Armenia

Health system review

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Health Systems in Transition

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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 care reform programmes;
- to highlight challenges and areas that require more in-depth analysis; and
- to provide a tool for the dissemination of information on health 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 WHO Regional Office for Europe 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 Health Systems in Transition 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 page: www.euro.who.int/observatory/Glossary/Toppage.

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The HiT reflects data available in June 2006.

List of abbreviations

ADRA	Adventist Development and Relief Agency
AMD	Armenian dram
AMIC	Armenian Medical International Committee
ARCS	Armenian Red Cross Society
ArmPHA	Armenian Public Health Alliance
ASTP	Armenia Social Transition Program
AUA	American University of Armenia
BBP	Basic Benefits Package
BMC	Yerevan Basic Medical College
CBHI	Community-based health insurance
CRS	Catholic relief services
DHS	Armenia Demographic and Health Survey
EBRD	European Bank for Reconstruction and Development
EDL	Essential drug list
ENP	European Neighbourhood Policy
ERNA	European Red Cross/Red Crescent (RC/RC) Network on HIV/AIDS
EU	European Union
FDA	United States Food and Drug Administration
GDP	Gross domestic product
GFATM	Global Fund to Fight AIDS, TB and Malaria
GRECO	Council of Europe's Group of States Against Corruption
IBRD	International Bank for Reconstruction and Development
IFRCS	International Federation of Red Cross and Red Crescent Societies
IMCI	Integrated Management Childhood Illness
IMF	International Monetary Fund
IPM	Integrated Process Management
IRD	International Relief and Development
LLH	Living Conditions, Lifestyles and Health Survey
M&E	Monitoring and evaluation
MSF	Médecins Sans Frontières

MTEF	Medium-term expenditure framework
NGOs	Nongovernmental organizations
NHAs	National Health Accounts
NHDS	National Human Development Survey
NIH	National Institute of Health
OBSQUID	WHO Regional Office for Europe Obstetrical Quality Indicators and Data Collection
OECD	Organisation for Economic Co-operation and Development
OSAF	Open Society Institute Assistance Foundation
OSCE	Organization for Security and Co-operation in Europe
OSI	Open Society Institute
PCA	Partnership and Cooperation Agreement
PCR	Peer chart review
PHC	Primary health care
PRSP	Poverty Reduction Strategy Paper
QA	Quality assurance
RDF	Revolving drug fund
SHA	State Health Agency
SHAE	State hygiene and anti-epidemic
SHCMA	School of Health Care Management and Administration
SMEC	Socio-Medical Expertise Commission
SMU	Yerevan State Medical University
STIs	Sexually transmitted infections
TB	Tuberculosis
UAF	United Armenia Fund
UMCOR	United Methodist Committee on Relief
UNFPA	United Nations Population Fund
UNHCR	United Nations High Commission for Refugees
UNICEF	United Nations Children's Fund
USAID	United States Agency for International Development
VAT	Value-added tax
VHI	Voluntary health insurance
VP	Vulnerable people
WHO	World Health Organization
WTO	World Trade Organization

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Abstract

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

Since independence, the health system in Armenia has undergone numerous changes that have effectively transformed a centrally run state system into a fragmented one that is largely financed from out-of-pocket payments. The population, especially those in need, meet with limited access to health services, and those services which are available are often of questionable quality, as health care standards and quality assessment systems are absent. Drugs on the essential drugs list are generally not affordable to those in need. Many health facilities, especially in rural areas, lack modern medical technology and what is available is not distributed efficiently. The commitment to free health care thus remains more declarative than factual, as informal payments are still expected or required in many cases. Despite significant investments in primary care, a disproportionate share of resources has been invested in secondary and tertiary care. Nevertheless, Armenia is increasingly engaged in reforming the system from one that emphasizes the treatment of disease and response to epidemics towards a system that emphasizes prevention, family care and community participation. The shift towards a primary care orientation is noticeable, with gradually increased roles for health workers to influence the determinants of health.

Executive summary

The Republic of Armenia is a post-Soviet state located in the South Caucasus and is bordered by Georgia to the north, Azerbaijan to the east, Turkey to the west and Iran to the south. A census in October 2001 estimated the de jure population to be 3.2 million following the devastating Spitak earthquake in 1988 and the mass population displacement as a result of the conflict in Nagorny Karabakh. It has been estimated that since independence between 800 000 and 1 million people have left the country, with approximately 600 000 estimated to have emigrated between 1992 and 1997 alone.

Armenia formally declared independence from the Soviet Union in 1991 and embarked on a rapid "shock therapy" strategy for economic reform. However, the creation of a democratic society based on the principles of a market economy remains a painfully demanding undertaking. Transition has had a serious and long-term impact on the income and well-being of the population. Life expectancy is relatively low and poverty levels are sizeable, while officially reported adult literacy and educational attainment have remained high.

Organizational structure

Armenia inherited a health system organized according to the Semashko model that guaranteed free medical assistance and access to a comprehensive range of primary, secondary and tertiary care to the entire population. The system was highly centralized with vertical management dominating. Financial and other allocations were based on national norms and failed to take account of population health needs. There was an emphasis on structural and quantitative indicators, resulting in the creation of expanded physical capacity, oversupply of health personnel and a surplus of hospital beds along with the unequal distribution of resources. Primary health care (PHC) was technologically

underdeveloped. The focus was on secondary and specialized care and with an emphasis on investment in hospital sector development rather than outpatient services.

Following decentralization and reconfiguration of public services after independence, operation and ownership of health services have been devolved to local governments (for PHC) and provincial governments (for most hospitals). Decentralization involved both the devolution of responsibility for service provision from central level to regional/local health authorities and of financial responsibility from governmental to facility level, as well as the privatization of hospitals and health care facilities. Privatization of health facilities was, however, implemented arbitrarily and without a systematic approach and the Government has recently put a halt to further privatization to allow for a full evaluation and review of the strategy. Overall, the decentralization process, while increasing autonomy and shared responsibility, also brought considerable challenges as a result of the functional disintegration of the system.

Financing

The most compelling force behind health sector reform was the utter impossibility of maintaining the existing health care system in the new economic climate. Armenia was simply no longer in a position to continue to fund the inherited complex and inefficient system with its unbalanced structure of services.

Health financing reforms in Armenia focused on diversifying revenues for the health care sector and linking health care financing to the quality and volume of care provided. In view of the limited resources available, financial reforms also aimed at advancing financial management and increasing financial sustainability and accountability of institutions in the health sector. However, while the emphasis of current reforms is on improved state budget financing and more efficient use of those resources, the majority of financing is still derived from out-of-pocket payments, both formal and informal. Out-of-pocket payments now constitute an estimated 65% of all health care expenditure.

Official user charges were introduced in 1997, alongside the introduction of the Basic Benefits Package (BBP) which comprises a publicly funded package of services specifying a list of services that are free of charge for the entire population and stipulating the population groups that are entitled to receive any type of health care service for free. All other residents in Armenia must pay out of pocket, in full, at the point of use, for all care and pharmaceuticals that are not listed in the BBP. The BBP has been periodically reviewed since, with the range of services and/or population groups covered being extended or reduced, depending on the level of funding available. This has resulted in considerable

uncertainty, creating wariness among service users and health care providers alike. Also, because of the widespread system of informal payments in health care facilities, even those population groups that are entitled to free health care are frequently asked to pay for services provided, a practice also seen in many other countries of the former Soviet Union.

Regulation, planning and management

Approaches to planning in the Armenian health care system have evolved from a centralized model characteristic of the Semashko system into a segmented vertical system of planning that essentially originates from the Parliament through to Republican Government and Ministry of Health down to regional departments of health and social protection to facility and, ultimately, community level. This structure has yet to develop the requisite horizontal linkages and structures to enable efficient and decentralized coordination. Regional governments and their health departments generally tend to have little input into planning or regulatory activities.

The Ministry of Health performs a number of distinct duties involving regulatory functions, including the regulation of pharmaceuticals; medical education and training; the BBP; the remuneration of health care workers; the licensing of health care facilities; and high-technology equipment.

The management of health facilities is generally characterized by a strong vertical hierarchical structure, headed by a director. Most hospitals lack a governing body such as a board and thus remain the de facto personal fiefdoms of the director. The planning of hospital operation or activities is based on annual assessments and reports but with little strategic planning.

Physical and human resources

Similar to other countries in the region, Armenia inherited an oversized health care system with a major focus on specialized care. The number of hospitals was subsequently reduced, however, with the number of hospital beds almost halving. Despite recent efforts to reduce the number of beds, the system of hospital care in Armenia is still characterized by excess capacity, while a substantial number of patients would be more appropriately and cost-effectively treated in day care or outpatient settings. The role of hospitals and other inpatient institutions within the evolving system of PHC emphasis appears uncertain both for national health care leaders and providers. Hospitals are largely autonomous and major hospital resources remain tied up in equipment, physical constructions and unsustainable administrative costs. Without external

demands for gains in efficiency and quality of care and with limited public accountability, there are few incentives in the present system to reorient hospital management practices.

Until the mid-1990s, the health care sector in Armenia was characterized by a large workforce, with a particularly high number of physicians. A key feature of the medical workforce is the overprovision of specialists relative to physicians working at the primary care level. There is also a shortage of health sector workers in rural areas. The current situation is further characterized by the low remuneration of doctors and other health care staff.

Provision of services

PHC is typically provided by a network of first-contact outpatient facilities involving urban polyclinics, health centres, rural ambulatory facilities and feldsher/midwife health posts (FAPs), depending on the size of the population in a particular community. FAPs are located in small villages and are run by nurses, midwives, and/or feldshers who are supervised by staff from nearby polyclinics and ambulatory facilities.

Secondary health care is traditionally provided in a range of institutions, including: freestanding municipal and regional multi-use hospitals; integrated multi-use hospital networks with ambulatory care provision; health centres with beds for inpatient care; maternity homes; and specialized units for inpatient and outpatient care. Tertiary, highly specialized care is usually provided through specialized single-purpose health care structures, mainly concentrated in the capital city of Yerevan and with a major focus on complex technologies.

Reforms

Armenia began reforming the health care sector at an early stage following independence. Major changes have involved administrative decentralization and the alteration of financing mechanisms. Development and strengthening of PHC was also identified as vital to Armenia's health system reform programme. Since 1997, structural and regulatory changes can be seen to have concentrated on three main areas: (1) decentralization, involving devolution and privatization; (2) implementation of new approaches to health care financing; and (3) optimization and increasing health system effectiveness.

Since independence, the health care system in Armenia has effectively been transformed from a centrally run state system into a fragmented system that is largely financed from out-of-pocket payments. The population, especially those in need and/or with the least means, meet with limited access to basic and

specialized health care services; this often leads them to postpone necessary consultations and/or to late referrals to health care providers. Those services which are available are often of questionable quality, as health care standards and quality assessment systems are absent. Drugs on the essential drugs list are generally not affordable to those in need. Many health facilities, especially in rural areas, lack modern medical technology and equipment and what is available is not distributed efficiently. The existing "state order" provision of free-of-charge health care thus remains more declarative than factual, as informal payments are still expected or required in many cases. International and humanitarian assistance programmes and initiatives aimed at improving the health care system are often poorly coordinated, owing to the absence of a clear government policy and strategic framework combined with donor restrictions and expectations. Despite significant investments in primary care, a disproportionate share of resources has been allocated to secondary and tertiary care.

