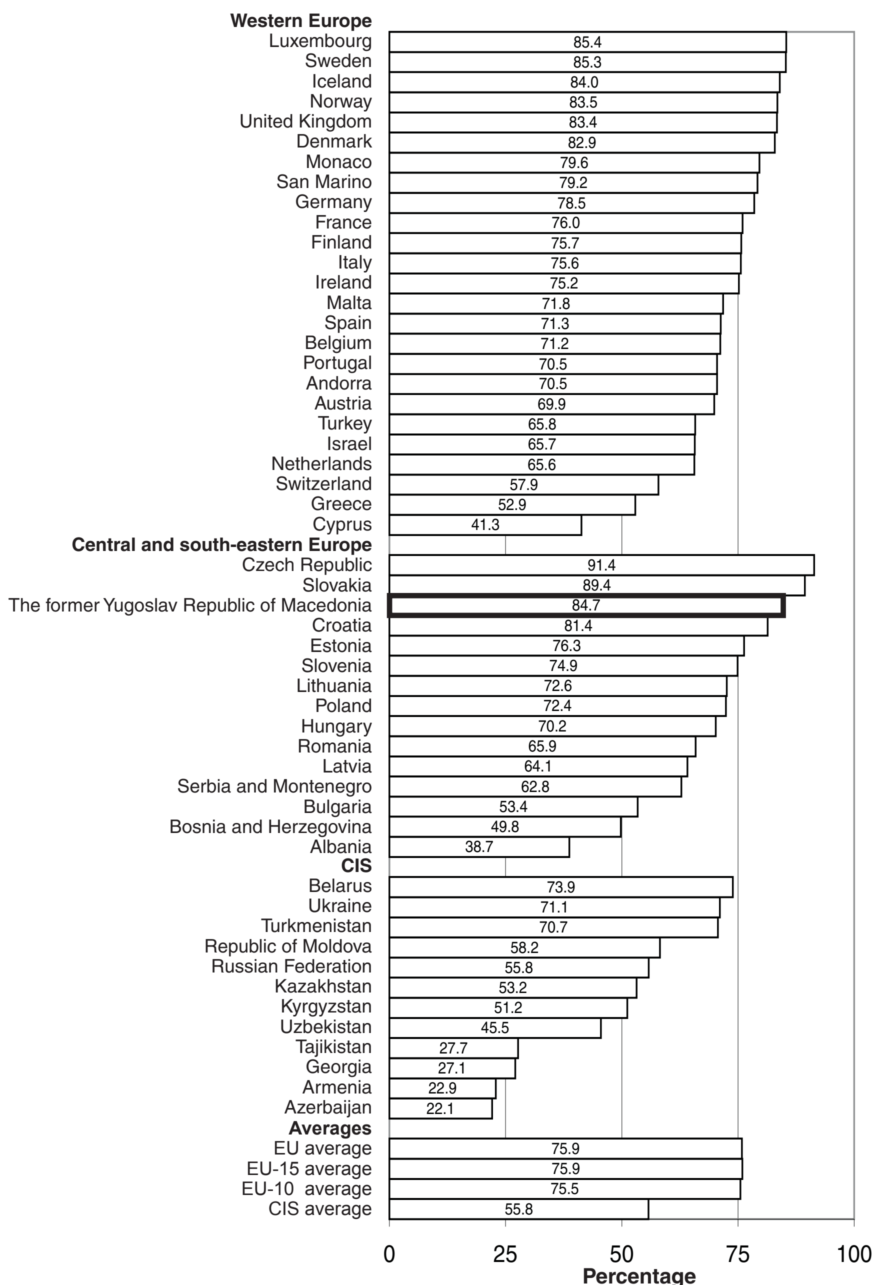
Note: CIS: Commonwealth of Independent States; EU: European Union; EU-15: Member States before 1 May 2004; EU-10: Member States joining the EU on 1 May 2004.

Fig. 3.3 Health care expenditure in US$ PPP per capita in the WHO European Region, 2002, WHO estimates



Source: European Health for All database, January 2006.
Note: CIS: Commonwealth of Independent States.

Fig. 3.4 Health care expenditure from public sources as a percentage of total health care expenditure in countries in the WHO European Region, 2002, WHO estimates



Source: European Health for All database, January 2006.

Note: CIS: Commonwealth of independent states; EU: European Union; EU-15: Member States before 1 May 2004; EU-10: Member States joining the EU on 1 May 2004.

Table 3.2 Structure of expenditures of the Health Insurance Fund by type (in percentage)

Structure	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004
Expenditures for basic health services	87.2	86.4	82.3	92.1	89.4	88.9	90.7	84.0	90.3	90.6
Primary health care	36.9	36.6	32.4	38.7	21.3	19.9	18.8	21.1	41.4	40.9
Dental care	4.6	4.5	4.6	4.7	5.7	5.5	4.4	4.3	3.7	3.7
Inpatient health care	31.5	29.4	32.3	34.4	46.9	46.0	50.2	42.2	37.4	37.5
Drugs issued upon prescription in primary health care	8.6	9.6	8.5	8.9	10.7	13.5	12.7	13.9	14.3	14.9
Orthopaedic and other appliances	1.5	1.2	0.8	1.5	1.3	1.1	0.9	1.2	1.5	1.8
Expenditures for specific programmes for primary health care	1.3	2.8	1.7	1.6	1.1	0.8	2.5	0.0	0.0	0.0
Treatment abroad	1.5	1.7	1.8	2.1	1.4	0.6	0.7	1.2	1.7	0.9
Other expenditures for health care services	1.3	0.6	0.3	0.3	1.1	1.4	0.4	0.2	0.2	0.3
Capital investment and maintenance of facilities	0.2	1.0	0.6	0.3	0.3	0.7	0.4	6.3	0.4	0.7
Pecuniary compensation	10.3	6.6	6.1	5.3	6.9	5.6	6.3	6.6	6.7	6.5
Expenditures for the Fund operations	2.4	2.6	2.6	2.4	2.4	2.7	2.2	2.5	2.3	2.2
Credits repayment and coverage of Fund's losses		3.4	8.4		1.0	2.1	0.5	0.6	0.3	0.0

Source: Bulletin of the Health Insurance Fund, 2005.

As illustrated in Table 3.2 and in line with the trend over the last decade, in 2004 the major share of the HIF's expenditure (over 90%) covered service delivery costs with expenditure on primary care and inpatient care accounting for 41% and 38% respectively. The latter were followed by pecuniary compensation of insured individuals (e.g. salary compensation for sick leave (6.5%) and the fund's administration costs (2.2%). Expenditure for investments in the health sector (0.7%) continued to be insufficient. Furthermore, Table 3.3 illustrates the growth in overall expenditure from 9126 million denars in 1995 to 14 723 million denars in 2004.

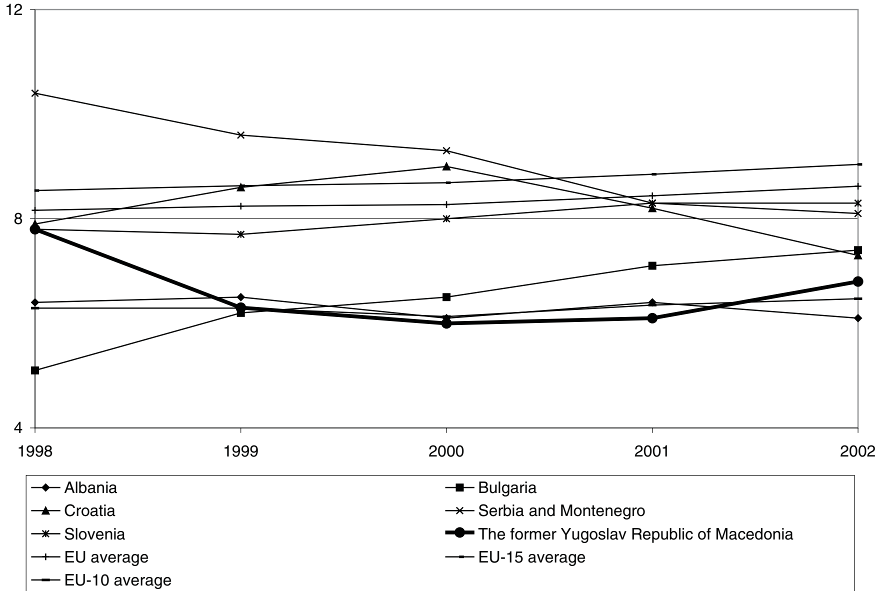
Table 3.3 Expenditure of the Health Insurance Fund (in million denars)

	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004
Total expenditures	9 126	9 786	11 139	13 689	11 692	12 463	12 223	13 971	14 698	14 723
Expenditures for basic health services	7 955	8 452	9 169	12 608	10 456	11 084	11 080	11 742	13 277	13 345
Primary health care	3 370	3 581	3 606	5 303	2 491	2 486	2 303	4 864	5 492	5 454
Dental care	423	440	516	638	667	687	534	500	484	496
Inpatient health care	2 870	2 877	3 593	4 702	5 482	5 737	6 131	4 953	4 959	5 000
Drugs issued upon prescription in primary health care	784	939	946	1 214	1 249	1 681	1 555	1 150	1 896	1 989
Orthopaedic and other appliances	135	116	87	208	154	143	111	113	200	237
Expenditures for specific programmes for primary health care	121	271	194	214	126	105	306	0	0	0
Treatment abroad	139	165	196	290	161	70	90	143	220	124
Other expenditures for health care services	115	62	31	41	125	176	52	20	25	44
Capital investment and maintenance of facilities	17	99	67	36	39	90	44	876	53	106
Pecuniary compensation	940	642	677	719	801	694	769	909	990	953
Expenditures for the fund operations – administration expenses	214	257	292	326	284	332	273	357	333	320
Credits repayment and coverage of fund's losses		336	933		112	264	57	88	46	

Source: Bulletin of the Health Insurance Fund, 2004.

Looking more closely at data on individual categories of expenditure in the last 10 years, slightly variable trends can be observed. These may partly be explained by frequent changes in accounting methods and expenditure classifications. For example, until 2001 real costs, and in certain cases the resources paid to health institutions, were not supported by invoices for health services provided. By turning to a budgetary method of accounting, both the settled liabilities transferred from the preceding year as well as invoices received

Fig. 3.5 Health care expenditure as share of GDP in The former Yugoslav Republic of Macedonia, selected countries and EU averages, WHO estimates in percentages, 1998–2002



Source: European Health for All database, January 2006.

Note: EU: European Union; EU-15: Member States before 1 May 2004; EU-10: Member States joining the EU on 1 May 2004.

and paid in the running year are presented under expenditures. In this way, the expenditure on health care presented in 2004, for example, did not take into account drugs and medical consumables that had been consumed, but were still to be paid for, as these were part of the 2005 budget accounting.

For a long period of time the share of expenditure on inpatient health care services has been by far the highest, showing a constantly increasing trend up to 2001. However, in recent years the expenditure on primary health care services has seen a pronounced increase that accounted for more than 40% in 2004. This is assumed to be related to the introduction of the capitation model and more extensive contracting by the HIF of private PHC providers. The increasing trend may furthermore be attributed to rising costs for prescription drugs in the PHC sector (almost 15% in 2004). In the same year, dental care accounted for 4%, orthopaedic and other appliances for 2% and treatment abroad for 1%. All other expenditure on health care accounted for less than 1%.

Moreover, figures seem to vary significantly among institutions: those for 2004, for example, suggest that the Skopje Clinical Centre spent 34% of its

total expenditure on drugs, whereas in other HCIs these costs amounted to only 7–9%. As mentioned above, accounting methods at the HIF, as well as on the provider side, have changed over the years, resulting in variable trends. The changes in the share of expenditure on inpatient care and primary health care may therefore in part be attributed to the frequent changes in accounting and presentation of results, as well as inconsistent recording of the expenditure by HCIs providing PHC and specialized, consultative and hospital health care. However, it is more likely that this change in allocation from primary to secondary care recorded up to 2001 reflects a real migration to secondary-level care, i.e. decreased utilization of primary care services in exchange for referrals to higher levels of care.

Once again it should be noted that data discussed only refer to expenditure in the public sector and in private practices contracted by the HIF. The expenditure figures do not include out-of-pocket payments for health services in the private sector (mainly for dental care services and drugs bought in private pharmacies), or for services and drugs in the public sector that are not included in the BBP. The figures presented also exclude in part the expenditure of military health care services (covered by the Ministry of Defence budget), humanitarian aid and donations to health care institutions. In addition, it should be mentioned that certain expenditure, such as that for amortization costs, is yet to be recorded as health care-related expenditure. In consequence, these costs are not sufficiently represented in the health budget, which leads to insufficient investment in the maintenance of facilities, lack of equipment, and/or loss of capital assets altogether.

The health sector is faced with ever-rising costs and consumer expectations in view of demographic and epidemiological changes and the availability of new drugs and technologies. This is contrasted by the limited and insufficient volume of revenue from the collection of contributions. The Health Insurance Fund has already accumulated a significant deficit, with its debts estimated to amount to approximately €84 million (situation as at 2004). 78% of this can be attributed to debts owed to suppliers of drugs, medical devices and consumables. The HIF is also a creditor: approximately €130 million can be attributed to outstanding payments owed to the HIF by either the HCIs (accounting for more than 40%) or enterprises not fulfilling their obligation of contribution payments. Furthermore, outstanding debts owed to the HIF from the Pension and Social Fund as well as the Employment Bureau are yet to be paid. In view of the fragile financing of the preventive programmes and the insufficient resources for capital investment, the HIF has submitted an official request to the Government to improve the transfer of funds *(25)*.

4 Health care delivery system

Health care in The former Yugoslav Republic of Macedonia is delivered through a system of health care institutions, covering the country's territory relatively evenly. The health facilities range from health care stations and health care centres at PHC level and specialist-consultative and inpatient departments at secondary level to university clinics and institutes at tertiary level, with the latter also carrying out research and educational activities (see Chapter 2 on organizational structure and management). With the amendments to the Law on Health Care, medical centres at municipal level have been functionally and legally divided into two separate entities; primary care on the one hand and specialist-consultative and hospital care on the other (for details see section on primary health care below). The implementation at operational level is yet to be carried out. Moreover, some tertiary-level institutions also deliver services defined as secondary health care, and the system has yet to implement the necessary regulatory framework to ensure proper gatekeeping and referral practices. Recent years have seen substantial growth of the private sector, especially in the field of PHC. Most dental offices have been privatized and pharmacies are in the process of privatization. Priority areas for reform include the further regulation of the pharmaceutical sector, the rationalization of health care facilities, and human resources planning.

The management supervision function of the HCIs is performed by management boards composed of seven members: three professionals working in the health institution in question and four appointed by the Government of The former Yugoslav Republic of Macedonia. In PHC institutions, two members of the management board are representatives of the local municipality. Following a public advertisement procedure, the HCIs' executive directors are proposed by the Minister of Health's advisory board and appointed by the Minister of Health. Most of these posts have seen frequent replacements. Each health care

institution has an individual statute adopted by its management board. The statute defines and regulates its structure and functions and is subject to the Ministry of Health's approval.

Health care institutions are subject to initial licensing, i.e. an assessment is carried out regarding their compliance with the defined standards concerning premises, equipment and staff. The licences can be revoked when the stated requirements are not met, but in practice this has been implemented only in a few cases. There are institutions, especially in rural areas, in which the maintenance of equipment is poor and in some cases basic supplies are lacking altogether. Furthermore, most of the HCIs face problems due to a deterioration of capital assets. This is an especially serious problem in the PHC sector. However, some positive results in the area of equipment procurement in primary health care have been achieved with the help of the project for continuing medical education, financially supported by the World Bank (1996–2002).

Health care is also delivered by private health care institutions, established mainly as PHC clinics (general practices, dental offices). Doctors employed in the public sector are allowed to carry out additional private practice in public or private facilities. The framework to regulate this sector is set out in a recently adopted by-law.

Table 4.1 provides an overview on features of and trends in the health service delivery system in The former Yugoslav Republic of Macedonia up to 2004.

Table 4.1 Health care services in The former Yugoslav Republic of Macedonia and EU averages

	1991	1995	2000	2004	EU average	EU-15 average	EU-10 average
Primary health care units per 100 000	68.0	66.5	53.8	53.2 (2001)	–	–	110.1
Hospitals per 100 000	2.7	2.6	2.7	2.7 (2001)	3.1	3.2 (2003)	2.7
Hospitals beds per 100 000	578.7	541.5	505.7	493.6 (2001)	591.6	583.6 (2003)	649.6
Inpatient admission per 100	10.0	9.8	9.7	9.0 (2001)	17.9 (2003)	18.3 (2002)	19.5
Average length of stay, all hospitals	14.4	14.3	12.2	11.8	9.5 (2003)	9.7 (2003)	8.6
Total pharmaceutical expenditure as % of total health expenditure	8.4	8.6	13.5	–	–	–	–

Source: European Health for All database, January 2006.

Note: EU: European Union; EU-15: Member States before 1 May 2004; EU-10: Member States joining the EU on 1 May 2004.

Primary health care

The first contact between a patient and the health care delivery system occurs at the primary health care level, usually in the setting of a health station (most often found in rural settlements and staffed by a nurse and a visiting physician), or at health care clinics and centres (at municipal level and staffed by a number of nurses and physicians). As stated above, the functional and legal separation of primary care on the one hand and specialty-consultative and hospital care on the other has been introduced in health centres (*15*), but the implementation of this at operational level is yet to take place. Primary health care (supplemented by primary dental care) consists of five specialties:

- general medicine;
- occupational medicine;
- children's health care/paediatrics (age 0–6);
- school medicine (school children and youths aged 7–19);
- women's health care (obstetrics and gynaecology).

In general, smaller rural settlements are served with general medicine services only. The services of PHC centres at municipal level also include emergency and home treatment, pharmacies, laboratories, X-ray and echo cabinets, preventive TB services, including "polyvalent patronage" nursing services (for details see section on preventive health care below), and dental care. All health care centres within a defined area are supervised by a head office based in the main municipality of the region in question.

General practice is provided through physicians with and without specialization in general practice, paediatricians (for children aged 0–6 years), gynaecologists and dentists. According to the law, primary health care physicians are responsible for the delivery of the following services:

- general medical examinations;
- drug prescription;
- issuing of referrals for specialized outpatient services;
- issuing of referrals for inpatient treatment;
- issuing of certificates for temporary inability to work for a period of up to 15 days;
- issuing of orders addressed to the HIF Committee in charge of reviewing temporary inability to work for a period longer than 16 days.

At present the system performs well in some areas (e.g. immunization and antenatal care, see Fig. 4.2) and less well in others (non-rational prescription, high referral rates, lack of coordination between different levels of care).

In 2004 the public primary health care sector employed 1115 physicians who delivered their services in 732 clinics. The ratio of doctors to health personnel with advanced or secondary school education (mostly nurses) was 1 to 1.6 in rural areas and 1 to 1.4 in urban settings. The average number of service users per physician in a rural PHC practice was around 3000, whereas the national average was 1800.

Since 1991 private HCIs also deliver services in primary health care and 90% of the private HCIs are located in urban settings. In 2004 the private sector employed one third of all physicians working at PHC level (607 out of 1722). As many as 588 private practices were registered, of which 363 offered general practice and 228 offered specialized health care services. In the same year 64 private laboratories and 405 private pharmacies were operating. General dentistry services have been almost completely privatized (with only preventive dental services still offered in the publicly-owned health centres) and the privatization of specialist dentistry services is under way. However, private primary care physicians do not offer comprehensive care, including all preventive services and emergency care after office hours. This is in line with an amendment of the Law on Health Care *(15)* in 2005 stating that some services, such as emergency medical and dental care, emergency home treatment, preventive check-ups of pre-school and school children as well as some patronage services should remain in the public domain *(26)*.

There are minimum standards set by law for the number of personnel in primary health care. However, as mentioned above and shown in Table 4.2, there are discrepancies in the numbers among specialties and the ratio of doctors to health professionals. The relative surplus of general practitioners in urban settings can be attributed to better working conditions in urban environments. Rural units very often offer poor facilities, lacking basic equipment. This may be one of the reasons why patients, especially in rural areas, aim to bypass primary care.

Table 4.2 Number of patients per physician in primary health care by specialty and ratio of doctors to health care workers, 2004

Department:	Users of service per doctor		Ratio doctors–health workers	
	Standard	Status 2004	Standard	Status 2004
General medicine	1800	1 500	2	1.4
Children aged 0–6 years	500–1 000	870	2	1.7
School children	1 600–3 000	2 671	2	1.4
Occupational medicine	1 000–2 000	–	2	1
Gynaecology	4 500–6 000	8 300	2	2

Source: Republic Institute for Health Protection, 2005.

As a general rule insured inhabitants are obliged to select a GP, who in turn is required to guide them as a gatekeeper through the system. The delay in implementing this fully may in part be due to the flaws in the primary health care system in rural areas as well as the practice of different family members consulting different PHC physicians.

In 2001, citizens of The former Yugoslav Republic of Macedonia displayed one of the lowest utilization rates of outpatient services in Europe, with an average of 3.0 outpatient visits per capita per year (compared with an EU average of 6.8 in 2003 and of 8.6 in 2004 for the countries joining the EU in May of the same year). However, the picture may be distorted by the large numbers of people visiting private PHC offices, especially those that are not contracted by the HIF, or by individuals bypassing PHC services (for details see Fig. 4.1).

Preventive health care – public health care institutions and services

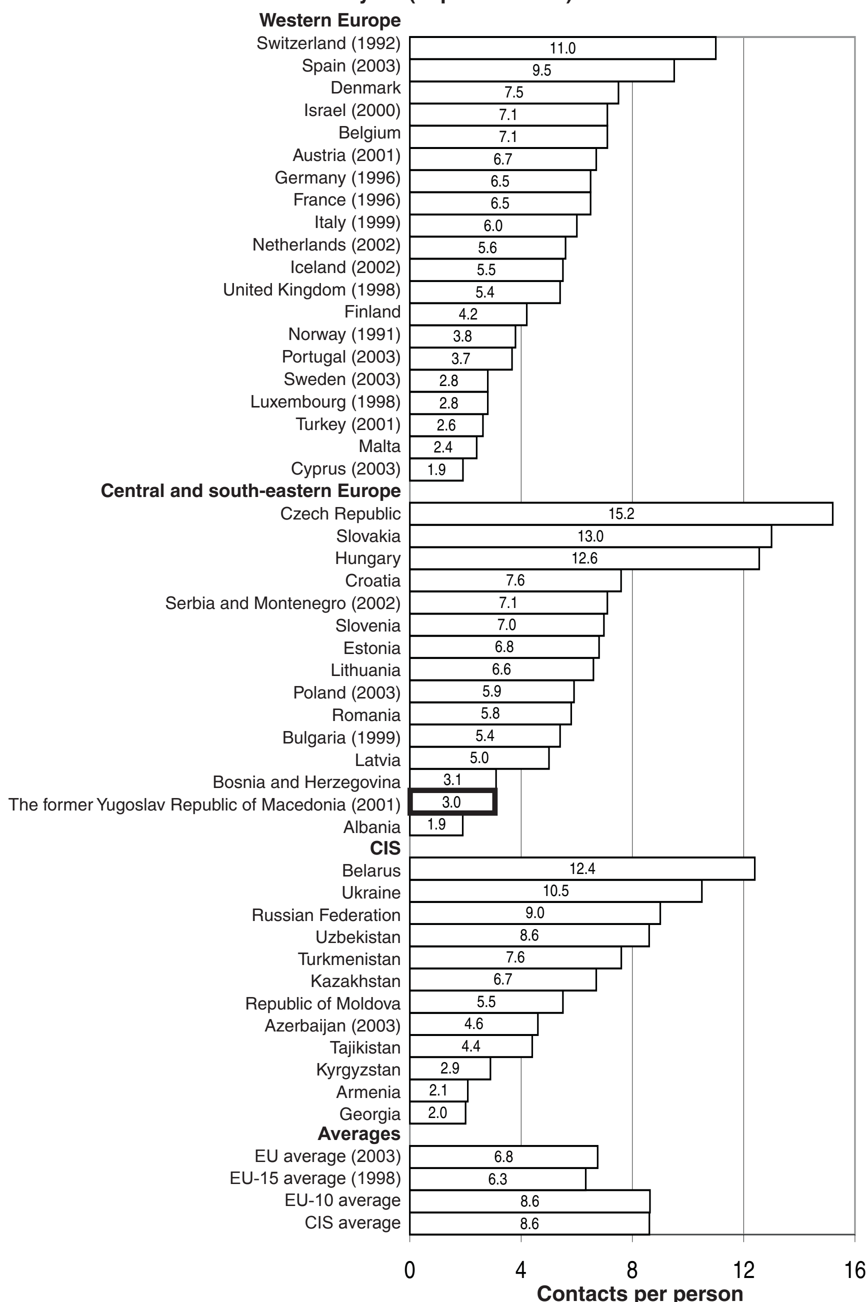
The prevention of diseases at all levels of care is given special attention in The former Yugoslav Republic of Macedonia. As mentioned above, the health system has very successfully built up preventive health care services, which is reflected in very good immunization coverage of the population (see, for example, the level of immunization coverage for measles, which is among the highest in Europe (Fig. 4.2)).

Specialized preventive health care is organized and provided in accordance with the provisions of the Law on Health Care in the Republic Institute for Health Protection (RIHP) in Skopje, the subordinated 10 regional institutes for health protection and 21 Hygienic-Epidemiologic-Sanitary (HES) units. Patronage (visiting nurse) services, as a form of specialized nursing care, also include a series of public health functions. Similar to visits at home, this service is based on family needs, including postpartum visits to mothers and their infants. In certain regions patronage services have been extended to include preventive and therapeutic interventions related to ischaemic heart disease, TB and carcinoma, with these services being termed “polyvalent patronage”.

Since 1993 the regional institutes for health protection have been independent legal entities. The provisions of the Law on Local Self-Government of 2004 provide options for these institutes to further extend or modify their roles.