Yet, despite these numerous challenges, Armenia is increasingly engaged in reforming the system from one that emphasizes the treatment of disease and response to epidemics towards a system emphasizing prevention, family care and community participation. The shift towards a primary care orientation and community approach is noticeable, with gradually increased roles for health workers to influence the determinants of health. However, a gap in the distribution of human and technological resources for health remains.

1   Introduction

1.1   Geography and sociodemography

The Republic of Armenia is located in South Caucasus, occupying a territory of 29 800 km^2 (see Fig. 1.1). Armenia is bordered by Georgia to the north, Azerbaijan to the east, Turkey to the west and Iran to the south. It is a mountainous country and has a markedly continental climate with hot summers and cold winters.

The territory that is now Armenia represents part of what was historically eastern Armenia. One of the oldest nations in the world, Armenia has a rich history and unique culture. At the crossroads of Europe, Asia and the Middle East, and situated along the Silk Road, the boundaries, reach, and regional importance of Armenia have ebbed and flowed over the centuries. Events of the late 19th and the early 20th centuries have left a lasting impression on Armenia and shaped its modern borders, which are less than half of Armenia's former reach.

Although an independent Republic of Armenia was declared in 1918, this independence was short-lived. Following a series of regional conflicts, Armenia became part of the Soviet Union as a member of the Transcaucasian Soviet Federated Socialist Republic in November 1920 and, after its dissolution in 1936, a separate Soviet Socialist Republic. As part of the Soviet Union, the country underwent a process of fundamental economic and political change similar to the other constituent parts of the union. This included intensive industrialization and collectivization of agriculture alongside expansion of the systems for education and health care (Herzig 1999). Under Soviet rule Armenia was able to preserve Armenian culture and was permitted to maintain its own script. However, the country's boundaries as set by the Soviet authorities were never fully accepted, particularly those concerning the regions of Nagorny

Karabakh, which had been created as an autonomous region within neighbouring Azerbaijan in 1923 and Nakhichevan, an autonomous republic of Azerbaijan. By the end of the 1980s, tensions surfaced over Nagorny Karabakh, and, in 1991, as the dissolution of the Soviet Union was taking place, the people of Nagorny Karabakh sought to become an independent republic. These tensions escalated into a full-scale war over Karabakh in 1992. After two years of armed conflict and the mass displacement of hundreds of thousands of people, a ceasefire accord was signed between Armenia and Azerbaijan in 1994. Following recurring efforts by the Organization for Security and Co-operation in Europe (OSCE) Minsk Group set up in 1992 to resolve the Karabakh conflict, peace talks eventually gained momentum in 2001 at the Key West (Florida) summit between the leaders of Armenia and Azerbaijan. However, no agreement was reached and only recently has the dialogue between the two countries resumed (Commission of the European Communities 2005).

Fig. 1.1   Map of Armenia

Source: United Nations Cartographic Section, January 2004.

As a consequence of the Nagorny Karabakh conflict, some 360 000 refugees had fled from Azerbaijan to Armenia between the late 1980s and early 1990s, with an additional 70 000 people living in bordering regions becoming internally displaced persons (Government of the Republic of Armenia 2003d). This added to the devastating impact of the 1988 Spitak earthquake that was estimated to have left 25 000 people dead and some 400 000 homeless. According to United Nations High Commission for Refugees (UNHCR) estimates, by the end of the 1990s there were approximately 280 000 ethnic Armenians registered as refugees, some 60 000 of whom, mostly men, are believed to have left the country (UNHCR 2004).

Projections based on the 1989 census estimated the population to be 3.8 million in 2001 (Mnatsakanyan et al. 2001). However, the census of October 2001 found the population size to be by approximately half a million lower, at 3 213 011 (de jure population) (National Statistical Service of the Republic of Armenia 2004a). It has been estimated that since independence between 800 000 and 1 million people have left the country (International Organization for Migration 2002), with approximately 600 000 estimated to have emigrated between 1992 and 1997 alone (United Nations Country Team 2000).

Emigration has also added to a large Armenian diaspora of over 5 million people, with approximately 2.5–3 million living in other parts of the former Soviet Union (largely the Russian Federation) and another 1.5 million in the United States, France and the Middle East (mainly Iran) (UNDP 2001).

Armenia is an ethnically homogenous country; approximately 98% of the population are Armenian, the remainder being Yezidi (1.3%), Russians (0.5%), Assyrians, Kurds and Greeks, at 0.1% or less (National Statistical Service of the Republic of Armenia 2004a). The official language is Armenian, with a unique alphabet, though Russian is widely spoken in urban areas. The predominant religion is the Armenian Apostolic Church; religious minorities include other Christian denominations, Yezidi and others. Approximately 64% of the population live in urban areas with approximately one third, or 1.3 million, living in the capital city of Yerevan.

Table 1.1 shows some key demographic indicators characterizing population dynamics in Armenia.

Official statistics indicate that Armenia has a relatively young population, with approximately 23% of the population aged under 15 years (contrasting with approximately 17% in the European Union (EU)) (WHO Regional Office for Europe 2006). The birth rate fell by almost 60% between 1990 and 2002 and the total fertility rate is presently approximately 1.4, a drop from the 1990 estimate of 2.6, although rates have been increasing recently.

Table 1.1   Demographic indicators, 1980–2003 (selected years)

	1980	1985	1990	1995	1996	1997	1998	1999	2000	2001	2002	2003
Population (millions)	3.10	3.23	3.35	3.26	3.25	3.25	3.24	3.23	3.23	3.22	3.21	3.21
% of population under 15 years	30.2[a]	30.2	30.4	29.0	28.3	27.4	26.5	25.6	24.7	24.3	24.5	23.0
% of population 65 years or older	5.9[a]	5.4	5.6	7.5	7.9	8.1	8.5	8.7	9.0	9.7	9.6	10.1
Live births per 1000 population	22.7	24.9	23.8	15.0	14.8	13.5	12.2	11.3	10.6	10.0	10.0	11.2
Total fertility rate	2.3	2.6	2.6	1.6	1.6	1.5	1.3	1.2	1.1	1.0	1.2	1.4
Deaths per 1000 population	5.4[a]	6.1	6.6	7.6	7.7	7.4	7.2	7.5	7.5	7.5	8.0	8.1

Source: WHO Regional Office for Europe (2006).
Note: [a] 1981.

1.2   **Political context**

Armenia formally declared its independence in September 1991. It is a presidential republic; its Constitution was adopted on 5 July 1995 by referendum, with amendments adopted through a contentious nationwide referendum in November 2005 (Council of Europe 2005). State power is exercised pursuant to the Constitution and the laws are based on the principle of separation of the legislative, executive and judicial powers. The Constitution further designates the President as the Head of State, elected by popular vote to a five-year term for no more than two consecutive terms. The President appoints the Prime Minister, and, upon recommendation of the Prime Minister, the members of Government and the chief prosecutor. The current President of the Republic of Armenia is Robert Kocharian, who was elected first in March 1998 and re-elected in March 2003. The current Government is formed by a three-party coalition and led by Prime Minister Andranik Markaryan, who was appointed in May 2000.

The legislative branch comprises the unicameral National Assembly (*Azgayin Zhoghov*) whose 131 members (75 by proportional and 56 by single-mandate representation) serve four-year terms. The last parliamentary elections were held in 2003 when six parties and coalitions entered the Parliament (National Assembly of the Republic of Armenia 2005). The judicial branch of Government

is headed by the Judicial Council, presided over by the President. The Council comprises 14 members who are appointed by the President for a period of five years.

Administratively, the country is divided into 11 regions (*marzer*) including the capital city of Yerevan. The marzer are further divided into rural and urban communities (*hamaynkner*), and Yerevan into twelve districts (Tumanyan 2001). Although a system of local government was instituted, the political system remained highly centralized under the original Constitution (Economist Intelligence Unit 2004). According to the amendments of 2005 much greater powers have been devolved to the hamaynkner level. The communities are administered by local self-government that is elected for a term of 4 years: this is the council of elders (*Avakani*), and the head of the community. For the purposes of local self-government, Yerevan is a single "community" and the Mayor of Yerevan may be either directly or indirectly elected. The Government has the power to remove the head of a community, but only with the backing of the Constitutional Court (Constitution of the Republic of Armenia 2005).

Armenia joined the Commonwealth of Independent States in December 1991. It is a member of the World Bank Group, the International Bank for Reconstruction and Development (IBRD), the International Monetary Fund (IMF) and the European Bank for Reconstruction and Development (EBRD). More recently it also joined the World Trade Organization (WTO) (5 February 2003) (National Statistical Service of the Republic of Armenia 2004a).

In 1996, Armenia signed the EU Partnership and Cooperation Agreement (PCA), entering into force in 1999 and forming the legal basis of relations between the EU and Armenia. These are expected to be strengthened further by the 2004 inclusion of Armenia (along with Azerbaijan and Georgia) into the EU's European Neighbourhood Policy (ENP) (Commission of the European Communities 2005).

Armenia became member of the United Nations in March 1992 and a full member of the Council of Europe in January 2001. The Government has ratified the European Convention on Protection of National Minorities (20 July 1998) (United Nations Country Team 2000) and the European Convention on Human Rights (26 April 2002). The country is also a signatory to the United Nations Convention on the Rights of the Child (24 September 2003). Upon joining the Council of Europe and adopting the corresponding law in 2003 (Commission of the European Communities 2005), the President appointed Armenia's first Human Rights Defender (Ombudsman) in April 2004 (Human Rights Defender of the Republic of Armenia [no date]). In addition, Armenia has recently acceded to the World Health Organization (WHO) Framework Convention on Tobacco Control (29 November 2004) (WHO 2005a).

1.3   Economic context

After achieving independence in September 1991, Armenia has faced enormous economic difficulties. Several developments, including the lasting impact of the 1988 earthquake, the conflict over Nagorny Karabakh and ensuing political tensions with Azerbaijan, and the economic and political collapse in neighbouring Georgia have contributed to the collapse of the Armenian industrial base and the destruction of its infrastructure. Between 1990 and 1993, gross domestic product (GDP) fell by over 50% (World Bank 2004a), with a 42% drop in 1992 alone (Torm 2003), representing the steepest annual rate of decline recorded for any post-Soviet state.

In moving from a planned to a market economy, Armenia has been described as a rapid reformer, adopting a "shock therapy" transition strategy that involved the swift introduction of price and trade liberalization (Torm 2003). The early reforms aimed at macroeconomic stability and economic growth; initial structural reforms included mass privatization of state enterprises, market liberalization, and reform of the banking sector. A national currency, the dram (AMD), was introduced in 1993 to replace the rouble. As a consequence of the reforms, the structure of Armenia's economy shifted sharply from an emphasis on heavy industrial production to agricultural activities and, more recently, the service sector. Thus, the share of industry in GDP fell from over 50% in 1990 to just 20% in 2001 while the service sector now accounts for over 50% of the GDP (Ministry of Trade and Economic Development 2003). Trade within the former Soviet Union has only recently been restored. Economic growth has resumed since 1994, with growth rates between 5% and 7%, and accelerating in the 2000s at a growth rate of, for example, 14% in 2003 (International Monetary Fund & World Bank 2004). Inflation, which had risen to around 5000% in 1994, fell to under 10% in 1998 (UNICEF Innocenti Research Centre 2004). The dram subsequently stabilized at around AMD 550 to the United States dollar (EBRD 2003); in 2000, Armenia experienced a mild deflation, at less than 1%, because of falling food prices and low consumer demand. However, since 2003 inflation has been rising again, owing, in part, to higher prices for imported goods such as foodstuffs and energy, with annual inflation averaging at 7% in 2004 (Economic Development Research Center 2005), negatively impacting on purchasing power.