The Republic Institute for Health Protection is the top-level scientific institution providing highly specialized preventive health care services. It develops public health guidelines, specifically for social medicine, hygiene

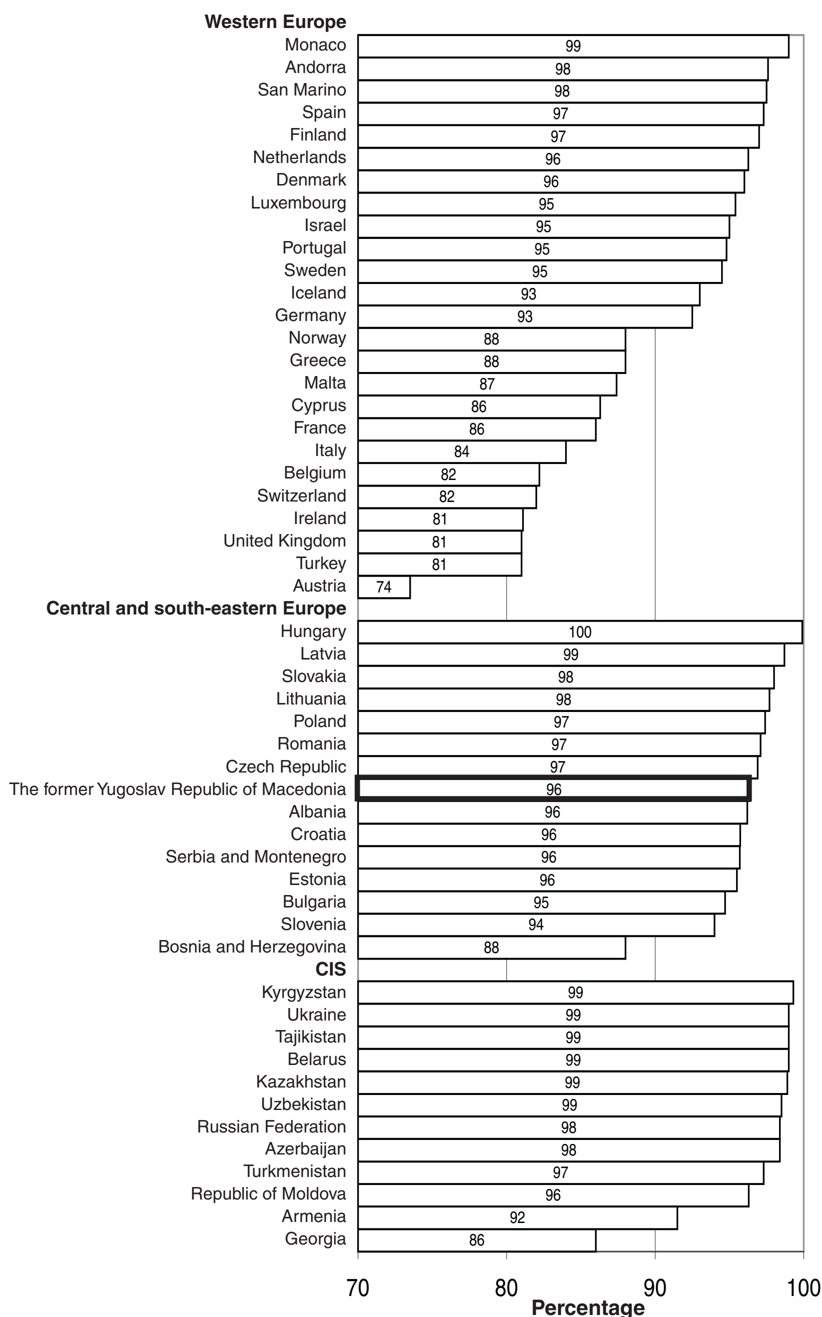
Fig. 4.1 Outpatient contacts per person in the WHO European Region, 2004 or latest available year (in parentheses)



Source: European Health for All database, January 2006.

Note: CIS: Commonwealth of Independent States; EU: European Union; EU-15: Member States before 1 May 2004; EU-10: Member States joining the EU on 1 May 2004; countries without data not included.

Fig. 4.2 Levels of immunization for measles in the WHO European Region, 2004



Source: European Health for All database, January 2006.
Note: CIS: Commonwealth of Independent States.

and occupational medicine, which also form the basis of the Medical Faculty's training curricula. Owing to these capacities, the Ministry of Health and the HIF very often draw on the expertise of the RIHP in the field of health policy to develop and take on public health control functions. For example, the RIHP has revised the programme for public health *(27),* which could serve as the basis of the "Strategy for Public Health" to be drawn up jointly with the Ministry of Health and to be accompanied by new EU-oriented legislation regulating the public health sector.

In cooperation with the regional institutes, the RIHP is responsible for the collection and analysis of health status and care-related data, including the performance of environmental health risk assessments. Surveillance of communicable and noncommunicable diseases such as HIV/AIDS, cancer, drug and alcohol addiction and injuries play an important role in this context and registries have therefore been established. Special efforts are also devoted to health promotion and health education. The process of decentralizing the preventive public health functions will, however, require reorganization and modernization of the RIHP. Another aspect that will require attention concerns the financing of the institute and the sector at large: at present a large proportion of the RIHP's core funding is provided by the private sector. In line with legislation and agreements between the actors of the health system of The former Yugoslav Republic of Macedonia, however, public health is considered a public good that falls under the responsibility of the state and it is therefore believed that the sector's funding should be covered by the state budget.

Specific occupational health care activities are pursued by the Institute of Occupational Health, a WHO Collaborating Centre and by occupational health units mainly within health centres. The latter are currently more oriented towards curative medicine rather than modern preventive occupational health and safety activities. Moreover, most employers are not interested in investing in modern occupational health and safety measures, and many activities at enterprise level have been discontinued and so-called "occupational dispensaries" closed. Despite the precarious overall situation in occupational health, efforts continue in order to establish the basis for a new model for occupational health services, taking the intersectoral approach into account.

Secondary health care

Secondary health care is provided by the general hospitals that were established as independent legal entities following the split of the medical centres into their

primary and secondary care functions. They are subdivided into specialty-consultative health care, responsible for outpatient assessment and treatment and hospital (inpatient) health care. As outlined in the section on primary health care, the system requires that access to hospital care is channelled through referrals issued by physicians at primary care level. Emergency cases are admitted without referral, with referrals then issued retrospectively, as emergency medical assistance is provided in the framework of primary health care.

Specialty-consultative health care

Specialty-consultative health care is provided in the hospital segments of the medical centres as well as in specialized hospitals, institutes and clinics and the Clinical Centre in Skopje. Services include diagnostics, treatment and rehabilitation.

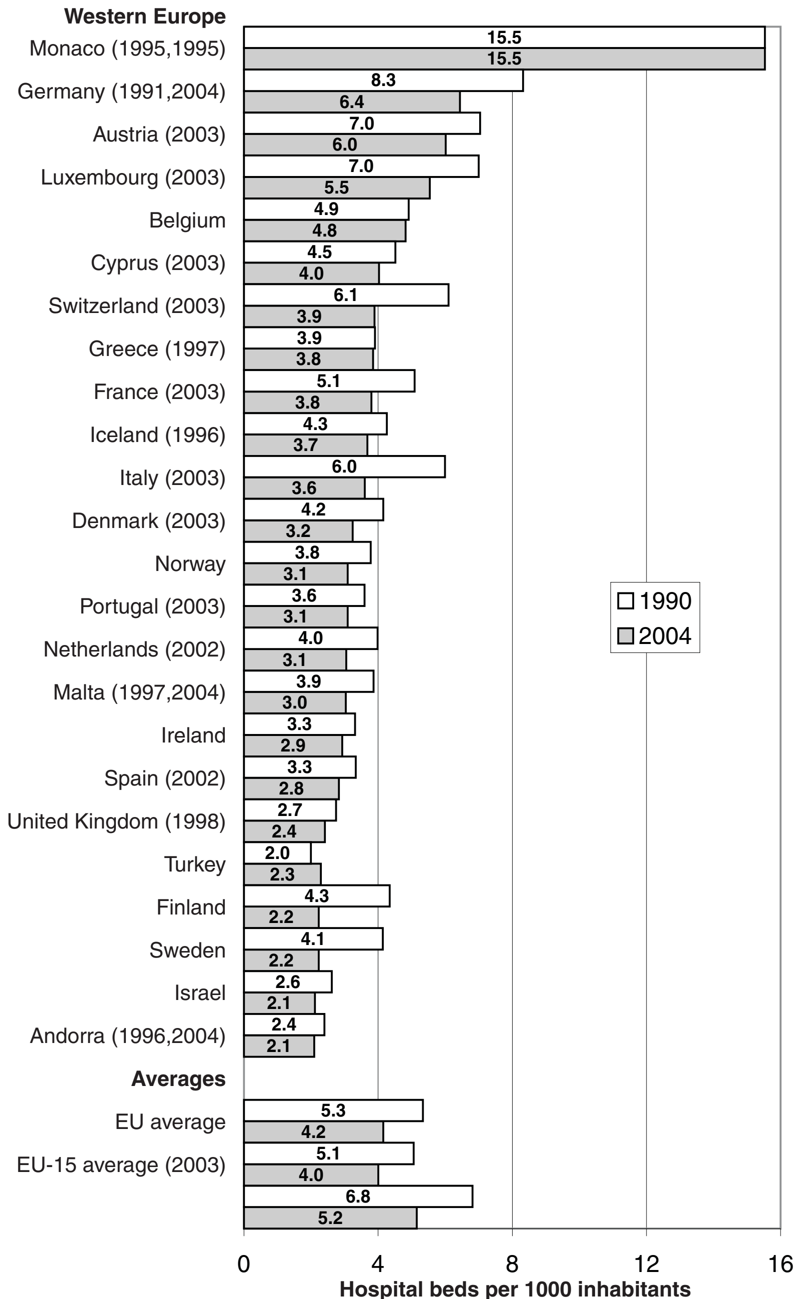
Hospital health care

As outlined in Chapter 2 on the organization of the health system, in the period prior to 1991 each municipality aimed to provide comprehensive health care services for its citizens and planned facilities accordingly (i.e. each hospital aimed to deliver the widest range of services possible). At present the consequences of this policy are still being felt, and there is evidence of surplus, inappropriate capacities and regional disparities that require the initiation of programmes for the rationalization of both facilities and services.

In this context it needs to be noted, and as Fig. 4.3 and Fig. 4.4 illustrate, that the number of beds in acute hospitals in The former Yugoslav Republic of Macedonia is still lower than in the EU as well as the vast majority of neighbouring countries.

In 2005 hospital health care was delivered by 67 public hospitals, specialized hospitals, institutes, and specialized departments (clinics) in the Skopje Clinical Centre, as well as by four private hospitals. The general hospitals deliver care in at least five specialty fields: internal medicine, surgery, paediatrics, obstetrics and gynaecology and anaesthesiology. Some of these hospitals include additional departments, such as ophthalmology, ENT and psychiatry, among others. The hospitals provide emergency services as well as diagnosis, treatment, rehabilitation, accommodation, nursing and catering services and 24-hour specialist supervision for inpatients. The hospitals also carry out the practical training of future health professionals.

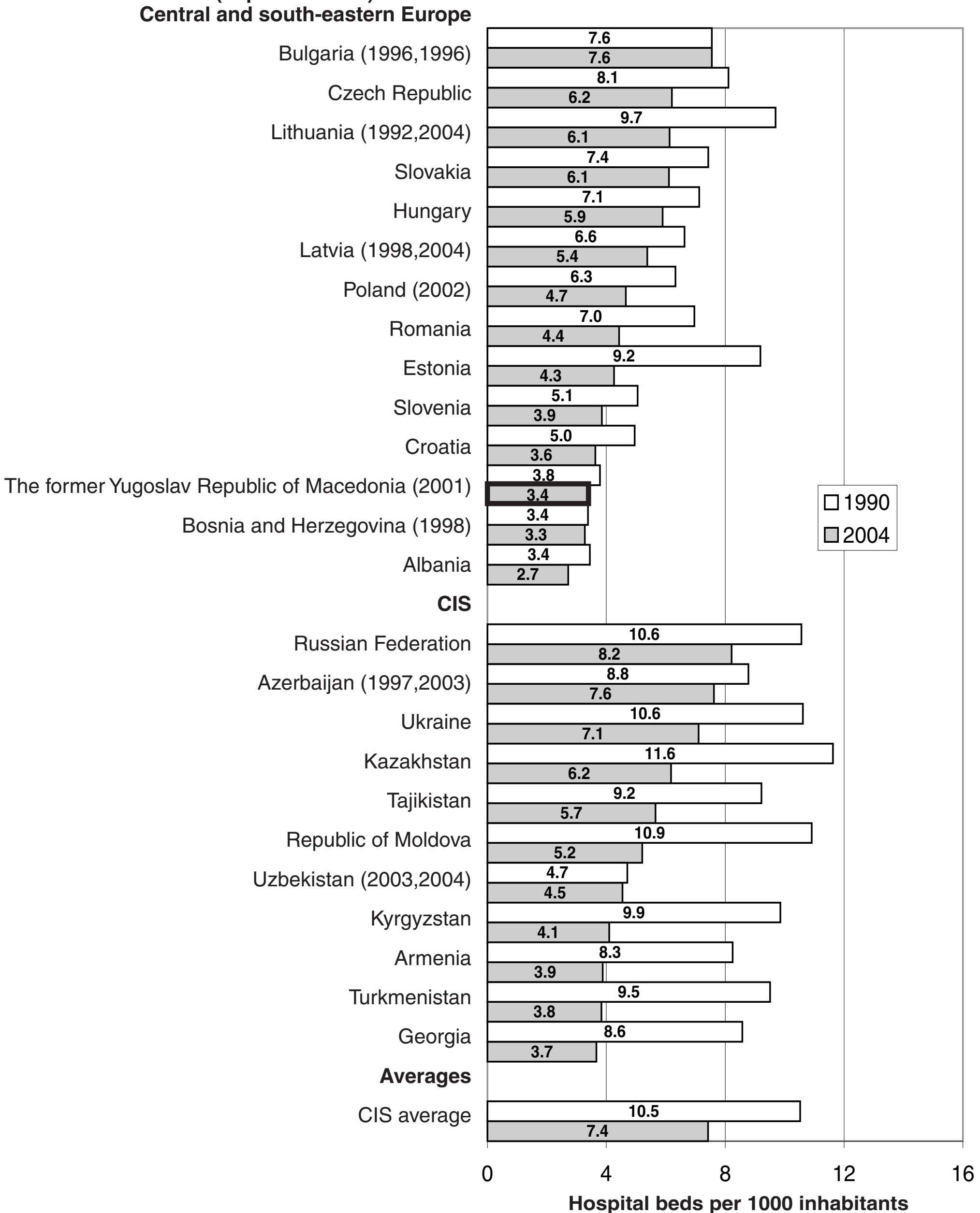
Fig. 4.3(a) Hospital beds in acute hospitals per 1000 inhabitants in western Europe, 1990 and 2004 or latest available year (in parentheses)



Source: European Health for All database, January 2006.

Note: EU: European Union; EU-15: Member States before 1 May 2004; EU-10: Member States joining the EU on 1 May 2004; countries without data not included.

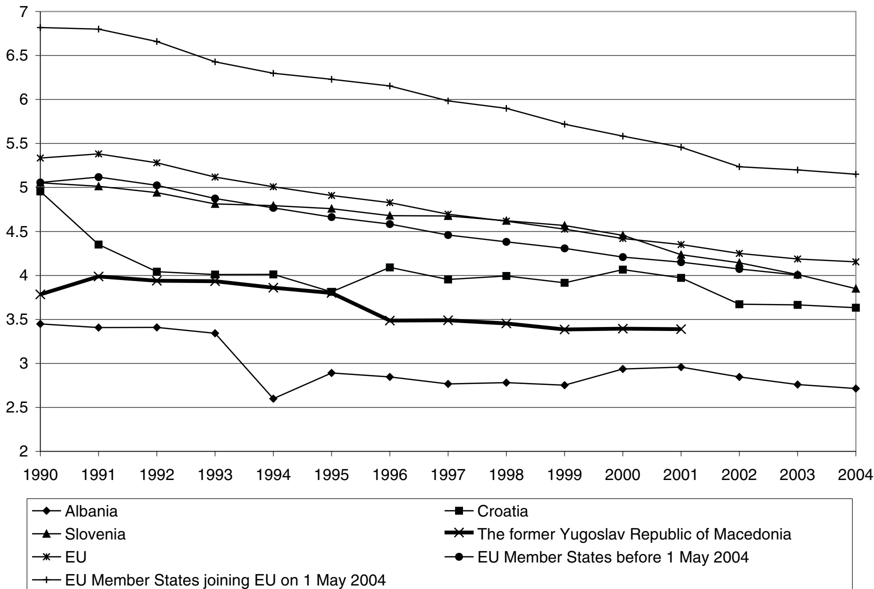
Fig. 4.3(b) Hospital beds in acute hospitals per 1000 inhabitants in central and south-eastern Europe and CIS countries, 1990 and 2004 or latest available year (in parentheses)



Source: European Health for All database, January 2006.

Note: CIS: Commonwealth of Independent States; countries without data not included.

Fig. 4.4 Number of beds per 1000 inhabitants in acute care hospitals in The former Yugoslav Republic of Macedonia, selected countries and EU averages, 1990–2004



Source: European Health for All database, January 2006.

Table 4.3 provides a summary of the composition and performance of general hospitals in 2004.

The costs of acute hospital treatment for insured patients are covered by the compulsory health insurance as well as by patients' co-payments in accordance with the legal provisions. For treatment in specialized facilities, such as specialized geriatric institutions, for example, patients have to cover certain costs themselves, such as those related to accommodation and catering. Depending on the financial resources of the individual in question, these payments can represent a significant financial burden. Socially vulnerable individuals may have their costs covered by the Ministry of Labour and Social Policy. Long-term care for about 1500 individuals in psychiatric institutions is covered by the Health Insurance Fund as well as the state budget.

Taking the rather young population structure into account, Table 4.1, Table 4.4, and Table 4.5 suggest that hospital admission rates are considerably higher than one might expect. In 2001 the average length of stay in hospitals was 8 days in the acute hospitals and 11.8 in all hospitals. These figures are higher than the EU averages for that year. The occupancy rate was 53.7% in the acute hospitals and 64% in all hospitals – figures that are much lower than the EU averages. While the EU countries have been recording a constant decrease in

Table 4.3 Summary of the composition and performance of the general hospitals in 2004

	Beds (No.)	ALOS (Days)	Range (Days)	Bed Occupancy (%)
Specialty				
Internal in total	2 242	8.3		57.1
Internal	743	8.2	4.7–11.6	66.2
Infectious Diseases	298	10.3	7.5–23.2	40.3
Paediatrics	483	5.0	2.4–10.1	45.6
Neuro Psychiatry	441	11.1	7.1–17.8	60.2
TB & Lung diseases	90	15.3	14.1–27.8	38.0
Dermatology (STD)	31	13.5	11.6–12.3	72.8
Rehabilitation	145	18.0	16.3–21.2	83.1
Nephrology	12	1.2	1.0–5.7	50.2
Surgery in total	1 875	5.3		44.7
General surgery	581	5.8	3.7–8.8	50.3
Traumatology and orthopaedics	161	9.9	9.1–14.3	46.4
Gynaecology	281	4.0	2.3–9.2	28.1
Obstetrics	426	4.5	3.2–9.0	56.2
ENT	163	6.0	4.8–8.8	39.0
Ophthalmology	163	6.3	6.3–9.8	27.4
Urology	78	6.4	4.8–8.4	51.1
Maxillo-facial	10	7.2	8.4–8.4	22.7
Anaesthesiology	12	1.5	1.2–2.0	25.3
Total	4 117	6.8		51.5

Source: Republic Institute for Health Protection, Report 2005.

Note: ALOS: average length of stay.

the number of hospital beds in recent years, in The former Yugoslav Republic of Macedonia the number has been relatively static (494 per 100 000 inhabitants), but at a lower level than the EU average. More than half of the hospital beds in The former Yugoslav Republic of Macedonia are to be found in specialized or tertiary care institutions and the capital, Skopje, shows a pronounced oversupply of beds in this sector *(28)*.

Specialized hospital care is delivered in six specialized hospitals and seven rehabilitation centres, accounting for 33.6% of the total number of hospital beds in the secondary health care sector. The average length of stay is longer than in general hospitals and ranges from 31.2 days in the specialized hospital for orthopaedics and trauma in Ohrid, to 461.3 days in the psychiatric hospitals in Skopje, Demir Hisar and Gevgelija *(8)*.

Although health care institutions are managed by directors, their role is more administrative than managerial. Health care delivery services have been

Table 4.4 Inpatient utilization and performance in acute hospitals in the WHO European Region, 2004 or latest available year

	Hospital beds per 1000 population	Admissions per 100 population	Average length of stay in days	Occupancy rate (%)
Western Europe				
Andorra	2.1	10.0	6.7[e]	70.0[e]
Austria	6.0[a]	28.8[a]	6.4[a]	76.2[a]
Belgium	4.8	16.9[e]	8.3[a]	65.9[a]
Cyprus	4.0[a]	8.1[a]	5.5[a]	72.8[a]
Denmark	3.2[a]	17.8[c]	3.6[a]	84.0[c]
Finland	2.2	19.9	4.2	74.0[i]
France	3.8[a]	16.6[d]	6.1[a]	84.0[a]
Germany	6.4	20.4	8.7	75.5
Greece	3.8[g]	14.5[f]	6.4[f]	66.6[f]
Iceland	3.7[h]	14.7[a]	3.6[a]	–
Ireland	2.9	14.1	6.5	85.4
Israel	2.1	17.3	4.2	98.0
Italy	3.6[a]	15.2[b]	6.8[b]	76.9[b]
Luxembourg	5.5[a]	18.4[j]	7.7[f]	74.3[j]
Malta	3.0	10.7	4.6	85.4
Monaco	15.5[i]	–	–	–
Netherlands	3.1[b]	8.8[c]	7.4[c]	58.4[c]
Norway	3.1	17.3	5.2	86.4
Portugal	3.1[a]	11.2[e]	8.2[e]	85.2[a]
Spain	2.8[b]	11.7[b]	7.0[b]	78.2[b]
Sweden	2.2	15.1	6.1	77.5[h]
Switzerland	3.9[a]	16.3[f]	9.0[a]	85.2[a]
Turkey	2.3	8.1[a]	5.6[a]	64.9
United Kingdom	2.4[f]	21.4[h]	5.0[h]	80.8[f]
Central and south-eastern Europe				
Albania	2.7	–	–	–
Bosnia and Herzegovina	3.3[f]	7.2[f]	9.8[f]	62.6[e]
Bulgaria	7.6[h]	14.8[h]	10.7[h]	64.1[h]
Croatia	3.6	14.6	8.2	89.9
Czech Republic	6.2	20.8	8.2	74.8
Estonia	4.3	17.2	6.2	68.4
Hungary	5.9	23.5	6.5	76.6
Latvia	5.4	18.8	–	–
Lithuania	6.1	21.9	7.9	77.4
Poland	4.7[b]	–	–	–
Romania	4.4	–	–	–
Serbia and Montenegro	–	–	9.7[b]	69.0[b]
Slovakia	6.1	17.8	8.4	68.6
Slovenia	3.9	16.6	6.2	73.2
The former Yugoslav Republic of Macedonia	3.4[c]	8.2[c]	8.0[c]	53.7[c]
CIS				
Armenia	3.9	7.0	8.5	41.8
Azerbaijan	7.6[a]	4.8[a]	15.8[a]	26.1[a]
Belarus	–	–	–	88.7[j]
Georgia	3.7	5.4	6.7	99.3
Kazakhstan	6.2	17.4	10.0	95.6
Kyrgyzstan	4.1	12.3[a]	10.3	90.0
Republic of Moldova	5.2	15.4	7.8	62.9
Russian Federation	8.2	21.3	12.2	87.3
Tajikistan	5.7	10.2	12.0	58.1
Turkmenistan	3.8	13.3	7.9	81.8
Ukraine	7.1	20.0	11.9	91.2
Uzbekistan	4.5	14.2	–	86.5
EU average	4.2	17.5[a]	6.9[a]	77.5[a]
EU-15 average	4.0[a]	18.0[c]	6.9[a]	77.0[c]
EU-10 average	5.2	20.6	7.4	73.8
CIS average	7.4	19.5	11.6	87.1

Source: European Health for All database, January 2006.

Notes: [a] 2003; [b] 2002; [c] 2001; [d] 2000; [e] 1999; [f] 1998; [g] 1997; [h] 1996; [i] 1995; [j] 1994; CIS: Commonwealth of Independent States; EU: European Union; EU-15: Member States before 1 May 2004; EU-10: Member States joining the EU on 1 May 2004.

Table 4.5 Utilization and performance in all hospitals in The former Yugoslav Republic of Macedonia, selected countries and EU averages, 2004 (or latest available year)

	All hospitals per 100 000 population	Total beds per 100 000 population	Admissions per 100 population	Average length of stay in days
Albania	1.6	300.7	8.7	6.4
Bulgaria	3.9	613.1	19.6	8.2
Croatia	1.8	553.0	16.4	10.7
Serbia and Montenegro	0.4[b]	599.0[b]	9.3[b]	12.1[b]
Slovenia	1.5	479.9	17.3	7.5
The former Yugoslav Republic of Macedonia	2.7[c]	493.6[c]	9.0[c]	11.8[c]
EU average	3.1	591.6	17.9[a]	9.5[a]
EU-15 average	3.2[a]	583.6[a]	18.3[b]	9.7[a]
EU-10 average	2.7	649.6	19.5	8.6

Source: European Health for All database, January 2006.

Notes: [a] 2003; [b] 2002; [c] 2001; EU: European Union; EU-15: Member States before 1 May 2004; EU-10: Member States joining the EU on 1 May 2004.

Table 4.6 Total hospital capacity by type, 2004

Type of hospital	Number of beds	Beds per 1000 population
General hospitals in medical centres	4 117	2
Clinics & institutes of the Clinical Centre of Macedonia, Skopje	2 058	1
Special hospitals and institutes (including mental health)	2 263	1.3
Rehabilitation centres	640	0.32
Spas	180	0.1
Beds in PHC sector	91	0.04
Total	9 699	4.8

Source: Republic Institute for Health Protection, Report 2005.

deteriorated owing to a lack of managerial skills, as well as the concept of allocation of funds based on pre-defined uses, insufficient needs assessment, centrally controlled procurement procedures, the lack of best practice protocols and drug registries, among others, all of which stem from the system as it was administered until 1991. An integrated approach to service delivery with close cooperation between primary- and tertiary-level services is also missing.

The introduction in 2004 of the new payment system for hospital care is expected to yield positive results. The system bases budget calculations on the

needs of the three preceding years as well as the projected types and volume of services for a certain period of time. It is intended to represent a mechanism to stop the growth of hospital debts and to generate performance accountability. However, efficiency gains in individual HCIs are hampered by the fact that facilities are not empowered to provide financial incentives to staff, or to make human resources planning decisions. Moreover, at present approaches to, and examples of, more cost-effective models of ambulatory care delivery at secondary care level, such as day surgery, day care for the elderly and the chronically ill, rehabilitation programmes, patient hotels, etc., are scarce. Underinvestment in technologies to support some of the more cost-effective treatment regimes, such as minimally invasive surgery, is also a problem.

Tertiary health care

Tertiary health care is delivered in the Clinical Centre in Skopje and specialized hospitals, most of them also located in Skopje. All tertiary health care institutions have taken on board educational functions and are pursuing scientific research activities, alongside delivering secondary health care. Access to tertiary health care institutions is facilitated through referrals issued by doctors in primary health care.

The Clinical Centre in Skopje is the most sophisticated health care facility in The former Yugoslav Republic of Macedonia, providing tertiary health care in a number of specialties. It comprises 22 clinics and institutes, with almost 2400 beds. More than half the patients come from outside the capital, the average length of stay in the centre is 8.8 days and the bed occupancy rate is 61.5%.

The total number of beds in all other tertiary units is 1353. The average length of stay ranges between 3.7 days in the hospital specializing in gynaecology and obstetrics in Cair, and 182 days in the Skopje Psychiatric Hospital.

In the period when the country was part of the Socialist Federal Republic of Yugoslavia, tertiary units were distributed throughout the territory. This is why some specialized services in tertiary care are still conducted and a large amount of the HIF funding is spent outside The former Yugoslav Republic of Macedonia, mostly in western Europe. However, the process of establishing more services in the country and developing and complementing capacities in the tertiary health care sector is in progress. To this end, premises have been leased in a military hospital, for example, to set up a private hospital for cardiothoracic surgery.