The conditions for the successful transformation of Armenia for the new social and economic environment continue to pose considerable challenges. More than 10 years after independence, the creation of a democratic society based on the principles of a market economy remains a painfully demanding undertaking. Judged by regional standards, Armenia has made considerable progress over the last few years regarding macroeconomic stabilization and growth. Yet, the

Armenian economy is still very vulnerable to external influences, being highly dependent on trade with other countries of the former Soviet Union, especially the Russian Federation. The investment climate is weak and corruption, along with the absence of an efficient system of public and corporate governance and an inefficient court system, have so far discouraged further growth in economic investment (Ministry of Trade and Economic Development 2003).

Table 1.2   Selected social and economic indicators, 1991–2004

	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004
GDP annual growth (%)[a]	−12	−42	−8.8	5.4	6.9	5.9	3.3	7.3	3.3	5.9	9.6	13.2	14.0	10.1
GDP per capita (US$)[b]	1 930	83	126	174	342	421	485	470	503	680	556	771	918	–
Registered unemploy-ment[f,c]	–	–	5.3	6.6	6.7	9.3	10.8	9.4	11.2	11.7	10.4	10.8	10.1	9.4
Poverty (% of population)[d]	–	–	–	–	–	54.7	–	–	55.1	–	50.9	49.7	42.9	–
Gini coefficient[g,e]	0.27[h]	–	–	–	–	0.60	–	–	0.59	–	0.53	0.45	0.44	–

Sources: [a] Economic Development Research Center 2005; Torm 2003; [b] WHO Regional Office for Europe (2006); [c] Economic Development Research Center 2005; [d] Mirzakhanyan 2005; [e] Government of the Republic of Armenia 2003d; Mirzakhanyan 2005. *Notes*: [f] Average percentage of labour force; [g] Current income; [h] 1987–1990.

Transition has had a serious and long-term impact on the income and well-being of the population. In 2003, Armenia scored 0.759 on the Human Development Index and, being ranked at 83, was placed among countries with a medium level of development, higher than its neighbours Georgia and Azerbaijan (at ranks 100 and 101) but lower than the Russian Federation, which was ranked at 62 (UNDP 2005). This reflects the relatively low life expectancy and sizeable levels of poverty, while officially reported adult literacy and educational attainment have remained high.

The sustained economic growth since 1994, as measured by GDP, did not have a noticeable impact on employment; indeed, according to official data total employment fell substantially from 1.63 million people in 1990 to 1.11 million in 2004 (Economic Development Research Center 2005). Consequently, officially registered unemployment has declined only slowly during recent years (see Table 1.2), to 9.4% of the labour force in 2004. However, data from a 2004 labour force survey conducted by the National Statistical Service suggest that the true rate of unemployment[1] is considerably higher, at 32% of the economically

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[1] Definition by the International Labour Organization (ILO): unemployed people are those who are *either* out of work, want a job, have actively sought work in the previous four weeks, and are available to start work within the next fortnight, *or* are out of work and have accepted a job that they are waiting to start in the next fortnight.

active population (National Statistical Service of the Republic of Armenia 2005b). The survey also found unemployment levels to be higher among women (38% compared with 27% among men), in urban areas (38% compared with 18% in rural areas) and among young people, with approximately one third of the unemployed being among those aged between 20 and 29 years. Around 70% of total employment is self-employment, such as small enterprises and agriculture, i.e. mainly in the informal sector, which is estimated as constituting approximately 46% of gross national income (Commission of the European Communities 2005).

Yet while most people in Armenia have been affected by the economic decline, some have suffered more than others, which is illustrated by the level of inequality in household income as measured by the Gini coefficient. This figure rose steadily in the 1990s, to 0.60 in 1995, subsequently falling to 0.44 in 2003 (Government of the Republic of Armenia 2003d; Mirzakhanyan 2005). This last decline implies that households with below-average incomes seem to have benefited from recent accelerated economic growth. This is also reflected in the decline in the share of the population living below the poverty line (in 2003 defined as average monthly per-capita expenditure of AMD 12 600 (US$ 22)), from a high of 55% in 1999 to approximately 43% in 2003 (National Statistical Service of the Republic of Armenia 2005c). The decline was mainly because of a substantial fall in the share of those considered to be very poor, i.e. those whose average monthly current expenditure was below the "poverty food line" (at AMD 7740 in 2003 (US$ 13), from 23% in 1999 to 7.4% in 2003) (National Statistical Service of the Republic of Armenia 2005a). In addition to economic growth, this decline has been attributed to the introduction of a family allowance system in 1999. However, the combined impact of both elements has not been sufficient to enable households to surpass the poverty threshold; instead a substantial share of the very poor moved up to the category of the poor.

Overall, economic growth has resulted in increases in employment income, benefiting in particular the very poor (Government of the Republic of Armenia 2003d). According to the National Statistical Service the average monthly (nominal) wage has almost doubled since the year 2000, from AMD 22 700 to AMD 43 500 in 2004 (US$ 80) (National Statistical Service of the Republic of Armenia 2005c).[2] This varies substantially, however, between different sectors, with those in the health and social sector earning less than half this amount, at approximately AMD 19 800 in 2004 (US$ 37). Although representing a

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[2] To convert Armenian drams into US$ we here use average annual exchange rates as reported by the National Statistical Service and the Economic Development Research Center (see http://www.edrc.am/project.html), at AMD/US$ 540 (2000) and 534 (2004). See also Table 3.1, in Chapter 3 on financing.

considerable increase of approximately one third compared to 2003, the average salary in this sector is still merely 50% higher than the official minimum wage of AMD 13 000 (US$ 25). The average size of the monthly pension obtained through state social security has also doubled since 2000; however, at an amount of AMD 8850 in 2004 (US$ 17) the pensions remain far below the minimum subsistence level.

Despite the recent successes, poverty and income inequality in Armenia remain a significant concern and have become a governmental priority. In 2003, the Armenian Government adopted the Poverty Reduction Strategy Paper (PRSP), which outlines key policy priorities for the medium term (Government of the Republic of Armenia 2003d). Recognizing poverty as a major obstacle to economic, social and human development, the strategy aims, through ensuring sustainable and high economic growth and the implementation of social protection policies, to incrementally reduce poverty to just under one fifth (share of the population) by 2015. It also covers policy action in the area of health, with objectives including increasing access to, and quality of, health services through investment in primary care, as well as education and the environment.

1.4   Health status

On the basis of official data, and in contrast to the neighbouring Caucasus countries, life expectancy at birth in Armenia appears to have changed only little during the early 1990s and enjoyed some improvements between 1993 and 2003, from 71.2 years to 73 years (men and women combined) (WHO Regional Office for Europe 2006). However, if more plausible infant mortality data are factored into the life tables, as shown below, the true figure is likely to be approximately five years fewer. Thus, according to estimates by WHO in 2003, life expectancy at birth was approximately 65 years in men and 72 years in women (WHO 2005b).

The leading causes of premature death (i.e. under age 65) in Armenia (2003) are, in order of magnitude, diseases of the circulatory system – heart disease, stroke and related conditions (113 per 100 000), cancer (87 per 100 000), external injuries and poisoning – including suicide and traffic accidents (28 per 100 000) – and diseases of the respiratory and of the digestive system (16–17 per 100 000) (WHO Regional Office for Europe 2006).

Infant mortality was reported to be 15.5 per 1000 live births in 2001, subsequently falling to approximately 12 per 1000 in 2003 (WHO Regional Office for Europe 2006). However, according to the findings of the 2000

Table 1.3   Life expectancy at birth, 1980–2003 (selected years)

	1980	1985	1990	1995	1996	1997	1998	1999	2000	2001	2002	2003
Official data[a]												
Men	69.6	69.9	68.6	69.3	67.9	68.9	69.9	70.0	70.4	70.0	69.7	70.0
Women	75.8	74.9	75.4	74.9	74.8	75.0	75.6	75.3	75.8	76.3	75.6	75.9
World Health Report[b]												
Men	–	–	–	–	–	–	–	–	66	66	67	65
Women	–	–	–	–	–	–	–	–	73	73	73	72

Sources: [a] WHO Regional Office for Europe (2006); [b] WHO 2004.

Armenia Demographic and Health Survey (DHS) infant mortality is likely to be considerably higher, at approximately 36 per 1000 live births (estimate for 1995–2000) (National Statistical Service of the Republic of Armenia, Ministry of Health of the Republic of Armenia & ORC Macro 2001a) (see also Table 1.4). Prior to 1995, Armenia used the restricted Soviet classification of live births and infant deaths, thus underestimating the rate of infant deaths compared to the rate if the WHO definition were applied (Aleshina & Redmond 2003). The WHO definition of a live birth was adopted in 1994, by decree of the Ministry of Health, and officially introduced in 1995; it is believed, however, that it is still incompletely applied (Aleshina & Redmond 2003; National Statistical Service of the Republic of Armenia, Ministry of Health of the Republic of Armenia & ORC Macro 2001a). This was confirmed by a recent investigation by the Ministry of Health, in collaboration with WHO, revealing considerable levels of underreporting of both births and infant deaths, particularly in rural areas (Ministry of Health 2003b).

Data from the 2000 DHS also show that infant mortality rates appear to be higher in rural areas than in urban areas, by approximately one third, and tend to be considerably higher among women with low educational attainment compared to those with higher education (National Statistical Service of the Republic of Armenia, Ministry of Health of the Republic of Armenia & ORC Macro 2001a).

Likewise, precise trends in maternal mortality are difficult to interpret. According to official data, in 2004, the maternal mortality rate was approximately 37 deaths per 100 000 live births, higher than the average rate in the Commonwealth of Independent States (CIS) (at approximately 27 per 100 000) and approximately six times the level for all EU countries (6.1 per 100 000 in 2004). This rate is similar to the level reported for the late 1980s, suggesting little improvement in maternal mortality since, with substantial fluctuations in between and a high of 73 deaths per 100 000 live births in 2000 (WHO Regional Office for Europe 2006). However, these fluctuations have to

Table 1.4   Infant mortality rate, 1980–2003 (selected years)

	1980	1985	1990	1995	1996	1997	1998	1999	2000	2001	2002	2003
Official statistics[a]	23.4[c]	24.7	18.3	14.2	15.5	15.4	14.7	15.7	15.8	15.5	14.0	11.8
UNICEF[b]	–	–	–	26	30	30	25	25	–	31	30	30

Sources: [a] WHO Regional Office for Europe (2006); [b] UNICEF Innocenti Research Centre 2004.
Note: [c] 1981.

be interpreted in the context of very small numbers of deaths (for further details see Section 6.10 "Maternal and child health").