Table 4.7 Structure and activities of the Skopje Clinical Centre, 2004

Specialty	Number of beds	Number of inpatients	Average length of stay (days)	Bed occupancy (%)
Internal medicine	998	23 354	11.1	70.9
Infectious diseases	129	2 535	12.6	67.7
Paediatrics	240	5 821	9	59.8
Neurology	101	1 648	18.4	82.1
Psychiatry	59	483	31.8	71.3
Dermatology/STD	61	654	19.9	58.4
Gastro-intestinal	56	1 460	8.6	61.1
Pulmonology	46	1 372	12.4	101.7
Cardiology	120	5 061	6.9	79.4
Emergency services	33	792	9.2	60.3
Nephrology	41	1 094	13.5	98.4
Endocrinology	35	695	8.0	43.8
Rheumatology	42	768	12.8	64.0
Haematology	35	971	14.2	108.1
Surgical	917	29 694	6.8	60.6
General surgery	357	12 095	6.6	61.4
Orthopaedics	160	2 819	12.9	62.2
Gynaecology	164	6 260	6.0	62.8
Obstetrics	72	4 316	5.2	98.3
Ear, nose and throat	95	2 316	6.2	41.6
Ophthalmology	85	1 888	6.5	42.8
Institute for Radiotherapy & Oncology	143	2 089	17.6	70.5
City Hospital for Surgery Skopje	210	5 623	6.6	48.1
Institute for Maxillo-facial Surgery	43	765	8.1	39.3
Total	2 311	61 525	8.8	64.1

Source: Republic Institute for Health Protection, Report 2005.

Social care

Social services are provided for vulnerable population groups, such as the elderly, children lacking parental care, individuals with specific needs, minors with behavioural problems, minor offenders, etc. Care is provided in specialized institutions or in ambulatory settings.

Traditionally, care of the elderly is provided by their families at home. There are cases, however, where the family is not able to provide such care, especially in certain periods of the year. Care is then provided in hospitals which specialize in providing beds for prolonged stays by elderly patients. So far only a small number of homes for the retired exist.

Mental health care

Care of people with psychiatric illnesses is provided mainly in publicly-owned psychiatric departments, although private health care in this sector is also available. There is scope for improvement in the existing facilities.

Recently, activities have been initiated for mental health to be given more attention politically and for mental health centres to be made available in the communities (see also Chapter 6 on health reforms).

Human resources and training

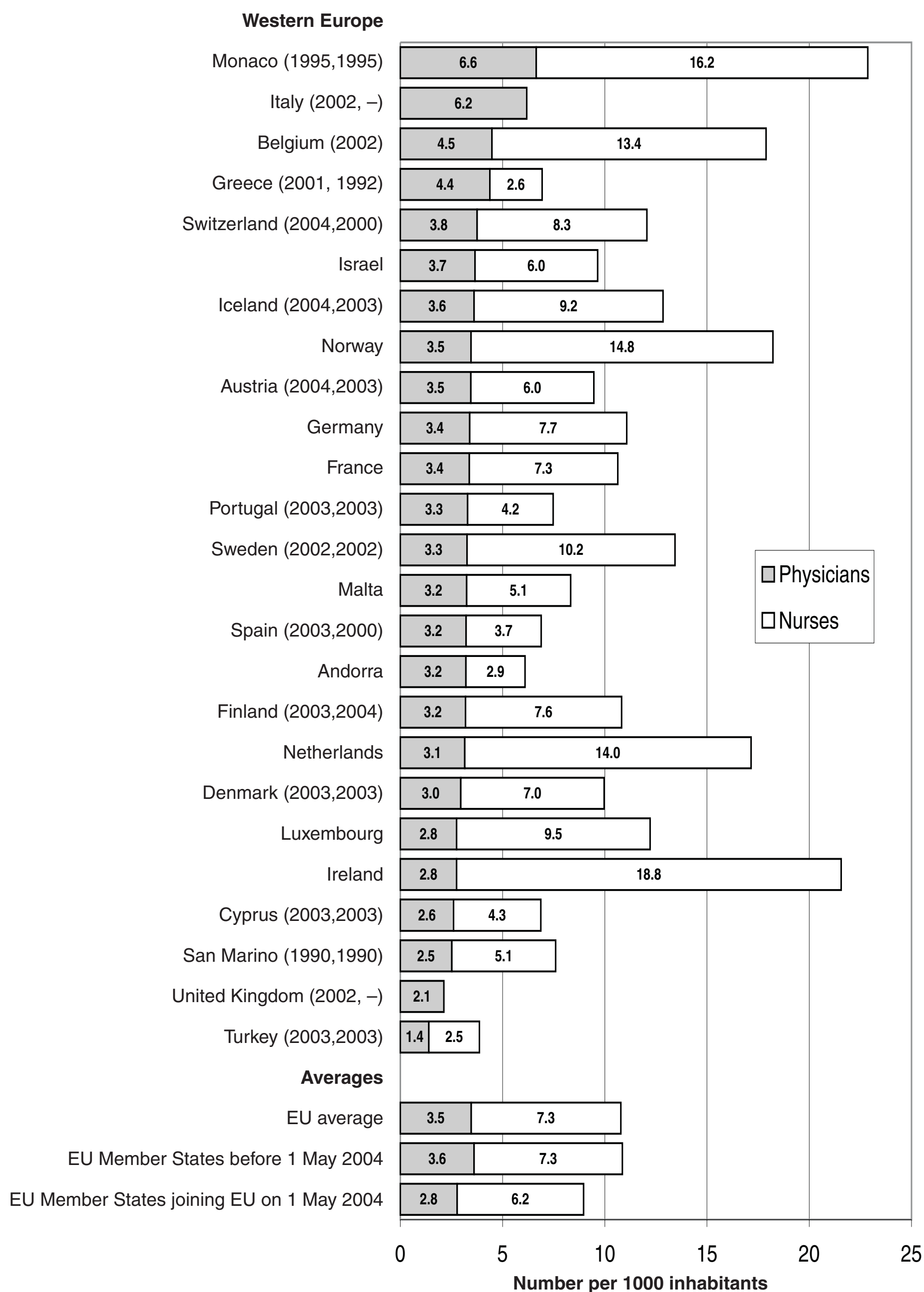
Studies point to a surplus of health personnel. This seems to be partly the result of the relatively high obligatory number of medical doctors per 1000 citizens, for example, as defined in the system established prior to 1991, and partly the result of the absence of a strict quota for professional training. Furthermore, analysis of data on the employment of medical personnel confirms that the 1990s saw no significant policy changes in this field. Accordingly, the sector experiences difficulties in employing all qualified personnel and there is therefore unemployment among doctors and nurses. However, the recent reduction in admission numbers to the Medical Faculty aims to take account of these difficulties. On the contrary, unemployment among pharmacists is rare.

Fig. 4.5, Fig. 4.6 and Fig. 4.7 suggest that the number of medical personnel per 1000 inhabitants is lower in The former Yugoslav Republic of Macedonia than the averages in the EU countries (see also Table 4.8). Current figures show slightly more than 2 medical doctors per 1000 inhabitants. However, national data suggest that the picture might be distorted and the actual figure is probably more than 3 per 1000 inhabitants, a ratio approaching the average for the EU Member States.

Education of medical personnel

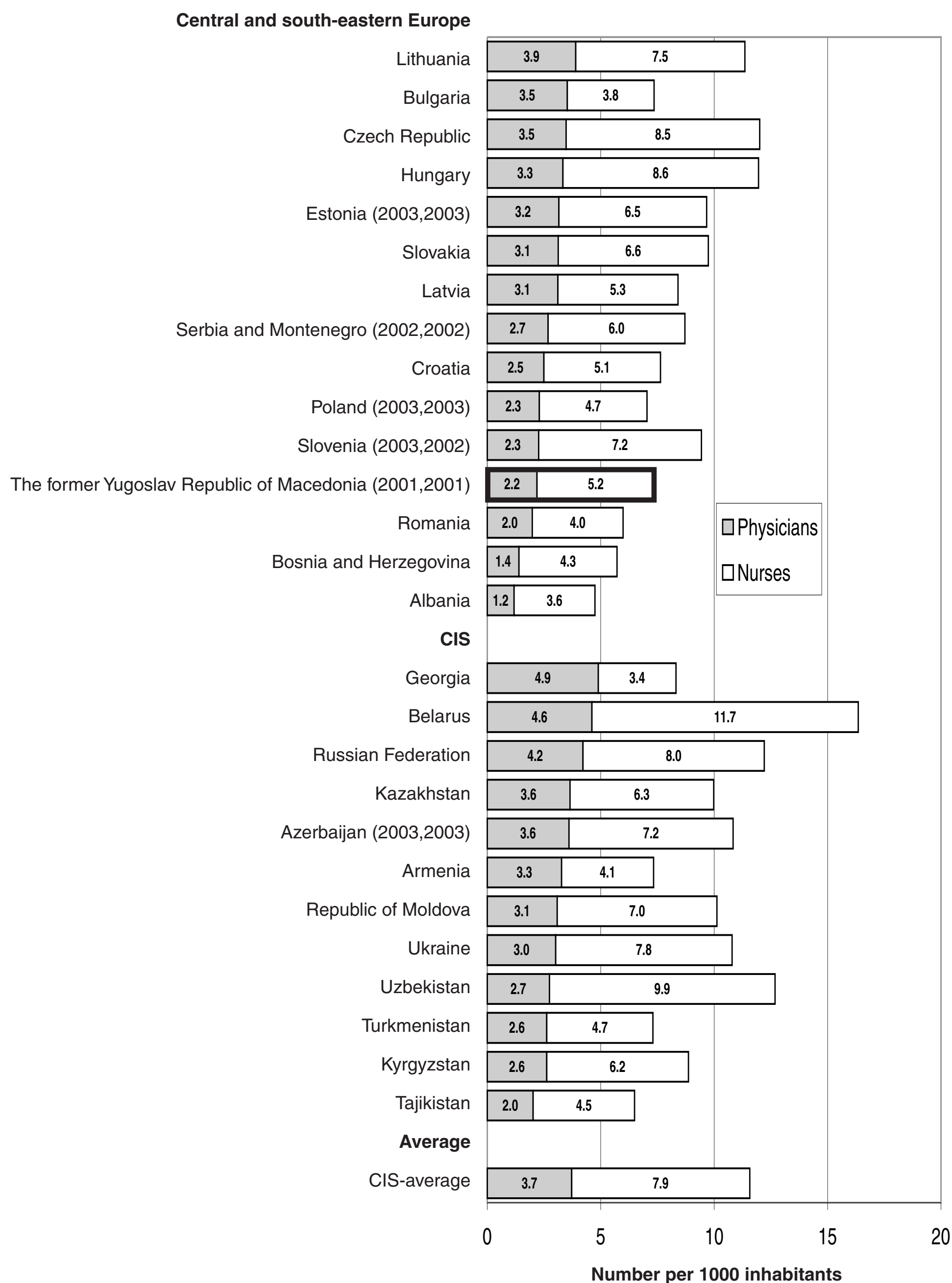
Currently many projects coordinated by both the Government and donors address the quality of health services and, in this context, the training of staff.

Fig. 4.5(a) Number of physicians and nurses per 1000 inhabitants in the WHO European Region, 2004 or latest available year (in parentheses)



Source: European Health for All database, January 2006.
Note: EU: European Union.

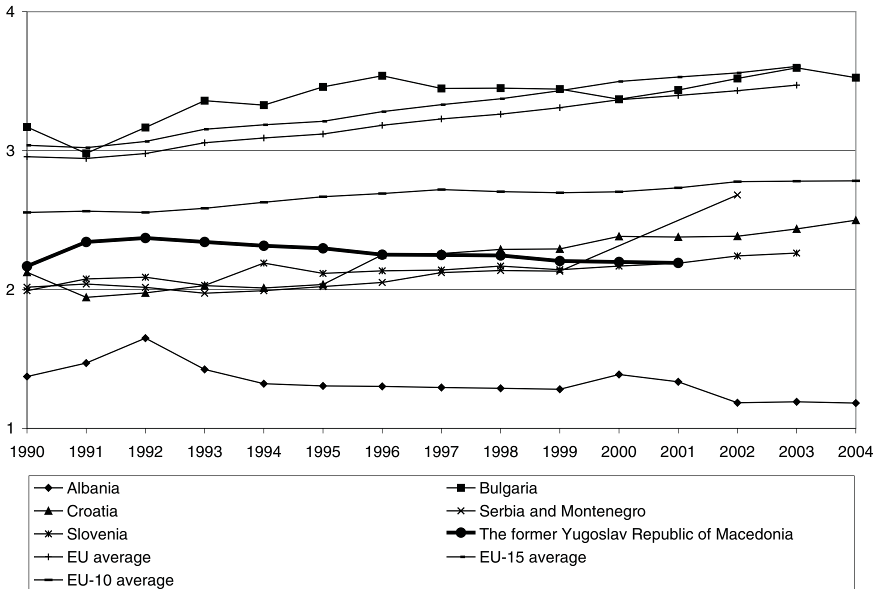
Fig. 4.5(b) Number of physicians and nurses per 1000 inhabitants in central and south-eastern Europe and CIS, 2004 or latest available year (in parentheses)



Source: European Health for All database, January 2006.

Note: CIS: Commonwealth of Independent States.

Fig. 4.6 Number of physicians per 1000 inhabitants in The former Yugoslav Republic of Macedonia, selected countries and EU averages, 1990–2004



Source: European Health for All database, January 2006.
Note: EU: European Union; EU-15: Member States before 1 May 2004; EU-10: Member States joining the EU on 1 May 2004.

Health care professionals are educated in secondary-level medical schools or advanced medical schools (the latter comprising 2 additional years of education), in colleges and at university level in the faculties of medicine, dentistry and pharmacy of the St Cyril and Methodius University in Skopje. In recent years, the official admission policy of these university faculties has become more restrictive in order to achieve a better balance between demand for and supply of human resources for health, and since 1998 admission quota have been reduced accordingly. However, it is the faculties that decide on the actual admission numbers, and as the decision so far has not been based on any rigid needs assessment, the number of enrolled students is quite high. Moreover, owing to the faculties' restrictions on intake, many young people decide to study abroad. Whether the return of these people will present a challenge to the supply of medical staff in the future remains to be seen.

Undergraduate training of physicians and dentists takes six years and on successful completion of studies the candidate acquires a university diploma and the professional title of Doctor of Medicine or Doctor of Dentistry, respectively. Undergraduate training at the Faculty of Pharmacy takes 5 years.

Table 4.8 Health care personnel in The former Yugoslav Republic of Macedonia and EU averages

	1991	1995	2000	2004	EU average	Eu-15 average	EU-10 average
Physicians per 100 000	234.2	229.7	219.9	219.13 (2001)	347.1 (2003)	360.6 (2003)	278.2
% of physicians working in hospitals	29.6	32.5	33.6	34.9 (2001)	–	–	–
General practitioners per 100 000	109.6	99.6	91.3	85.4 (2001)	98.9 (2003)	102.6 (2003)	64.2
Dentists per 100 000	58.4	55.2	55.7	55.3 (2001)	62.5	65.8 (2003)	43.2
Pharmacists per 100 000	20.5	17.8	15.4	15.2 (2001)	77.9 (2003)	81.3 (2003)	60.6
Midwives per 100 000	75.4	74.7	70.7	71.6 (2001)	36.3 (2003)	33.5 (2002)	43.7
Nurses per 100 000	536.7	542.5	515.4	518.6 (2001)	731.2 (2004)	725.4 (2003)	617.6
Physicians graduated per 100 000	8.4	8.3	8.0	6.1 (2001)	8.9 (2003)	9.1 (2002)	7.4
Nurses graduated per 100 000	–	–	38.5	31.1 (2001)	26.3 (2003)	24.7 (2002)	41.8
Pharmacists graduated per 100 000	2.1	2.8	4.1	3.7 (2001)	3.3 (2003)	3.3 (2002)	2.6
Dentists graduated per 100 000	3.9	3.7	7.9	5.6 (2001)	1.9 (2003)	1.8 (2002)	1.8
Midwives graduated per 100 000	–	–	9.0	6.4 (2001)	1.1 (2003)	0.9 (1998)	1.1

Source: European Health for All database, January 2006.
Note: EU: European Union; EU-15: Member States before 1 May 2004; EU-10: Member States joining the EU 1 May 2004.

To acquire a basic state licence, graduates need to complete six months of practical training and subsequently pass a state exam. The licence allows the individual to work under supervision and to become, for example, a general medical practitioner. Undergraduate studies are currently undergoing a reform process, to enable credit transfer through the Bologna Process. At present the accreditation process has been established for pharmacists and is still outstanding for GPs and nurses.

Specialization training is regulated by the Law on Health Care, with training programmes taking from three to five years to complete. Regulations specify that there are 30 types of advanced medical training, 8 types of advanced dentist training and 6 types of advanced pharmaceutical training. The postgraduate education that is required to become a specialist in gynaecology and obstetrics or paediatrics, for example, takes approximately 48 months and a specialization in school medicine, occupational medicine or general practice takes up to

36 months (see Table 4.9). Upon completion of the specialization programme doctors receive a licence to practise in their field.

Table 4.9 Duration of different postgraduate specializations in the PHC sector

Specialization	Duration in months
Paediatrics	48 months
OB/GYN	48 months
School medicine	36 months
Occupational medicine	36 months
General medicine	36 months

Source: Official gazette No.1/1992.

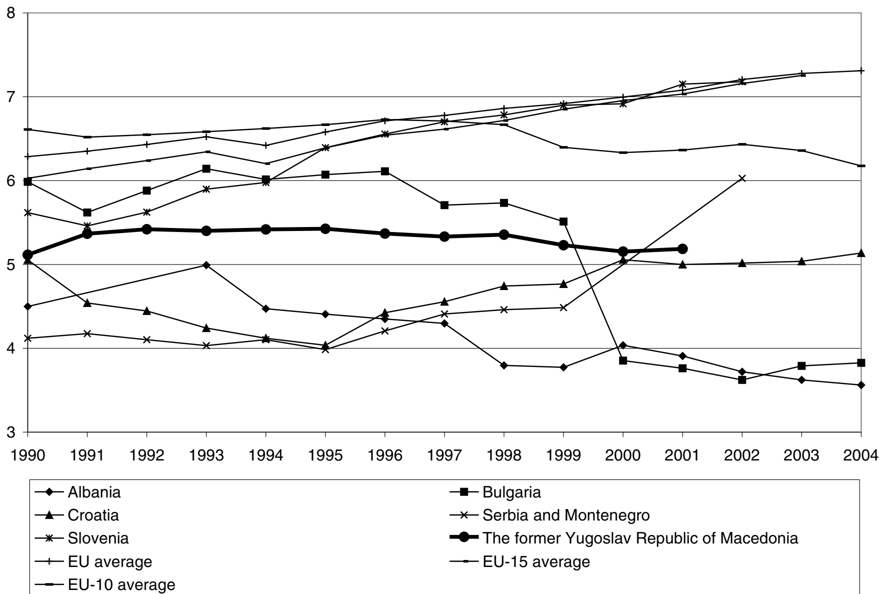
A limited number of university students are financially supported by the state.

Medical nurses and other auxiliary medical personnel are trained in medical high schools as nurses, physiotherapists, obstetricians, and pharmaceutical, laboratory, dental and radiological technicians. The schools take students from 15 to 19 years of age. After the completion of this training, there is an obligatory six-month practical training period. There are also two general medical colleges which offer two years of undergraduate studies with nine months of advanced training, followed by a specialist qualifying exam. Under the auspices of the faculties of medicine and dentistry, a third college for nurses in medicine and dentistry is in the process of being established in Skopje.

The training of medical personnel at high school and college level is financially covered by the institutions at which the trainees are employed.

There is an ongoing process to introduce a new accreditation and licensing system, as well as to strengthen continuing medical education. The initiative is led by the doctors', dentists' and pharmacists' chambers. Continuing professional development and training aimed at acquiring new knowledge and skills are considered necessary in order to improve the competence and capabilities of medical personnel. For the same purpose, the amendments of the Law on Health Care introduced relicensing every seven years, as well as projects focused on strengthening the status of the medical, dentistry and pharmaceutical chambers. These efforts aim to encourage them to exercise the right to issue, renew or revoke the working licence of health professionals. In 2002, strategic documents on the accreditation and licensing of doctors and a curriculum for a new type of specialization in primary health care were developed *(29,30).* Within the framework of the World Bank Health Sector Transition Project, a programme for the continuing medical education of doctors in primary health care was carried out by four established training centres, resulting in a total

Fig. 4.7 Number of nurses per 1000 inhabitants in The former Yugoslav Republic of Macedonia, selected countries and EU averages, 1990–2004



Source: European Health for All database, January 2006.
Note: EU: European Union; EU-15: Member States before 1 May 2004; EU-10: Member States joining the EU on 1 May 2004.

number of 1086 trained doctors as well as the development and publication of 15 sets of guidelines on best practice in the PHC sector. Moreover, the trained individuals received the necessary equipment both for themselves and for their respective outpatient departments.

Health technology assessment (HTA)

Currently, most of the medical equipment available in health care facilities is outdated and in a very poor state and requires frequent repairs. Procurement is carried out on a case-by-case basis and limited by financial constraints. In the absence of amortization rates to assess the value of medical equipment, at present the purchase projections for new equipment only reflect the needs of the health sector to a very limited extent. At the moment, refurbishment of facilities mainly depends on donations and humanitarian aid. Neither the HIF nor the Government's budget planning currently take account of the need for capital investment.

International donations to support HTA

In previous years there has been no coordinated approach to setting priorities for foreign aid spending. This has led to irrational allocation and distribution of resources. In order to alleviate this problem in the future and speed up implementation processes, the state has established the National Committee for Coordination of Foreign Aid. While some positive results can already be seen, the sector could still benefit substantially from conducting comprehensive needs assessments with a subsequent process of priority-setting for individual facilities and the allocation of funds according to the respective results. To this end, a central registry of all medical equipment in publicly-owned health care facilities was established in 2002 and became operational in 2003. It is hoped that this will provide the basis for future informed planning regarding the procurement of medical equipment.

The most significant donations for medical equipment have been provided through the Japan International Cooperation Agency (JICA) grant, initiated in 1995 and successively implemented up to 2002. This grant has contributed to the improved infrastructure of 16 primary care centres, two of which have been refurbished completely. Equipment has also been donated to the clinics of the Skopje Clinical Centre and to two specialized hospitals, one of which (the Skopje City Surgical Hospital) has been completely refurbished. An additional grant from the Japanese Government in 2003 has been used to purchase medical equipment for the clinic for lung diseases at the Clinical Centre in Skopje. Additionally, the Italian Government financed a project aiming to enhance the work of one of the dialysis centres, providing the equipment for an additional 15 dialysis units. Through a grant from the Office of the European Union in Skopje and funds from UNICEF's Baby Friendly Hospitals Initiative all maternity hospitals in the country and part of the clinic for children's diseases at the Clinical Centre in Skopje have been renovated and fully equipped.

Although these donations have contributed to improved equipment in individual facilities and there has been a constant flow of smaller donations from a number of humanitarian organizations and individuals for drugs, medical materials, second-hand medical equipment and vehicles, large-scale improvement in the sector is still required.

Pharmaceuticals

The pharmaceutical sector currently operates on the basis of a positive list of drugs that defines which drugs are eligible for reimbursement by the compulsory

health insurance. The HIF engages in procurement processes with manufacturers to purchase the drugs on the PLD for subsequent provision and distribution in the public health system. The sector is supervised by the Bureau for Drugs, which is part of the Ministry of Health. At present, however, the pharmaceutical sector is facing a number of challenges. Procurement practices need to be established to ensure that the health system is supplied with high-quality drugs in sufficient quantity and at the best possible prices. In this context the HIF budget set aside for drug procurement needs to reflect anticipated needs, these being established through regular and thorough needs assessments. Furthermore, the generic drugs sector must be strengthened and this must be reflected in the PLD. Rational prescribing practices by health care providers are to be encouraged through training of medical professionals and the development of evidence-based guidelines, and the sector's regulation and the system's supervision capacities must be significantly enhanced.

To strengthen the regulation of the sector, the existing Law on Medicaments, Remedial Medicines and Medical Devices *(31)* should be revised and a number of by-laws passed. Although a drug policy document has been issued *(32)*, a clear policy has yet to be drawn up and implemented. In addition, the sector's regulation needs to be harmonized with EU legislation.

In accordance with the provisions of the Law *(31)*, the pharmaceutical department of the Ministry of Health has been transformed into the Bureau for Drugs, which is responsible for the monitoring and implementation of national drug legislation *(33).* At present, however, the bureau lacks the technical, administrative and financial capacities to take on the responsibilities of an independent drug regulatory authority.

Drug registration and licensing are the responsibility of the Committee on Drugs, Medicinal Products and Medical Devices, appointed by the Minister of Health. A national quality control laboratory is yet to be established and so far quality control of pharmaceuticals has been ensured by two laboratories: one at the Republic Institute for Health Protection and the other within the Faculty of Pharmacy. Furthermore, a system for the monitoring of drug quality at the post-licensing stage must be built up. The Drug Information Centre set up in 1998 lacks sufficient funding and is not officially recognized by the Bureau for Drugs. An Adverse Drug Reaction Centre has been founded which collects data on adverse drug reactions and makes recommendations regarding any withdrawal of a drug from the market that may ultimately be necessary. A centre for pharmaco-vigilance is yet to be established. In the absence of easily accessible information systems and up-to-date literature, irrational prescription practice, especially in the primary care sector, takes place. Against the background of unclear and ineffective legal provisions, very often "prescription-only" drugs are sold over the counter.

The positive list of drugs is prepared by a scientific committee that is subject to frequent changes, as members are appointed by the Minister of Health. At present, work is being carried out on a new PLD, taking therapeutic guidelines and evidence-based medicine into account. It will replace the list that was prepared in 2003. An Essential Drug List (EDL) is yet to be drawn up, but it is in this context that the generic drugs sector should be strengthened. At present the HIF reimbursement practices for pharmaceuticals on the PLD take insufficient account of the pharmacists' overhead costs. On the other hand, regulation of profit margin of payments by patients for drugs that are not part of the PLD are yet to be implemented.

In recent years a number of initiatives to increase capacities in the pharmaceutical sector in general and to improve drug procurement procedures in particular have been undertaken. A Drug Information Centre was established in the School of Pharmacy, an official National Drug Policy was adopted and two courses on the rational prescription of drugs were initiated, reaching more than 150 doctors in the PHC sector. In the Health Sector Transition Project supported by the World Bank, two tenders with international competitive bidding cycles have been conducted, which has led to a price reduction of up to 35–40% for the drugs in question. While these improvements need to be celebrated, a shortage of drugs in the public domain, especially those on the PLD, is still being reported. The HIF is in the process of establishing a reference price system for the drugs on the PLD.

Data collection on drug expenditure in the country is difficult as drug consumption is not monitored closely. Estimates of total annual turnover for the pharmaceutical market vary from US$ 40 million to US$ 300 million, which amounts to US$ 20–150 per capita per year *(5)*. The local pharmaceutical sector is expanding and there are about 180 registered wholesalers (three of which claim an annual turnover of more than US$ 10 million) and three major manufacturers. The latter provide for an estimated 25% of the market and are able to provide the full range of drugs needed. While manufacturing is compliant with Good Manufacturing Practice (GMP) standards, prices seem high. Companies also export their products to neighbouring countries.