Like its neighbours in the Caucasus, Armenia has moved only part way along the health transition, facing a double burden of diseases of westernization and of poverty. As in many other parts of the region, smoking accounts for a considerable part of the burden of disease among men, with recent estimates suggesting that in 2000 approximately 22% of all deaths among men in Armenia may be attributable to smoking, 73% of which among men aged 35–69 (WHO Regional Office for Europe 2005a). Smoking prevalence among men over the age of 15 is high, with estimates ranging between 62% and 68% (Gilmore et al. 2004; National Statistical Service of the Republic of Armenia 2001b; WHO Regional Office for Europe 2005a). Among women, smoking frequency is still low, especially compared to western European countries, at around 2–3% among those aged over 15 years (Gilmore et al. 2004; WHO Regional Office for Europe 2005a). However, according to some expert estimates the true smoking rate among women in Armenia is believed to be much higher, at around 15–18%, and particularly high in urban areas, at up to 25% (National Statistical Service of the Republic of Armenia 2001b). Similarly, there is a high level of alcohol consumption among men, in particular of spirits, which is likely to contribute to the disease burden (Pomerleau et al. 2005). Official statistics suggest an average consumption of 1.6 litres of pure alcohol per adult in 2000 (WHO Regional Office for Europe 2006). This is, however, likely to be an underestimate; a recent survey calculated consumption at 2.1 litres pure alcohol per adult aged 18 and over (men: 4.8 litres, women: 0.2 litres), while the Global Burden of Disease study estimates average annual alcohol intake at around 2.9 litres per capita (Pomerleau et al. 2005). While relatively low in comparison with the EU (all 25 Member States) at 9.4 litres per capita in 2002 (WHO Regional Office for Europe 2006), it is important to note that Armenian men are more likely to be engaged in heavy drinking, which is known to be particularly detrimental to health (Britton & McKee 2000).

Armenia also experienced a resurgence of communicable diseases, such as tuberculosis (TB) and diphtheria, with the reported TB incidence more than

doubling during the 1990s, rising from 17.6 per 100 000 in 1990 to 51.7 per 100 000 in 2004 (WHO Regional Office for Europe 2006), although the true scale of the problem is likely to be somewhat greater. Armenia, along with other former Soviet countries, also suffered a major diphtheria outbreak in the early 1990s (Balasanian & McNabb 2001). The effects of transition are illustrated by the case of malaria, which was controlled in the Soviet period, with an average of seven (imported) cases of Plasmodiam vivax malaria per year during the 1980s (Davidiants et al. 1998). By the mid-1990s this number had risen rapidly to a high of over 1100 cases in 1998, equating an incidence rate of 35.7 per 100 000 population (WHO Regional Office for Europe 2006). By the end of the 1990s the rate had returned nearer its earlier level. The malaria outbreak in the mid-1990s was a result of a combination of factors including weakened prevention and control programmes because of the severe financial crisis and the conflict with Azerbaijan in the early stages of independence, contributing to the cessation of vector-control activities in the country, with many of the imported cases of malaria in 1995 accounted for by displaced people returning from the conflict zone (Davidiants et al. 1998). Surveillance systems have been strengthened since, and diagnosis and treatment improved; in 2004 there were only 47 cases (WHO Regional Office for Europe 2006).

There has also been an increase in the incidence of sexually transmitted infections (STIs) since independence, albeit at a low level. Thus, the reported incidence of syphillis increased almost fivefold from 3.7 per 100 000 population in 1990 to a high of 20.2 per 100 000 in 1996, although falling steadily since (WHO Regional Office for Europe 2006). However, this recent fall in the notification rate of syphillis almost certainly reflects a failure of surveillance systems and, in particular, increasing private (and so unreported) treatment (Von Schoen-Angerer 2004). Available data further suggest that levels of HIV/AIDS are relatively low, with a cumulative total of 349 Armenian citizens having been registered as carriers of HIV between 1988 and October 2005 (Armenian National AIDS Center 2005). However, the total number of people living with HIV/AIDS in Armenia is believed to be much higher, at around 2800–3000. An estimated 54% of registered HIV cases are among intravenous drug users, with heterosexual transmission being the attributed cause in another 38% (Armenian National AIDS Center 2005). The most affected areas are in the capital city of Yerevan and in Shirak marz, constituting respectively approximately 50% and 8% of all registered HIV cases in Armenia. In general, the HIV/AIDS epidemic in Armenia has been considered low-key and relatively stable although a sudden increase in HIV transmission may not be ruled out (UNAIDS 2005), particularly against the backdrop of sustained levels of poverty and rising levels of intravenous drug use creating conditions that make the country vulnerable to the further spread of HIV.

Like other parts of the former Soviet Union, Armenia faces numerous environmental problems, with high levels of environmental pollution especially in urban areas. Key environmental concerns include land contamination from hazardous industrial waste, deforestation, desertification and water pollution (EBRD 2003; Ministry of Nature Protection of the Republic of Armenia 2003). According to recent data, 85% of households in Armenia have access to a centralized water supply system, 97% in urban areas and 65% in rural areas (National Statistical Service of the Republic of Armenia 2004b). However, access to centralized water supply does not necessarily guarantee access to safe drinking water because of outdated and poor-condition water supply systems and cross-contamination with wastewater flows due to insufficiently maintained sewage systems (Ministry of Nature Protection of the Republic of Armenia 2003). In addition, access is frequently interrupted with survey data suggesting that over 50% of households have access to water for up to four hours a day with only 13% of households reporting to have uninterrupted access for 24 hours per day (National Statistical Service of the Republic of Armenia 2004b). A major concern also centres on the Armenian nuclear power plant operating in a seismically active region (EBRD 2003).

2   Organizational structure

2.1   Historical background

Armenia inherited a health system organized according to the Semashko model that guaranteed free medical assistance and access to a comprehensive range of primary, secondary and tertiary care to the entire population. Universal coverage of the population served the main policy goal of protecting and improving the health of people regardless of their nationality, race and faith. While declarative, this principle ensured equity and access to health services.

The country was divided into 37 administrative districts with each having a hospital and associated polyclinic providing ambulatory and primary care, with rural areas being provided with health posts (with inpatient units), ambulatories and feldsher stations (Hovhannisyan et al. 2001). Residents were assigned to health facilities and physicians based on their place of residence. The State assumed the responsibility for financing preventive and curative care and enabling the provision of care in compliance with certain standards of quality and volume of care. While the Constitution guaranteed the right to free health care, choice was restricted and quality of care was a determinant of institutional and providers' performance assessments only in regard to severe failures (e.g. cases with fatal outcomes).

The system was highly centralized with vertical management dominating. Local government was directly responsible for financing district health facilities; however, all funding levels and mechanisms were determined by the State. Financial and other allocations were based on national norms and failed to take account of population health needs. This policy also constrained management development and left both hospitals and local government without adequate management capacity. A key feature of the system was the rigorous top-down

control over health strategies and services. Developments and innovations in medical sciences, medical technology and pharmaceutical treatment only slowly reached all institutions and geographic areas.

Centralized administration was also the main characteristic of the health financing system. Quality assurance, performance assessment and improving health indicators did not precondition the volume of health care financing. There was an emphasis on structural and quantitative indicators, resulting in the creation of expanded physical capacity, oversupply of health personnel and a surplus of hospital beds along with the unequal distribution of resources. There were substantial disparities between urban and rural health care sectors as well as between the capital Yerevan and other urban areas. Medical specialists could enter independent practice without adequate preparation and development of clinical skills.

Primary health care (PHC) was technologically underdeveloped. Urban PHC facilities were typically located at ambulatory-polyclinic facilities as departments; their services essentially served as a means to group patients and refer them to specialists and hospitals. The focus was on secondary and specialized care and with an emphasis on investment in hospital sector development rather than outpatient services. At the same time, the system of immunization programmes and dispensary care of patients, while expensive for the State, was deemed effective.

At the time of the collapse of the Soviet Union the health care system inherited by Armenia could be described as one of poor physical condition of health facilities, outdated medical equipment and supplies, oversupply and distorted allocation of health care workers, poor clinical skills, underutilized primary care and related overuse of specialist and hospital services, and substantial inequalities between urban and rural infrastructure and resources. Poor financial and management skills of those responsible added to inefficient use of limited resources.

As noted previously, following independence in 1991, Armenia underwent a painful period of devastating economic and sociopolitical problems that was accompanied by a decline in the health of the population and put overwhelming strain on the health care system (Hovhannisyan et al. 2001). Existing weaknesses of the Soviet model were further exacerbated by the conflict over Nagorny Karabakh, the influx of refugees and the widespread shortages of fuel and energy in particular. The general economic downturn following independence also had an impact on state budgetary resources available for health care, thereby fuelling the development of a system of informal payments for health services. This reinforced political and economic pressure to reform the health system, rooted in a desire to move away from the centralized, command-and-control

system of the Soviet era towards a decentralized system directed by more open and democratic structures. However, the most compelling force behind health sector reform was the utter impossibility of maintaining the existing health care system in the new economic climate. Armenia was simply no longer in a position to continue to fund a complex and inefficient system with its unbalanced structure of services.

Thus, Armenia began reforming its health sector at an early stage following independence. Reform measures included changes to health care delivery in the ambulatory and inpatient settings as well as to the financial and regulatory framework with the overall aim of enhancing efficiency and accessibility of the health care system. Key reforms (up to year 2000) included the following items.

- Passage of the Law on sanitary-epidemic safety for the population in 1992.
- Adoption of the "Program for development and reform of the health care system of the Republic of Armenia 1996–2000" in 1995, identifying management, infrastructure, finance and education as main areas for reform.
- Adoption of the Armenian Constitution in 1995, which sets out the right of individuals to health protection and affirms that family, maternity and childhood are under the protection and patronage of society and state.
- Adoption of the Law on medical aid and services to the population in 1996 (hereafter referred to as the 1996 health care Law).

This Law became a turning point in that it effectively abolished the inherited system of health care financing by presenting the legal framework for introducing alternative means of health care financing including user charges. The Law specifies that:

- "Everybody has the right to receive medical aid and services free of charge within the framework of state health target programmes, guaranteed by the State."
- The State is responsible for developing and implementing health programmes to carry out its constitutional responsibilities to protect the population's health.
- Citizens have the right to choose their health care provider.
- Financing sources for health care services may include the state budget, insurance contributions, direct payments, and other sources not prohibited by law. ("Everybody has the right to receive medical aid and services beyond the framework of [state health target] programmes at the expense of insurance compensation, personal payments and other sources, stipulated

by the legislation of the Republic of Armenia.") (See also Hovhannisyan et al. 2001.)

Further reforms include the following items.

- Introduction of official user charges per governmental decree in 1997 (health target programmes and State Order of the Republic of Armenia in 1997).

- Introduction of the first state Basic Benefits Package (BBP) in 1998, following the 1997 Decree on provision of services free of charge to the population (Government of the Republic of Armenia 1997a).

- Establishment of the State Health Agency (SHA) in 1998 as purchaser of publicly financed health care services (Government of the Republic of Armenia 1997b). Since 1 January 1999 the SHA has been the sole body in Armenia responsible for reimbursing health care providers.