In 2004, the Parliament of The former Yugoslav Republic of Macedonia adopted amendments to the Law on Health Care to authorize the privatization of public pharmacies. Two types of privatization have been agreed: sale and lease. Only pharmacies providing an internal drug supply to medical centres and hospitals are intended to remain under public ownership. The initial reluctance of private pharmacies to enter into contractual agreements with the HIF has been overcome by the privatization process that was started in 2005. So far 20 pharmacies have been sold, providing the central budget with an additional €6.5 million and another 45 pharmacies have been leased.

5 Financial resource allocation

Payment of health care institutions

Following the adoption of the Law on Health Care in 1991, health care institutions were asked to draw up contracts with the HIF, and a list defining the prices of individual health services was adopted. This fee-for-service system envisaged that the reimbursement of health institutions was to be based on invoices submitted for health services delivered to insured people. The invoices were to list each individual service as well as any drugs and medical materials required for treatment. The reimbursement arrangement between the HIF and pharmacies was calculated on the basis of the purchase price of drugs included in the positive list of drugs, as well as additional resources to cover operational costs (with a margin of 18%). However, in practice, the payment system failed to exert proper financial control over health institutions: the planning of health services and their financial resources and the procurement of drugs and medical materials were jeopardized as the limited availability of financial resources on the one hand, and insufficiently developed information systems on the other, prompted the health institutions to present more services for reimbursement than were actually delivered.

Owing to these developments, the payment system has been replaced over the years by a system based on transfers of funds to cover salaries and allowances for employees, drugs and other medical materials, as well as part of the running costs, thus providing the financial resources required to cover the minimum needs of the HCIs. Despite the fact that in the majority of cases the level of transferred resources does not directly reflect the type and volume of health care services delivered, many HCIs continue to submit invoices with high figures for reimbursement. Financial planning is further aggravated by the provision of a scale and volume of health services that had not been anticipated

beforehand and/or the financing of services and hospital departments that lack sufficient utilization. With needs assessment only carried out to a limited extent, different activities are established for different regions and staff are employed without taking appropriate account of real needs.

This is contrasted by the fact that health care institutions have to cope with increasingly poor working conditions, in which basic infrastructure and consumables for the appropriate treatment of patients are lacking, and very limited funds are available to procure new equipment.

In 2001 a separate Act on the introduction of capitation-based payment for health services in the PHC sector was prepared and adopted *(34)*. Implementation of the Act started in July 2001 with the agreement of contracts with a number of private primary care facilities. The calculation of capitation fees for the individual physician was based on the number of insured people who had registered with the respective practice, as well as a point system taking different categories of insured people into account. Additional incentives have been offered to PHC facilities in remote rural areas. Payments are made monthly, in the current month for the preceding one, and cover 70% of the calculated capitation fee. The remaining 30% is billed at the end of each quarter, based on quarterly reports on the activities performed to achieve the agreed goals. The payment method described does not facilitate assessment of whether payments have been fair, nor whether services have been provided in an efficient or high-quality manner. However, initial analyses indicate that patients are paid greater attention, efficiency of work is stimulated and better control is exerted over expenditure in HCIs. Fees have been defined for preventive check-up services, rational prescriptions, referrals and the issuing of sick-leave certificates.

In 2005, the capitation-based payment system was extended to PHC-based dentistry services *(34)* with a dentist-to-population ratio of 1 to 2000 in urban areas and 1 to 1600 in rural settings.

Capitation-based payment for health services in public primary care facilities is expected to commence in the near future, following the implementation of a law amending and supplementing the Law on Health Care.

In 2003, new regulations on the payment of secondary-level care, i.e. health services in specialty-consultative and hospital health care (for details see Chapter 4 on health care delivery) were developed and adopted *(35)*. The regulation envisages the introduction of a system based on diagnosis-related groups (DRGs). In 2005 the pilot phase of the new payment system was initiated in a selected group of contracted hospitals.

The DRG-based system requires that all resources needed for the provision of individual health services as well as for the achievement of agreed goals (taking into account productivity, efficiency, quality, accessibility and financial

management goals) are specified. Allocated funds are planned; up to 80% for the agreed health services and up to 20% for the agreed goals. Increasing or decreasing the agreed volume of services or amending the agreed goals will consequently bring about an increase or decrease in the allocated funds for the respective HCI. Progress will be reviewed on a quarterly basis. The new reimbursement system is expected to improve the motivation of health professionals as well as the efficiency and quality of services. The accomplishment of targets will be monitored, based on an agreed set of performance indicators. Full implementation of the system is expected by 2008. During the transitional period (2004–2008) a combined system of fund allocation for HCIs is in operation and an agreement between the individual HCI and the HIF constitutes the basis for payment. The calculation of the actual volume of funds transferred to the individual facility is based on the expenditure and the health services provided to insured individuals in the course of the preceding three years, as well as the types and volume of health services to be delivered and the goals agreed. The structure of compensation is specified for each transition year, with a basic level of compensation, i.e. a fixed share that is not dependent on the volume of services delivered, gradually decreasing over time.

As mentioned earlier, the implementation of the DRG-based payment system will be hampered by the facilities' deteriorated infrastructure, owing to the long absence of capital investment. Furthermore, the enhancement of staff performance may depend on willingness to grant managers the right to reward staff and/or to make employment decisions in general.

In 2005, a new by-law for the payment of pharmacy services was passed (*36*). It requires that services such as the supply, storage and issuing of prescription drugs, as well as the processing of receipts, are paid for by the HIF. In the same year a separate by-law on the payment of laboratory services was also passed. In future, payment calculations will include previous expenditure data, population structure and outreach considerations *(37).*

Payment of health care professionals

Health care professionals employed in public facilities receive salaries. Calculations are based on a coefficient defined by the Ministry of Health in collaboration with the trade union of health care professionals. Professional profile, complexity of tasks, work experience, overtime, night shifts, on-call shifts, work on public holidays and general working conditions, etc. are taken into account. The current payment system does not grant any financial incentives for the accomplishment of a greater volume of work and/or the delivery of more

efficient and better quality services. In 2002, a licensed physician in primary health care received a monthly salary ranging between US$ 300 and US$ 400; in the secondary health care sector this figure was between US$ 350 and US$ 450; and in the tertiary health care sector between US$ 400 and US$ 600. The average physician salary was therefore 10–20% higher than that of civil servants and clearly above the average monthly salary of US$ 220 paid in The former Yugoslav Republic of Macedonia in 2002. The majority of health care professionals see scope for improvement in the existing payment system.

As already outlined, pilots have recently been initiated to introduce capitation-based payment systems for PHC doctors. These will be expanded in the future and preliminary surveys suggest that both job satisfaction of physicians and service delivery could be improved.

6 Health care reforms

Aims and objectives

Since independence, The former Yugoslav Republic of Macedonia has embarked on a number of reform initiatives in the field of health care *(15)*. All reforms have been undertaken with the aim of sustaining access for the whole population to a comprehensive health system, as well as improving the quality of health services and enhancing financial sustainability. At present these reform priorities still hold true: the objectives are to improve the health of the population by improving access to and quality of basic health services; to increase the efficiency of service delivery, thereby enhancing cost-effectiveness and fiscal sustainability; and to improve patient choice within the health system.

A number of reforms have been very successful and brought about positive changes in the health sector. Preliminary surveys regarding the introduction of capitation-based payment systems for primary care, for example, have highlighted that job satisfaction for physicians, and service delivery, could be improved. Furthermore, the Ministry of Health's focus on improving the quality of neonatal and perinatal health care services by providing training to doctors and nurses on the use of evidence-based protocols and the provision of adequate equipment resulted in a remarkable 21% reduction in neonatal deaths *(38)*. In the pharmaceutical sector, training on the rational prescribing of drugs in the PHC sector has been conducted, a Drug Information Centre has been established and international tendering processes for the purchasing of drugs have been carried out, which has led to a significant reduction in prices for the drugs in question.

Despite these improvements, substantial challenges remain. The political and economic uncertainties since the early 1990s have had a strong negative

impact on the health status of the population as well as on the health care system in The former Yugoslav Republic of Macedonia in general. The current system has yet to overcome the legacies of the system that existed until 1991, including oversupply of medical staff, especially in the PHC sector; strengthening continuing medical education and addressing low morale among staff; the as yet outstanding rationalization of health care facilities in order to redistribute limited resources more effectively and thereby improve the infrastructure of facilities; the low quality of PHC services, leading to low levels of patient satisfaction and high referral rates to higher levels of care; high expenses for drugs and hospital care; the limited solvency of the sector and the HIF altogether, with the latter facing a substantial deficit. Decentralization is an important policy priority for the Government. So far the impact on the health sector has been limited, although the decentralization law, i.e. the Law on Local Self-Government, essentially mandates the representation of local authorities on the boards of health facilities and provides the local communities with some responsibility for the design of health promotion and disease prevention programmes.

All players in the field need to improve performance and enhance transparency and accountability. The Government acknowledges that the development and implementation of reforms in the sector need to continue and has identified capacity-building activities by the Ministry of Health, the HIF and on the part of providers as being key to achieving its health sector objectives. In this context, in May 2004 the Government agreed a new loan of US$ 10 million with the World Bank. The specific objectives of the Health Sector Management Project are to upgrade the capacity of the Ministry of Health and the Health Insurance Fund to formulate and effectively implement health policies; to manage health insurance, including the financial management and contracting of providers; and to develop and implement an efficient scheme for restructuring the hospital sector, with an emphasis on developing day-care services and a shift in focus towards primary care. Furthermore, the project supports public relations and communication, as well as the strengthening of management capacities of additional actors in the health system *(39).*

Policy changes

In 2001 the Academy of Arts and Sciences prepared a strategy for the development of the health sector. However, this document was never adopted on an official level.

As part of the current Health Sector Management Project the Ministry of Health has drawn up a strategy paper for the development of the health care system, which is currently in the process of public discussion and adoption. Furthermore, the creation of a *carte sanitaire* has been initiated, aiming to

provide a comprehensive overview of the health sector and to rationalize health care delivery structures in terms of human and physical capacities. Activities in this field are led by the Republic Institute for Health Protection. Rationalization activities will also include investigating the redefinition of the basic benefits package as well as appropriate human resources planning, including the quota for admission of new students to the Medical Faculty. In this context a new strategy for an Integrated Health Information System has recently been drawn up.

A number of strategic documents have been prepared, calling for reforms in various sectors, such as the strategy on licensing and accreditation, the strategy for reforming primary health care, the strategy for the provision of perinatal health care, the drug policy document, etc. In addition, a special action plan for the HIF has been issued by the Government *(40).*

Content of reforms and their implementation

Legislative changes

In the past decade the Government of The former Yugoslav Republic of Macedonia has embarked on a further set of fundamental reforms, including a Drug Law (1997) and a separate Health Insurance Law (2000). Significant changes relate to the financing of contracted HCIs, the introduction of capitation payments at PHC level and global budgets for hospitals. The strengthening of financial management processes and capacities at the HIF as well as within the HCIs represents another reform priority.

The amendments of 2004 and 2005 to the Law on Health Care aim to set out the mechanisms for improving the quality of health care services and for the rational use of insurance contributions to enhance cost-containment in the health sector. Specifically, the amendments envisage reforms regarding the points listed below.

- The licensing and accreditation of doctors and health institutions. Medical staff will be obliged to engage in continuing medical education and to use rational evidence-based treatment procedures. This will ensure that consistent quality standards for service provision will apply throughout the country.
- The closure, or phasing out, of some types of HCI and the possibility of establishing others. So far 16 medical centres have been closed, contributing to more sustainable financing of the remaining institutions.
- Doctors providing services in both the public and the private sector. Publicly employed doctors are permitted to carry out private practice in public or

private facilities. To this end (as highlighted in Chapter 4 on health care delivery), the implementation of the recently adopted regulations will help to avoid any conflict of interest.

- The Macedonian Medical Association acquiring rights and responsibilities regarding the preparation of evidence-based treatment guidelines. The first guidelines were issued recently and are expected to lay the groundwork for rational diagnosis, drug prescription and therapy, thereby reducing treatment costs. Furthermore, clinical pathways will be established and an agency for the performance of clinical quality audits will be set up. These measures will also feed into the process of setting treatment price maxima.
- Participation at local level in the running of health facilities and the provision of services. In line with the political decision to promote system decentralization, HCI management boards at PHC level have started to include local level representatives. Furthermore, in future, municipalities will be expected to play a greater role in the running of a number of preventive programmes and to become more involved in setting up community centres for mental health patients.
- The privatization of pharmacies through sale and/or leasing. This is expected to enhance staff responsibility and motivation and to have positive budget implications: it will generate revenue for the state budget and at the same time relieve the strain on the HIF budget by covering costs for staff employment. Conditions have been defined for pharmacies to be contracted by the HIF. So far, 20 pharmacies have been sold and 45 privatized through leasing.
- The privatization of the dental care sector at primary care level through leasing. This is also expected to have positive implications for the HIF budget, as dental sector staff will be attributed self-employed status. Furthermore, this will put a stop to duplication of work in public and private dentists' offices. Conditions have been defined for dentists' offices to be contracted by the HIF, with a capitation-based payment system for the services that have been agreed in the basic benefits package. Additional services will need to be paid for by patients.
- The privatization of spa facilities.

Institutional changes

Health financing and management

The reforms in health financing are all based on the Health Insurance Law of 2000 and its by-laws. They mandate, for example, the remodelling of remuneration for PHC doctors, through the introduction of capitation. This

model also emphasizes targeted performance, with incentives for prioritizing preventive activities, and the improvement of staff motivation and professional training through continuing medical education. Activities include the training of HIF and HCI experts and managers in health financing and management.

In 2003 a special by-law was issued on the introduction of a DRG-based payment system for the secondary health care sector. Implementation of this started in 2004 and is expected to be completed by 2008, by which time a reference price list should also be available.