- Law on pharmaceuticals adopted by the National Assembly in 1998, addressing all aspects of the procurement and supply of pharmaceuticals in Armenia.

- Adoption by the Government of the "Strategy of health care system development in Armenia 2000–2003" in early 2000, outlining the long-term objectives and direction of further developing the health care system towards increasing access to services, improving organization, management and quality of care, promoting PHC and balancing social and market values in the health care sector (Hovhannisyan et al. 2001; Ministry of Health 2000d).

2.2   Organizational overview

Ensuring health care for the population is, officially, one of the key functions of the State as set out in the 1995 Constitution. The basic tasks of the State are listed in Article 48, and include the obligation "to implement health care programmes for the population and contribute to the effective and affordable medical service for the population" (Constitution of the Republic of Armenia, 1995). The health care system is divided into three administrative layers: national (republican), regional (marz) and municipal or community (see Fig. 2.1 and Fig. 2.2). Following the decentralization and reconfiguration of public services after independence, with the exception of the state hygiene and anti-epidemic (SHAE) services and several tertiary care hospitals, operation and ownership of health services have been devolved to local governments (for PHC) and provincial governments (for hospitals).

Fig. 2.1   The overall design of the health care system

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                        ┌─────────────────────────┐
                        │   Health care system    │
                        └─────────────────────────┘
           ┌───────────────────────┴───────────────────────┐
┌──────────────────────┐                        ┌──────────────────────┐
│   Public sector:     │                        │                      │
│  governmental and    │                        │    Private sector    │
│  nongovernmental     │                        │                      │
└──────────────────────┘                        └──────────────────────┘
```

Public sector: governmental and nongovernmental	Private sector
Hospitals/hospital networks with/without polyclinics	Hospitals
Outpatient urban clinics (stand-alone polyclinics)	Outpatient clinics/centres
Regional/rural health care facilities (inpatient, outpatient)	Dental clinics
State hygiene and anti-epidemic facilities	Pharmacies
Human resource development (universities, schools, tech./pharm. entities)	Alternative and non-traditional therapy centres
	Human resource development (universities, schools, etc.)

The health system today comprises a network of independent, self-financing (or mixed financing) health services that provide statutory services and private services. Where formerly hospitals had nominal accountability to the local administration and were ultimately answerable to the Ministry of Health, they now have financial autonomy and are increasingly responsible for their own budgets and management. Regional government, however, continues to monitor the care provided while the Ministry of Health retains regulatory functions. Almost all pharmacies, the majority of dental services and medical equipment support has been privatized, as have a number of hospitals in Yerevan (World Bank 2004d).

Fig. 2.2   Organizational chart of the health care system, 2004

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┌──────────────┐
│ Government   │
│ of Armenia   │
└──────────────┘

              ┌─────────────┐    ┌──────────────────┐  ┌──────────────────┐  ┌──────────────────┐
              │             │    │ Health services: │  │ State Hygiene    │  │ Drug and         │
              │             │    │ primary,         │  │ and Anti-Epidemic│  │ Technology       │
              │ Ministry of │    │ secondary and    │  │ Inspection (SHAE)│  │ Scientific       │
              │ Health      │    │ tertiary care    │  │                  │  │ Expertise Centre │
              └─────────────┘    └──────────────────┘  └──────────────────┘  └──────────────────┘
                                 ┌──────────────────┐  ┌──────────────────┐  ┌──────────────────┐
                                 │ Mental health    │  │ State Health     │  │ National Institute│
                                 │ care             │  │ Agency (SHA)     │  │ for Health (NIH) │
                                 └──────────────────┘  └──────────────────┘  └──────────────────┘

              ┌─────────────┐    ┌──────────────────────────────────┐
              │ Ministry of │    │ Yerevan State Medical University │
              │ Education   │    └──────────────────────────────────┘
              └─────────────┘

              ┌─────────────┐    ┌──────────────────────────────────┐
              │ Ministry of │    │ Hospital and Stress Centre       │
              │ Social      │    └──────────────────────────────────┘
              │ Security    │
              └─────────────┘

              ┌─────────────┐    ┌──────────────────────────────────┐
              │ Other       │    │ Specialized hospitals and        │
              │ ministries  │    │ polyclinics                      │
              └─────────────┘    └──────────────────────────────────┘
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Regional (*marz*) and municipal governments	Regional/municipal hospitals	Regional/municipal primary care facilities (polyclinics, health centres, and others)

Communities (*hamaynkner*)	Rural ambulatories, FAPs, health centres

Private sector			
Hospitals	(Dental) clinics	Pharmacies	Other

Ministry of Health

The responsibilities of the Ministry of Health have changed considerably since independence. Previously, the ministry was responsible for all the planning, regulation, financing and operation of health services. However, it has gradually reduced some of these functions and activities and has assumed a wider

Fig. 2.3   Organizational structure of the Ministry of Health

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                        ┌─────────────────────────┐
                        │     Minister of Health   │
                        │  Deputy (vice) ministers │
                        │       Chief of Staff     │
                        └─────────────────────────┘

    ┌──────────────────────────┐        ┌──────────────────────────┐
    │  Structural entities (units)│      │  Separated entities (units)│
    └──────────────────────────┘        └──────────────────────────┘

        ┌────────────────────┐              ┌──────────────┐   ┌──────────────────┐
        │   Administrative   │              │ State Health │   │ Regional (district)│
        │    departments     │              │ Agency (SHA) │   │     centres        │
        └────────────────────┘              └──────────────┘   └──────────────────┘

        ┌────────────────────┐              ┌──────────────┐   ┌──────────────────┐
        │      Divisions     │              │ State Hygiene│   │ Regional (district)│
        └────────────────────┘              │and Anti-Epidemic│ │     centres        │
                                            │Inspection (SHAE)│ └──────────────────┘
        ┌────────────────────┐              └──────────────┘
        │     Secretariat    │
        └────────────────────┘

    ┌──────────────────────────┐
    │ Health Services Organization:│    ┌──────────────────────┐
    │ Primary Health Care       │      │ Pharmacy/technologies │
    │ Specialty Care            │      └──────────────────────┘
    │ Maternal and Child Health │
    └──────────────────────────┘

    ┌──────────────────────────┐        ┌──────────────────────┐
    │ Economics, Finance, Accounting│    │ International Relations│
    └──────────────────────────┘        └──────────────────────┘

    ┌──────────────────────────┐        ┌──────────────────────┐
    │ Human Resources, Education,│       │       Licensing       │
    │        Research           │        └──────────────────────┘
    └──────────────────────────┘
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Sources: Government of the Republic of Armenia 2002a and 2002b.

coordinating role and increased its role in developing national health policy in line with country priorities: defining strategies to achieve objectives, defining and applying national health standards and norms, ensuring quality control and developing and overseeing state-funded programmes (see also Fig. 2.3). Policy objectives are achieved through shared responsibilities with regional and local governance bodies and health institutions. Overarching objectives are to increase the efficiency and effectiveness of the health care system and to protect and improve the health of the population. The Minister of Health is appointed by the president and approved by Parliament.

As noted above, the Ministry of Health has a number of explicit responsibilities, including:

• developing and implementing national health care policy;

• developing and implementing government-supported health programmes (e.g. for TB, diabetes, immunization and disease prevention, blood banking, forensic medicine);

• developing draft legislation and health regulation papers, standards and bylaws;

• human resource planning and development;

• epidemiological and environmental health monitoring and infectious disease control to protect the population's health;

• collecting and reporting health statistics;

• coordinating health-related initiatives and activities (e.g. AIDS prevention and control, drug use control, health promotion campaigns, health programmes in schools, etc.) in cooperation with other state ministries, agencies, governmental and nongovernmental organizations (NGOs) and entities;

• licensing health care-related organizations and private entities, pharmaceutical entities and other relevant providers;

In addition, the Ministry of Health holds the responsibility for directly financing and managing approximately 20 health care facilities (of previously 600 entities) that remained subordinate to the Ministry of Health following decentralization. The Ministry of Health is also responsible for the network of the country's sanitary and epidemiological services that in 2002 were reorganized as the State Hygiene and Anti-Epidemic Inspection under the Ministry of Health (see Section 6.1 "Public health"). Further, it had established a separate Health Project Implementation Unit within the Ministry responsible for coordinating the World Bank-supported "Health financing and primary health care development project" (1998–2003) (World Bank 2004b) and continuing in the framework of the World Bank-supported "Armenia health system modernization project" as of 2004 (World Bank 2004d).

The State Health Agency

The SHA was established in 1998 as a purchaser of publicly financed health care services (Government of the Republic of Armenia 1997b). This move was considered a preparatory step towards instituting a national social health insurance system. The SHA maintains a central office in Yerevan, but also

has a capital city department and 10 regional branches in every marz of the country.

Though initially created as a semi-governmental organization independent of the Ministry of Health, in 2002 the SHA was transferred to the jurisdiction of the Ministry of Health. The SHA holds a mandate to monitor the effective utilization of state budgetary allocations received from the Ministry of Finance. It is responsible for the allocation of financial resources, based on annual contracting mechanisms with health care provider organizations (for more detail see Section 4.2 "Third-party budget setting and resource allocation").

Other ministries and institutions

Important players include the following institutions.

- The Ministry of Finance plays a critical role in the verification and adoption of health sector budgets. It is also responsible for the collection and disbursement of tax revenues, serving both the Ministry of Health and the SHA.

- The Ministry of Education shares responsibility for undergraduate and graduate medical education including nursing education.

- The Ministry of Defence, the Ministry of Internal Affairs and others, including some nongovernmental and professional organizations, run parallel health services that provide health care and preventive services directly to their employees and their families. They operate a limited range of PHC facilities and a small number of hospitals. These facilities are not accessible to the general public and there is little indication at present that this will change in the foreseeable future.

- The Ministry of Labour and Social Affairs is responsible for the protection of the most vulnerable segments of the population and, in conjunction with the Ministry of Health, is responsible for providing care for the elderly, refugees, veterans, the disabled and others.

Regional/local government

Following the restructuring of Armenian local government, there are now 11 regional governments (10 marzer and the city of Yerevan) that have taken over district responsibilities for health care. Initially, the regional governments were responsible for funding local health care services. This function was, however, transferred to the SHA in 1998. Nevertheless, while regional governments are no longer directly involved in the financing of health care institutions they

retain certain planning and regulatory powers in the general governance of health care services.

Generally, regional and local governments do not have to report to the central Government; however, they have to comply with the national orders and policies set by the Ministry of Health, in particular those related to the control of infectious diseases, through negotiated procedures and processes. Thus, local government activities in the health care sector remain visible to the Ministry of Health.

There is still a degree of accountability of regional health care institutions to regional government in that they have to report on funded activity; however, hospitals and polyclinics are increasingly autonomous, at least in financial terms.

Insurance organizations

The role of voluntary health insurance (VHI) is relatively small. At present, there are approximately 20 officially registered and licensed private insurance companies but only 20% of these are engaged in VHI (Hovhannisyan et al. 2001). Only one of them is a hospital-based health insurance company, while others are general commercial companies.

Some steps have been made towards initiating Community-Based Health Insurance (CBHI) schemes in the country. Thus, Oxfam, in partnership with a local NGO "Support the Community", has been running CBHIs in two rural districts (Vayots Dzor and Syunik) since 1995 (Poletti & Balabanova 2005). The scheme aims to provide essential PHC, through village health posts, that is affordable, equitable and accessible to all, especially the very poor. It guarantees unlimited use of the health facilities, including free provision of drugs, in return for a fixed monthly fee of initially 500 Armenian drams, just under US$ 1. More recently this has been increased to 2000 AMD per quarter. The scheme is also often referred to as a Revolving Drug Fund (RDF) (see Section 6.4 "Pharmaceutical care"). By 2001, these schemes were operational in 80 villages, representing approximately 10% of rural communities in Armenia and covering approximately 50 000 people. The schemes have seen further expansion since and, including those run by "Support the Community" in cooperation with "World Vision", CBHIs are now operational in 120 villages covering approximately 80 000 people.

Private sector

The private sector has been slow to develop, beyond the privatization of former public health facilities. The legislation of 1996 (Law on privatization of public

property)[3] allowed for private practice by licensed physicians. However, except for some obstetrician-gynaecologists and psychiatrists, only few have taken this opportunity to date (Hovhannisyan et al. 2001).

The legislation also permits the establishment of private hospitals; however, the 1998 Civil Code of the Republic of Armenia which in part also regulates hospital activity, does not foresee the establishment of non-profit-making hospitals. Thus, hospitals in Armenia are generally considered to be for-profit, regardless of status and ownership (e.g. state, private, charitable), even though they may be operating on a not-for-profit basis. Current legislation on taxation does not foresee privileges for health provider facilities or for non-commercial organizations while budget institutions are exempted from profit tax or property tax (PADCO ASTP 2002). Thus, public health care facilities do not have to pay taxes on profit and/or property only if they are considered to be budgetary institutions. There has been a recent move towards legally distinguishing for-profit and non-profit-making hospitals, on the grounds that the non-profit-making hospitals should not be taxed on profits.

To date there are several private hospitals in the country, examples include the Proctology Centre, the Institute of Surgery, and the Arabkir Medical Centre, which operates on a non-profit-making basis. A private diagnostic centre has been set up in Yerevan as a joint-stock company. Previously it was 80% privately owned, and it is now a completely private institution, although the Government has retained a minority interest. Much of the equipment was taken over from the State, although some has been acquired subsequently through contacts abroad. The work is carried out privately, although the Ministry of Health purchases diagnostic services for selected population groups. The Ministry of Health agrees with the centre on the number and mix of tests and consultations that will be undertaken for the public sector and allocates these between regions, in accordance with population levels, to ensure that there is equity of access to these highly specialized services.

Professional organizations

There are over 40 professional medical associations, including the Armenian Medical Association, founded in 1992, the Armenian Youth Medical Association, and the Armenian Dental Association as well as a nurses association, founded in 1996. However, with the possible exception of some medical specialist associations, they have not played a noticeable role in decision-making. One example of an organization that has had some impact on public health decision-

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[3] Also, since 1996, the Government of Armenia has been developing annual privatization plans that are submitted to the Parliament for approval, thereby becoming part of the regulative framework.

making in Armenia is the Armenian Public Health Alliance (ArmPHA). The alliance was formed in 2003, with the support of the Open Society Institute, as a joint effort of the Armenian Public Health Association, founded in 1995, the Armenian Public Health Union, founded in 1997 and the American University of Armenia (AUA). ArmPHA aims to strengthen tobacco control policy in Armenia. Recent evidence suggests that the alliance's work has had an impact on national tobacco control policies and contributed to Armenia adopting the Framework Convention on Tobacco Control (Movsisyan 2005).

There has been a move towards increasing the role of professional organizations particularly in licensing and registration as well as in postgraduate education, but this was not supported by the Government. However, the debate on this issue was recently resumed in the context of discussions in the Parliament on the adoption of the new draft Law on health care. Trade unions in the health care sector are rather weak, offering little protection to doctors and nurses who are now able to negotiate individual contracts with their employers, be they a hospital or polyclinic director. This is particularly a problem in the private sector where employment rights have been undermined frequently.

Voluntary/nongovernmental organizations, international donors and multilateral organizations

There are numerous, mainly international, NGOs that currently operate or support health-related programmes and activities in Armenia. Some are broad based while others target specific populations and/or health problems; organizations and their activities are detailed below.

- **Armenian Red Cross Society (ARCS)**: a full member of the International Federation of Red Cross and Red Crescent Societies (IFRCS), the ARCS has been engaged in various disease prevention programmes, such as those targeted at TB, HIV/AIDS and childhood illness.

- **OXFAM**: runs CBHI schemes aiming to secure access to PHC and water sanitation at community level, specifically targeting populations in remote areas and refugees, particularly women; also implemented several health education programmes.

- **Adventist Development and Relief Agency (ADRA)**: targets socially vulnerable groups including the poor, the deprived, and the disabled.

- **Médecins Sans Frontières (MSF)**: working in Armenia since 1988 providing humanitarian assistance to victims of the earthquake, MSF is now engaged in various health programmes, with a focus on mental health and reproductive health/STI prevention.

- **Save the Children**: implemented programmes aimed at improving women's health, including reproductive health/family planning and breast cancer screening.
- **Catholic Relief Services (CRS)**: operating in Armenia since 1996, CRS health programmes are presently aimed at improving children's health (nutritional programme for schoolchildren in Yerevan and two further regions).
- **United Methodist Committee on Relief (UMCOR)**: specifically targets populations in remote/hard-to-reach areas and refugees (Pharmaceutical Distribution Program, Mobile Medical Teams Program); other activities include nutritional and health education programmes aimed at deprived children and those with special needs.
- **Open Society Institute (OSI)**: operating in Armenia since 1997 through the Open Society Institute Assistance Foundation (OSAF); its national public health programme is aimed at raising awareness of vulnerable groups and capacity building and focuses on mental disability, harm reduction and tobacco control policy development.

In addition to the various voluntary organizations and NGOs, several international and multilateral governmental organizations are supporting a range of programmes in the health sector. These include the United States Agency for International Development (USAID), which has also supported some of the organizations mentioned above such as UMCOR and Save the Children, the World Bank, the EU as well as United Nations organizations including WHO and the United Nations Children's Fund (UNICEF). These programmes are described in more detail in the relevant sections of this report.

2.3   Decentralization of the health care system

The health sector reforms that have been introduced since independence have led to a marked decentralization of the health care system although the central Government has retained considerable authority. Decentralization was realized mainly through devolution of responsibility for service provision in primary and secondary care from central level to regional/local health authorities and of financial responsibility from governmental to facility level as well as through the privatization of facilities, particularly in the pharmaceutical sector and dental health care.

The decentralization process has expanded institutional autonomy and administrative rights and responsibilities. However, these changes were not

accompanied by effective capacity building to provide administrators and health care providers with the necessary skills, jeopardizing the execution of delegated functions. Thus many administrators continue to adhere to old management styles that do not meet the requirements of this new environment.

The overall top-down approach to decentralization has weakened the administrative links both vertically, that is between the Ministry of Health and regional governments, and horizontally, namely between health care facilities at different levels of care and types of provider. Also, the separation of functional accountability and scope of responsibilities, especially at community level, remains vague.

Devolution

The first stage of devolution, between the mid-1990s and 1998 saw the transfer of financial responsibility for the provision of statutory health services from the central Government to regional governments (Hovhannisyan et al. 2001). Regional/local authorities were given a certain degree of independence from central Government with respect to their functions including negotiating contracts with regional/local health care providers, monitoring quality and amending regional/local budgets. However, the Ministry of Health retained the responsibility for setting prices and defining the rights of the population with respect to coverage. In a second stage, in 1998, responsibility for the management of state financial resources for health was eventually transferred to the SHA, which has since become the only governmental body in Armenia with the authority to reimburse providers of the public package of services.

In addition, since 1996, responsibility for the provision of primary and secondary care has been transferred to regional and local governments. While the Ministry of Health remains responsible for tertiary-level institutions, most hospitals and polyclinics have become the responsibility of governments at regional (marz) level. In 1998, the responsibility for some rural outpatient clinics was transferred to governments at community (village) level. There has been some concern that rural areas were given too much authority and more recently the Government has wanted to partially reverse this decentralization process. The issue is under discussion at the time of writing.

Further, provider units have seen a major change in their legal status (Hovhannisyan et al. 2001). Budgetary health facilities were given the status of state health enterprises financed in accordance with the volume of services provided, and in 1998 became state-owned joint-stock companies, following the passage of the 1996 Law on joint-stock companies, designating the State or local government as the single owner of facilities. Thus, the Government of

Armenia entirely owns national facilities, marz governments own non-national health facilities and town or village governments own some polyclinics, rural ambulatory facilities, health posts and feldsher stations (PADCO ASTP 2002). The 2002 Law on state non-commercial organizations required public health care facilities to be reconstituted as state non-commercial organizations (PADCO ASTP 2002). While largely implemented with regard to facilities in the educational and cultural sector, the Law is yet to be implemented with respect to health care facilities. Overall, the relationship between state-owned health care facilities and their governmental owners remains poorly defined and so does the legal status of health care facilities (PADCO ASTP 2002).

Hospitals and polyclinics are now responsible for managing their financial resources, setting prices for services not included in the state-funded health care package, deciding on staffing mix and setting terms and conditions of service. They are also permitted, within in the limits of tax legislation, to retain any profits generated and invest surplus income as they see fit. They contract with central Government to provide services included in the basic package although they have no authority in deciding on the price or volume of services paid for by the statutory system. They also have the right to negotiate and sign contracts with insurance companies and/or enterprises wishing to purchase health care, although this has yet to happen in practice. Moreover, primary care facilities (polyclinics) were freed from hospital administrative supervision; however, this approach to devolution was somewhat inconsistent as illustrated by the subsequent merger of Yerevan-based polyclinics and hospitals into medical centres (see Section 6.4 "Secondary/inpatient care").

Privatization

Privatization of elements of the former state-run health system officially began in the mid-1990s. The initial focus of privatization was service delivery and financing. The privatization of service delivery was accomplished through the transfer or sale of government facilities to (for-profit or non-profit-making) individuals or groups and through changes to the legislative framework allowing entrepreneurs to establish private practice including in the health care sector. Existing legislation does not formally regulate the status, structure and services provision of private health facilities; the only requirement is the permission (licence) for operation issued by the Ministry of Health. In a poorly regulated environment, an unofficial private system has developed throughout the state-funded system, through institutionalized informal payments.