Both national and international projects aim to strengthen the public sector's management capacities. The focus lies on enhancing overall budget management, including budget formulation, implementation, management/monitoring and auditing *(41)*. These efforts link with initiatives undertaken in the health sector. The Health Sector Management Project, for example, supported by the World Bank, aims to strengthen the governance and management of the Health Insurance Fund. This includes, for example, the improvement of the revenue collection system, strengthening of management processes and improving the design and implementation of payment models and contracts. It also fosters staff capacity-building in the areas relevant to purchasing, such as ensuring better drug procurement practices. In addition, the Government has issued a special action plan for improving the efficiency of the HIF, the focus of which is on improving its financial management and enhancing its audit capacities.

It is generally agreed that the currently available basic benefits package (BBP) is very comprehensive and will need to be reviewed against the background of financial constraints. At present, the introduction of two types of BBP is being discussed: an essential package for all citizens (including preventive check-ups, immunization, coverage of part of the positive list of drugs and treatment of a range of communicable diseases) and an optional package with higher co-payments.

Improvements in the basic health services

Preventive programmes

A number of vertical preventive programmes are adopted each year by the Government. Special focus has been placed on establishing an effective strategy for TB prevention. A national directly observed treatment (DOT) strategy for TB control has been developed with an emphasis on strengthening the network of national TB institutes. In addition, activities centred on HIV/AIDS prevention and reproductive health are being carried out. Maternal and child health are

prioritized as part of the perinatal project, supported by the World Bank, which has been extended recently and has already led to a substantial reduction in perinatal mortality (a 21% reduction in perinatal mortality and a 36% reduction in early neonatal deaths have been achieved over a period of less than two years). Additional programmes concern, for example, brucellosis prevention, general check-ups for children and students, patients with mental disorders and drug addicts. Presently, efforts are being focused on developing a national plan for early detection of breast cancer.

Promotion of mental health

The ultimate goal in this sector is to improve the status of mental health, as a field of health care, on a political level and within the health system, to improve legislation in the field and to shift the treatment focus from specialized central institutions to community-oriented service delivery *(42)*.

Activities are being pursued accordingly; in cooperation with WHO and the Council of Europe the aim is to develop socially oriented psychiatry and to set up mental health centres in the community, taking the respective municipality's needs into account. So far four centres have been established.

Promotion of continuing medical education

The pilot initiative introducing CME in primary health care commenced in 1998. It aimed to sensitize doctors to the expected reforms and to introduce and establish a vocational commitment among PHC GPs to the concept of lifelong learning. The follow-up programme, running from 2000 to 2001, expanded the objectives promoting primary care specialist training and reforms in accreditation and licensing procedures. Preliminary analysis of the processes for CME that have been established and the feedback from a large number of professionals who have taken part in the training sessions so far indicate an improvement in professional satisfaction and performance.

The pharmaceutical sector

Major reform achievements in this area relate to:

- the strengthening of capacities (Ministry of Health, HIF, HCIs) by conducting two successful international procurement processes for hospital and PHC drugs (achieving for the drugs in question, on average, savings of 30–40%);

- the establishment of a national Drug Information Centre as the institution responsible for the collection, processing and dissemination of information and data concerning drug control, registration and rational prescribing;
- the organization of successful training sessions with health professionals to promote rational prescribing.

There is a general consensus, however, that efforts to improve drug procurement practices must continue, ensuring that the health system is supplied with high-quality drugs in sufficient quantity and at the best possible prices. Moreover, the training of health professionals to foster rational prescribing procedures needs to be further strengthened. The HIF budget for pharmaceutical products will need to reflect anticipated demand and the generic drugs sector needs to be strengthened. The sector's regulation capacities and the system's supervision competencies also need to be significantly enhanced (see also Chapter 4 on health care delivery).

Information system and health statistics

In the context of the Health Sector Transition Project (1996–2002) supported by the World Bank, it was acknowledged that the field of health information in The former Yugoslav Republic of Macedonia should be strengthened. Therefore, efforts have been undertaken to support the creation of an integrated system involving the Ministry of Health, the HIF and the HCIs. The technical prerequisites (hardware, operational systems, software) have been put in place and staff have been trained. At present the HIF information system is in the process of being established and will be complemented by the hospital information system. Apart from the electronic monitoring of receipts for service delivery, the Ministry of Health has put emphasis on piloting an electronic patient card in the Skopje Clinical Centre.

Decentralization of health care activities

As mentioned in Chapter 2 on the organization of the health care system, at present the Government of The former Yugoslav Republic of Macedonia is committed to decentralization. Legal provisions require local competencies to be enhanced, especially in the areas of public services, urban and rural planning, environmental protection, local economic development, culture, local finances, education and social welfare. As regards the health sector, the Law on Local Self-Government stipulates that municipalities are to participate in the management of PHC facilities, to take the lead in the provision of some preventive services and to strengthen their involvement in the area of mental health.

Representatives of the municipalities have already joined the management boards of primary health care facilities and thereby participate in the decision-making processes and the general management of the respective facilities. However, municipalities are yet to take a more active role in the provision of preventive services and in the field of mental health.

Promotion of healthy lifestyles

The Ministry of Health has developed and implemented a number of cross-sectoral and multidisciplinary strategies and action plans in this sphere. These include, for example, the areas of food and nutrition and environmental health (see, for example, the Children's Environment and Health Action Plan). In addition, an anti-tobacco strategy and programmes for the prevention of drug and alcohol addiction, for the prevention of violence and injuries and for the protection of occupational health (see, for example, the HESME programme) have been developed. The Ministry of Health also develops activities related to health education for school children through the Health Promoting Schools Project, implemented jointly with the Ministry of Education.

Achievement of the Millennium Development Goals (MDGs)

By signing the Millennium Declaration and issuing the national MDG Report, the Government of The former Yugoslav Republic of Macedonia has confirmed its strong commitment to achieving the United Nations' MDGs, especially in the field of health. It is thus hoped that the commitment to fulfilling the MDGs, including reducing child mortality, improving maternal health and promoting gender equality, for example, will stop the vicious circle that begins with poor maternal health and education and results in increased child mortality.

7 Conclusions

The health system of The former Yugoslav Republic of Macedonia represents an interesting case study of a transition from highly decentralized autonomous structures to recentralization and to decentralization again (for details see Chapter 2 on the organization of the health care system).

Since independence in 1991, the country has been facing various structural, economic and political challenges, in light of which the preservation of the publicly-funded health system is a success in itself. The coverage of the established compulsory health insurance system is in effect universal and the present benefits package comprehensive.

The former Yugoslav Republic of Macedonia shares the disease prevalence pattern of that of other European countries: cardiovascular diseases, cancer, mental health problems, injuries and violence, and respiratory diseases represent the most prominent causes of morbidity and mortality. Some (infectious) diseases such as HIV and TB are less prevalent, but nevertheless require special attention. Significant achievements have been accomplished in the past decade to advance the health of The former Yugoslav Republic of Macedonia's population. Several public health and health care indicators show that the country is outperforming those of central and south-eastern Europe and its EU neighbours in some areas, and these successes should be celebrated. As the result of a number of policy interventions, there is evidence of a decreasing trend in communicable diseases and in the period 1991–2004 infant mortality was halved. However, efforts need to be maintained in this area, as the infant mortality rate is still significantly higher than that of the EU *(43).*

The health system still faces a number of challenges: the system is continuing to struggle to overcome the legacies of the structures in place until 1991, such

as oversupply of human resources for health and little rationalization of health care institutions. The health insurance system in The former Yugoslav Republic of Macedonia has experienced sustained financial imbalances, exacerbated in recent years by substantial expenditure growth, while the sector's revenue (almost exclusively based on contribution payments) has remained limited. Against this background, the following reform priorities have been identified: the strengthening of the sector's financial sustainability, the further rationalization of delivery structures as well as the enhancement of human resources planning.

Since independence, the health system has struggled to deal with a 40% cut in public revenue for health. This has resulted in funding shortages for health care services, pharmaceuticals and other consumables. Moreover, the supply and renewal of equipment as well as capital investment have been neglected and the HIF has accumulated substantial debts with suppliers and commercial creditors.

Furthermore, the scope and cost of the basic benefits package will need to be revised in order to match the revenue of the Health Insurance Fund. This may include measures to reduce the scope of the package, to introduce additional payments or to increase co-payments, to increase premiums and to decrease the number of individuals exempt from payments.

Reforms regarding the remuneration of providers have been initiated, with the introduction of a capitation-based system at primary care level and an annual global budget allocation system for inpatient care. Furthermore, the privatization of health facilities, especially at PHC level, is under way: an increasing number of private PHC offices are entering the market, all dental offices have already been privatized and pharmacies are currently in the process of being privatized.

Regulation of the pharmaceutical sector will need to be strengthened significantly, including the establishment of improved procedures for drug procurement (initial efforts in the area have led to a substantial price reduction for the drugs in question), as well as the promotion of rational prescribing of drugs.

Health care delivery structures in The former Yugoslav Republic of Macedonia need to be rationalized to tackle duplication and underutilization. Priority will be given to improving the primary health care sector. To this end, in the health centres, the functional split between services at primary care level on the one hand and specialty-consultative care on the other has been recently introduced. It is furthermore acknowledged that in an efficient hospital network there will be only limited room for specialized hospitals and institutions.

It is generally agreed that service provision should follow efficient and evidence-based guidelines. In this context, efforts in the area of human resource planning and training need to be strengthened, including the introduction of continuing medical education and the definition of quotas for admission to training facilities, with the latter to be based on needs assessment.

At present the system's actors have weak management capacities, especially in the areas of financial planning, monitoring and auditing. This situation is aggravated by the poor quality of the current information system and data flow. Against this background, the overall management capacities of the Ministry of Health and the HIF, and in particular the financial management methods of the HCIs will need to be further strengthened.

For the time being the main priorities of the Government and the Ministry of Health of The former Yugoslav Republic of Macedonia will continue to be the achievement of improved health status of the population; the provision of a more sustainable, affordable and efficient health care delivery system with high-quality and more patient-focused service provision; increased emphasis on health promotion and community-based health care; and, finally, greater responsiveness of the health system to globalization, in preparation for accession to the European Union.

8 Appendices

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List of current projects in the Ministry of Health

	Donor	Project – Programme	Link
1	World Bank	Health care management system reform	www.worldbank.org.mk
2	Global Fund against AIDS, Tbc and malaria	Building a coordinated response for the prevention of of AIDS in the Republic of Macedonia	www.zdravstvo.gov.mk
3	UNICEF		www.unicef.org/macedonia
3.1	Early childhood programme		
3.1.1		Quality health care services	
3.2		Programme on the prevention of AIDS and child health	
3.2.1		Policy and standards	
3.2.2		Services in accordance with children's needs	
4	World Health Organization	BCA Agreement 2004–2005	www.who.dk/countryinformation/CtryInfoRes?COUNTRY=MKD&CtryInputSubmit=
4.1		Health policy and system development (Decentralization)	www.zdravstvo.org.mk
4.2		Pharmaceutical sector reform	
4.3		Surveillance of communicable diseases	
4.4		Mental health and substance abuse	
4.5		Environment and health (including occupational health and support of the WHO Collaborating Centre for Occupational Health)	
4.6		Mother and child health (including gender mainstreaming, building capacities for violence prevention)	
4.7		Disaster preparedness and response	
4.8		Food safety	
4.9		HIV/AIDS prevention	

4.10	Disabled persons with special needs
4.11	Hospital reforms
4.12	Nursing and obstetrics
4.13	Noncommunicable diseases
4.14	Tuberculosis
4.15	Anti-Tobacco Programme

HiT methodology and production process

The Health Systems in Transition (HiT) profiles are produced by country experts in collaboration with the Observatory's research directors and staff. The profiles are based on a template that, revised periodically, provides detailed guidelines and specific questions, definitions, suggestions for data sources, and examples needed to compile HiTs. While the template offers a comprehensive set of questions, it is intended to be used in a flexible way to allow authors and editors to adapt it to their particular national context. The most recent template is available online at: http://www.euro.who.int/observatory/Hits/20020525_1.

Authors draw on multiple data sources for the compilation of HiT profiles, ranging from national statistics, national and regional policy documents, and published literature. Furthermore, international data sources may be incorporated, such as those of the Organisation for Economic Co-operation and Development (OECD) and the World Bank. OECD Health Data contain over 1200 indicators for the 30 OECD countries. Data are drawn from information collected by national statistical bureaux and health ministries. The World Bank provides World Development Indicators, which also rely on official sources.

In addition to the information and data provided by the country experts, the Observatory supplies quantitative data in the form of a set of standard comparative figures for each country, drawing on the European Health for All database. The HFA database contains more than 600 indicators defined by the WHO Regional Office for Europe for the purpose of monitoring Health for All policies in Europe. It is updated for distribution twice a year from various sources, relying largely upon official figures provided by governments, as well as health statistics collected by the technical units of the WHO Regional Office for Europe. The standard HFA data have been officially approved by national governments. With its summer 2004 edition, the HFA database started to take account of the enlarged European Union (EU) of 25 Member States.

HiT authors are encouraged to discuss the data in the text in detail, especially if there are concerns about discrepancies between the data available from different sources.

A typical HiT profile consists of ten chapters:

1. Introduction: outlines the broader context of the health system, including geography and sociodemography, economic and political context, and population health.

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

Producing a HiT is a complex process. It involves:

- writing and editing the report, often in multiple iterations;
- external review by (inter)national experts and the country's Ministry of Health – the authors are supposed to consider comments provided by the Ministry of Health, but not necessarily include them in the final version;
- external review by the editors and an international multidisciplinary editorial board;
- finalizing the profile, including the stages of copy-editing and typesetting;
- dissemination (hard copies, electronic publication, translations and launches).

The editor supports the authors throughout the production process and in close consultation with the authors ensures that all stages of the process are taken forward as effectively as possible.

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A series of the European Observatory on Health Systems and Policies

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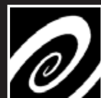

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