The Government's approach to the privatization of health care facilities was specified in a conceptual document entitled "Concept of the strategy of

privatization of health care facilities" (Ministry of Health 2000b) and adopted in 2000. In the document it was stressed that the Government does not aim to gain financially from privatization and a series of policy objectives were set out, including:

- to improve transparency of financial flows in the health care sector;
- to mobilize additional financial resources through private sector investments;
- to enhance the effective and efficient use of resources in the health care sector;
- to increase the quality and diversity of services and providers; and
- to expand choice for health care users and facilitate a competitive environment.

The document also identified several types of health care services and providers that are not open to privatization. These include the majority of urban and rural PHC facilities, the SHAE services, infectious disease hospitals, national blood services and the network of forensic medicine commissioner departments, among others.

Over 200 formerly state-owned health care institutions have now been privatized – mostly former state pharmacies and medical equipment services as well as dental polyclinics – and in these sectors the privatization of facilities is now almost complete. Thus, the first wave of the privatization process in 1996–1997 included 116 facilities, of which 88 were former state pharmacies and the remainder were dental polyclinics. More recently, other health care facilities were also included in the privatization plan, with at least six secondary and tertiary care facilities with almost 1300 hospital beds in total being privatized (in Yerevan in 2003).

As a result, the share of private inpatient hospital beds is now 9.2% of all hospital beds. This compares with just over 4% in the 10 Member States joining the EU on 1 May 2004 and over 22% in the 15 countries belonging to the EU prior to May 2004 (WHO Regional Office for Europe 2005b). Data are, however, difficult to compare because of differences in the definition of what is considered to be a "private" inpatient bed.

In forsaking its monopoly on the provision of health services, the Government has not yet developed its capacity to effectively ensure access to and quality of health care and to regulate the market though licensure and other means. Overall, decentralization and privatization steps were not accompanied by strengthened regulation and supervision arrangements. This has raised concerns about possible financial mismanagement and the fulfilment of social functions (World Bank 2004d).

Thus, from the patient perspective, privatization is linked with corruption, decreased access to services and questions of safety and quality. There is a view that privatization and optimization simply serve as a means for the Government to transfer the politically sensitive task of reducing excess staff and capacity from the State to the private sector. Anecdotal evidence suggests that purchasers of state-owned hospitals frequently use this as a means to secure property rights for later development of more profitable ventures. According to a governmental decree in 2000, state-owned facilities sold to the private sector have to maintain their original business purpose (e.g. hospital) for a period of five years, only after which can they be used for other purposes. In a few cases the purchase of state-owned facilities such as hospitals may have served the purpose of money laundering. In an attempt to halt such illegal activities the privatization act was frozen in 2003.

Current Armenian legislation on competition (the Law on protection of economic competition, 2000) builds on international guidelines and prohibits anti-competitive agreements and abuse of a dominant position, defines concentration and creates a notification obligation above a certain threshold. There is, however, a need for increased public–private cooperation if the country is to effectively eliminate fraudulent activity and political patronage in the sensitive social sector. The Government is increasingly engaged in combating corruption, adopting an anti-corruption strategy and implementation action plan in 2003 (Government of the Republic of Armenia 2003c) and acceding to the Council of Europe's Group of States against corruption (GRECO), with a Council to Fight Corruption (chaired by the Prime Minister) established in 2004 (Commission of the European Communities 2005), along with an Anti-Corruption Monitoring Commission to monitor progress and implementation of the strategy. This Commission has established a Health Working Group, comprising, amongst others, representatives of NGOs working in the field of health (Emerging Markets Group Ltd 2005). However, the impact has been minor so far as law enforcement has remained weak.

2.4   Population coverage, entitlements, benefits and patient rights

As confirmed in the "Strategy of health care system development in Armenia 2000–2003" (Ministry of Health 2000d), Armenia accepts the following basic health values:

• health and health care as a fundamental human right;

- equity in health and solidarity in action to achieve developed health standards;
- collaboration and accountability of different individuals and institutions for continuous health development.

According to these values, the country also acknowledges internationally recognized health policy goals, namely to promote and protect people's health throughout the lifespan and to reduce the incidence of main diseases and injuries and decrease the suffering they cause.

2.4.1   Entitlements and benefits

The Soviet Constitution mandated that all medical care be free of charge. The only exceptions were selected dental services, cosmetic surgery and outpatient drugs. The majority of the population was also charged for orthopaedics, rehabilitation and sanatoria services although certain vulnerable groups enjoyed privileges. With assignment to providers based on residence, social position became synonymous with access to better care.

Continuing the 70 years' experience of the Soviet Union, independent Armenia initially maintained formally guaranteed free access to medical care for the entire population. However, available evidence suggests that between 1991 and 1995 the state guarantees of universal, equal and free medical care were not met (Hovhannisyan et al. 2001). The population generally paid out of pocket for services or went without health care, and this informal practice continued until 1997 when paid services where formalized.

As noted above, the Armenian Constitution of 1995 guaranteed universal entitlement to health maintenance and mandated state financing programmes to provide for these services. This was further detailed in the 1996 health care Law (see Section 2.1 "Historical background") that, along with the subsequent Decree on health target programmes and State Order of 1997 of the Republic of Armenia, created the framework for the concept of a BBP. Its purpose was to reduce the State's commitments to the provision of health care in response to falling public resources for health. The BBP comprises a publicly funded package of services that specifies a list of services that are free of charge for the entire population and stipulates the population groups that are entitled to receive any type of health care service for free. The introduction of the first BBP began in 1997 following the governmental Decree on provision of services free of charge to the population (Government of the Republic of Armenia 1997a). It originally included nine types of ambulatory-polyclinic (outpatient) services as well as the treatment of so-called socially important diseases, acute medical

care (including over 200 diseases and diagnoses), emergency care, and sanitary and epidemiological services. The BBP aims to ensure that:

- socially vulnerable populations have access to medical services;
- the population has access to cost-effective health services;
- the population understands which services are free and for whom; and
- the state budget is sufficient to cover the commitments made by offering the BBP.

The services and population groups covered under the BBP are reviewed annually in response to budgetary and political constraints. As a consequence, the range of services included has changed from year to year; often ,however, with little objective rationale, thus creating confusion and uncertainty among both patients and service providers. For example, in 1997–1998, specialist ambulatory care was not covered and full charges applied (except for vulnerable groups), while in 1999–2000 it was completely free of charge. In 1997–1998, inpatient care of children under eight years was free of charge while in 1999–2000 all children under 15 were covered. This was, however, changed in 2001 when free inpatient care was restricted to children under the age of three years whereas in the following year (2002) the age limit was extended to children under seven years of age.

In order to address the uncertainties created by these annual changes, efforts were made in 2004 to standardize the BBP and its review process. The BBP currently covers a range of services including inpatient care (e.g. emergency care, intensive care, obstetric and gynaecological services, health services for certain vulnerable groups, dialysis, health care for selected conditions including TB and STIs); ambulatory-outpatient care (e.g. primary care, dispensary care, pre-/postnatal care, examination and treatment of individuals at (pre-)conscription age); sanitary and epidemiological services and other health services and programmes (e.g. certain expensive diagnostic tests) (see Section 10.2 for the complete list of services offered under the 2004 BBP) (Government of the Republic of Armenia 2004c).

As of 2004, socially vulnerable groups considered under the BBP include the following individuals.

- Beneficiaries of the poverty family benefits programme (38.00+ points).
- People with disabilities (according to three degrees of disability).
- Children under the age of seven.
- Children from families with four or more children under 18.
- Children without parental care.

- Children/adolescents under age 18:
  - with disabilities
  - with a disabled parent
  - from a single parent household
  - without family
  - under regular medical care.
- Military servicemen; war veterans and their families; families of military servicemen who died in service.
- People involved in the clean-up activities following the Chernobyl accident.
- People undergoing additional medical examination by the Socio-Medical Expertise Commission (upon referral by SMEC authority).
- People of conscription/pre-conscription age (inpatient and outpatient health care, and for the people of call-up age, hospital tests as well).
- Convicts and individuals in detention.
- People being cared for in orphanages and homes for the elderly.

All patients falling into a socially vulnerable group are eligible to receive a comprehensive package of free outpatient and inpatient services. All other residents in Armenia must pay out of pocket, in full, at the point of use, for all care and pharmaceuticals that are not listed in the BBP. In 2004, the Government introduced co-payments for those populations not considered socially vulnerable, in the form of a one-off flat-rate fee for specifically defined medical care and services that are included in the BBP. However, this is restricted to Yerevan hospitals only and there are several exceptions for both; certain conditions (i.e. diseases and diagnoses that require hospital care and services as adopted by order of the Ministry of Health) and certain population groups, namely pensioners, vulnerable and special population groups as well as patients referred by the Ministry of Health, by the Ministry of Labour and Social Affairs or by the marz governors. Experience with co-payments is expected to provide the evidence for developing further policies for effectively expanding the resource envelope for the publicly financed BBP, strengthening prepayment mechanisms and contributing to decreasing informal cash flows (see Chapter 3 Financing).

In addition, as per governmental decree (Government of the Republic of Armenia 1999), drugs prescribed in outpatient care are to be provided free of charge for the treatment of specific conditions including malaria, TB, mental illness, cancer, diabetes, epilepsy, myocardial infarction and others. Also, selected population groups considered socially vulnerable are entitled to free

medicines, including the disabled (first and second degree), disabled children under the age of 16, war veterans, orphans and children from families with four or more children under the age of 18, children under the age of three and others. Other selected groups are required to make co-payments but are granted reduced rates, for example 50% for people with third degree disability and people involved in the clean-up activities following the Chernobyl accident.

Overall, governmental policies on service coverage for the population have tended towards expanding the benefits package; yet, this expansion has largely involved scattered attempts to mend obvious gaps or inconsistencies and/or to respond to lobbying forces. However, in 2004–2005, policies appear to be more consistently directed towards defining broader eligibility criteria for free outpatient specialist services (largely part of the urban polyclinics' service delivery), for example granting patients over 65 years of age and children full coverage.

In effect, however, the general population is only guaranteed free primary care and sanitary and epidemiological services, plus a limited range of rehabilitation and intensive care services. It has to be noted though that from 1 January 2006, the Government has expanded the range of health services provided to the population free of charge by abolishing all fees levied for disease prevention and prophylactic activities in all public polyclinics (Atshemian 2005) (see also Chapter 7 "Health care reforms").

Vulnerable groups who are able to access services free of charge or at reduced prices are estimated to number around 500 000 people. Still, even with a programme such as the BBP that covers services within the constraints of government funding, experience has shown that "free services" are rarely free for patients and that access to or confidence in the system is not assured. Recent evidence suggests that the Government has not been very successful in communicating its programmes to the population in a way that would allow potential beneficiaries to take full advantage of the BBP and related policies. Thus, a survey undertaken in October 2004 among beneficiaries of the programmes mentioned above (Government of the Republic of Armenia 2004c; Government of the Republic of Armenia 1999), involving 1100 families from across Armenia of whom at least one family member was a beneficiary, showed that only 39% of all families were aware of the current regulations (Abelyan 2005) (see Figure 2.4). The survey also found that in general those who were informed made use of their entitlements more frequently – up to 4.5 times (Aristakesyan 2005) – than those who were not.

The study further revealed that of the beneficiaries who were not aware of their privileges but required health care, 43.5% did not seek medical assistance based on the assumption that they would be required to pay for the services.

Fig. 2.4   Health service utilization of beneficiaries of Order No. 396 (1999) and Order No. 318-N (2004) (in percentages)
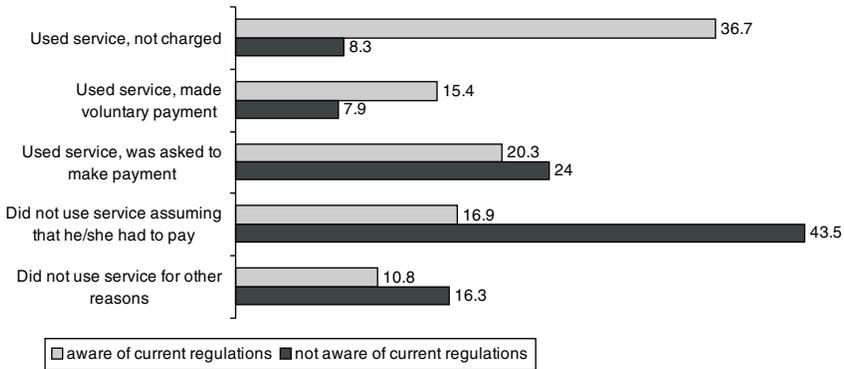
Source: Abelyan 2005.

These findings indicate that owing to the lack of awareness of basic entitlements, access to health care is unlikely to be increased among socially vulnerable groups.

Importantly, the study also showed that during the six months preceding the survey, only 33.4% of beneficiaries in need of health care, whether aware of their privileges or not, were in fact not charged for the services they used. This proportion ranged between a mere 20% in Yerevan and a high of 57% in Gegharkunik marz (Abelyan 2005). However, this was in many cases confined to children under the age of seven (see Table 2.1).

Poor utilization of health services by the Armenian population in general and among vulnerable groups in particular remains a serious concern (see Box 2.1). Available evidence suggests that utilization of health services in Armenia is rather low in international comparison and has fallen, particularly between the mid- and late 1990s. While this drop in utilization occurred among all population groups, it particularly affected those on low incomes, with utilization rates falling by approximately double the rates for the three poorest income groups between 1996 and 1998 (World Bank 2004d). More recent data suggest that in 1998/1999, approximately 25% of the population in the lowest income group reporting to be in need of medical assistance because of illness would seek health care compared to almost 50% in the highest income group (World Bank 2004d). By 2001, these proportions had fallen to 22% and 33%, respectively. As the decline was steeper among the wealthier section of the population, these data may be interpreted as signifying an improvement for the poorer people

Table 2.1 **Health service utilization among beneficiaries of Order No. 396 (1999) and Order No. 318-N (2004) by age (>7 years or <7 years) and type of service (percentages)**

Age (in years)	Polyclinic or ambulatory		Emergency medical care		Hospital care		Obstetric-gynae-cological		Special diagnostic test		Purchase of drugs	
	7 +	< 7	7 +	< 7	7 +	< 7	7 +	< 7	7 +	< 7	7 +	< 7
Not charged, no/reduced payment for drugs	42.0	59.8	38.0	47.5	23.5	23.7	8.3	–	5.5	1.4	32.1	38.3
Made voluntary payment	14.6	18.2	17.5	30.3	9.7	20.5	22.0	–	2.7	1.4	16.1	20.8
Was asked to make payment	17.8	14.8	14.4	7.1	28.0	26.9	32.6	–	12.3	10.0	15.2	13.6
Did not use service based on assumption of having to make a payment	16.2	4.5	19.3	6.1	26.0	20.5	28.4	–	48.6	50.0	5.8	7.6
Did not use service, other reason	9.5	2.8	10.7	9.1	12.9	8.3	8.7	–	30.8	37.1	30.8	19.7

Source: Abelyan 2005.

Box 2.1 **Public awareness of state-funded programmes**

Recognizing the low levels of public awareness of state-funded targeted health care programmes, the Ministry of Health has become increasingly active since 2004 to raise awareness of potential beneficiaries about their entitlements. This included the dissemination of material such as posters, etc., providing information on the types of health services that are funded by the State and provided free of charge, along with a list of eligible beneficiaries, among health care facilities across the country, to be placed visibly in the entrance of each facility. Also, health care facilities and stakeholder NGOs were provided with the "eligibility criteria for provision of the state-supported free-of-charge medical care and services" that comprise the orders by the Ministry of Health on approving the eligibility criteria. A hotline was established within the Ministry of Health as a means for beneficiaries to express their concerns and file complaints. In addition, the Ministry of Health disseminated booklets outlining its functions as well as providing information on medical and drug support services that are free of charge.

through the inclusion of family poverty benefit recipients in the population who receive subsidized health care services. However, inequalities in health service utilization remain strong, with recent data estimating that in 2001 the poorest 20% of the population consumed 16% of PHC resources and 13% of hospital care resources compared to respectively 28% and 43% consumed by the wealthiest 20% (World Bank 2004d).

A recent survey of representative samples of the population in eight former Soviet republics undertaken in 2001 also revealed low utilization rates among the Armenian population. Only 30% of Armenians reported to have consulted a doctor during the preceding 12 months compared to, for example, almost 70% in Belarus and the Russian Federation (Balabanova, McKee, Pomerleau et al 2004). Importantly, even when it was perceived necessary to seek medical care because of illness, approximately 42% of Armenians included in the study reported not having done so. The main reason given for not seeking care was unaffordability, with 78% reporting that they would not be able to pay for treatment owing to a lack of financial resources. For the same reason, almost 40% reported that they continuously had to manage without medical services in the previous 12 months and approximately one third had to go without drugs. This survey also showed that of those who did consult a health care professional 56% had made an informal payment or a gift during the most recent consultation (compared with, for example, less than 20% in the Russian Federation).

These findings are further supported by data from the 2003 National Human Development Survey (NHDS) in Armenia, which included a representative sample of urban and rural communities across all marzer. It found that approximately one third of household members included in the survey were taken ill and needed medical attention; however, 43% did not seek medical care (Aristakesyan 2005). The main reason (97%) for not seeking medical care in case of illness was lack of access to services because of the inability to pay, difficulties in reaching a doctor or health care facility or lack of time to see a health care professional. Of these, inability to pay for services was the most important reason (approximately 90%), regardless of gender, place of residence and level of poverty in the given region. By contrast, lack of access owing to the remoteness of the health care facility accounted for only 1.2%. The survey further showed that approximately 35% of households perceived themselves as almost or entirely unable to meet the health care needs of their household members, with this proportion much higher in some regions, up to 50% of all households in Lori and Ararat marzer (Aristakesyan 2005). Not surprisingly perhaps, the NHDS identified access to health care as a priority need of households in Armenia. Thus, to the question on where they would spend any additional (unexpected) funds, over 70% of respondents mentioned

health care as the highest priority, particularly the poor and other vulnerable groups including the disabled and elderly people, followed by "better nutrition" and "better dwelling" (Manukyan & Jrbashyan 2005).

2.5   Patient rights and empowerment

In its most basic and fundamental sense, the care of patients involves a commitment to and advocacy for the patients' right to health. Health rights and human rights are inextricably linked, through:

- discrimination (e.g. ethnic, racial, gender, political opinion, immigration status)
- health policies that violate human rights
- torture (e.g. falsification of records or failure to report evidence of torture)
- denial of dignity
- unethical research practices
- lack of professional education
- exposure to hazardous environment (especially for vulnerable groups).

While these principles are generally reflected in the legislative framework and regulations, unlike some other countries of the former Soviet Union such as the Russian Federation (1993) and Georgia (2000), the Republic of Armenia has so far not introduced any legislation or a specific charter addressing the rights of patients. However, as noted earlier, the Constitution provided for the basic right to the "preservation of health" (Article 34). Also, the 1996 health care Law touches on similar points, as do the constitutional amendments of 2005. Overall, existing legislation and regulation at least formally protects patients' rights and freedom to:

- receive appropriate care;
- be respected and supported while receiving treatment or service;
- be involved in all aspects of their care;
- be informed personally and when appropriate through their families about the outcomes of care (including reasonably possible but unlikely outcomes) and resolving dilemmas about care decisions;
- expect appropriate assessment and management of pain;
- expect compensation for damages and/or injury incurred while using or caused by health services or injures sustained due to a defect in a product (product liability).

Yet, as shown above, in reality these rights are only partly met and there is a concern that certain segments of the population are particularly vulnerable. Thus, lack of awareness of entitlements to public services in health care makes patients more vulnerable to, amongst others, informal payments, denial of basic rights to free services, provision of state-funded services to non-beneficiaries. However, several measures have now been introduced to address this problem, involving the 2003 anti-corruption strategy and a timetable for the implementation of related activities. An example is the Government/UNDP strategy to combat corruption in the health and education sector through participatory monitoring, jointly approved in June 2005 and implemented in the framework of the UNDP-supported programme to strengthen civil society in Armenia (Government of the Republic of Armenia & UNDP 2005). This strategy foresees the organization of visits of representatives of NGOs and the mass media to health care organizations in Armenia as a means to identify major obstacles to the management of corruption risks and to the effective implementation of health care policies including accessibility, volume and quality of services provided to the population.

The UNDP-supported programme also involved the development of a set of assessment tools that enable the detection of corrupt practices in the health sector, with related training seminars for members of the public who are selected on a competitive basis, and which have been organized in four marzer. It is envisaged that as of October 2005 these groups will start visiting health care organizations according to the elaborated timetable. Their findings will be analyzed by a strategic team, with recommendations for improvements to health policies aimed at increasing access to services and reducing corrupt practices to be presented to the Government of the Republic of Armenia.

While this move indicates an important departure from the traditionally "passive" role of the general public in health care policy and decision-making, it is important to recognize that these new measures will not be sufficient to enhance transparency in the health care sector. It will also require the State, using its own recourses, to provide ongoing information through, for example, mass media such as national television as well as developing further its approaches to increasing public awareness of entitlements and obligations.

Overall, and in view of the above, it is perhaps not surprising that satisfaction levels with the health care system are rather low. According to data from the Living Conditions, Lifestyles and Health (LLH) Survey, undertaken in 2001 in eight countries that were part of the former Soviet Union, approximately two thirds of the respondents reported being rather or definitely dissatisfied with the health system in Armenia, with particularly high levels of dissatisfaction among those aged 50 years and older, at 70% (Balabanova 2005).

3   Financing

Since 1995, following a sharp decline between 1992 and 1994, the consolidated health budget of Armenia, which includes the state (national) budget, local (community) budgets and the social insurance fund (pension fund) budget has had modest positive growth rates. Taxes and mandatory social insurance contributions have considerably increased over the 10-year period since 1992. Between 1995 and 2000, the share of tax revenue and state duty rose from 11% to 15% of GDP. Despite this progress, the level of taxation, currently at 14% of GDP, is still relatively low compared to other transition economies, for example the Russian Federation, at 31% (2001), or Estonia, at 38% (2001) (World Bank 2004a). See Fig. 3.1 for an overview of the financial flows in the Armenian health care system.

Value-added tax (VAT) and other indirect taxes are the main sources of revenue. Revenue from these sources increased from 27% of budgetary revenue in 1994 to approximately 70% in 2003 while total direct tax revenue fell to 30% in 2003 from approximately 74% in 1994. This is because of reductions in direct taxes such as corporate income tax, personal income tax and mandatory social insurance contributions, whereas the income from indirect taxes rose. Other measures included increasing the personal income tax-exemption threshold, creating an attractive investment environment and promoting employment through reduced corporate income taxes, social insurance payments and personal income taxes. Still, the Government continues to encounter difficulties in meeting its budgetary obligations to the health sector.

Fig. 3.1   Financial flowchart
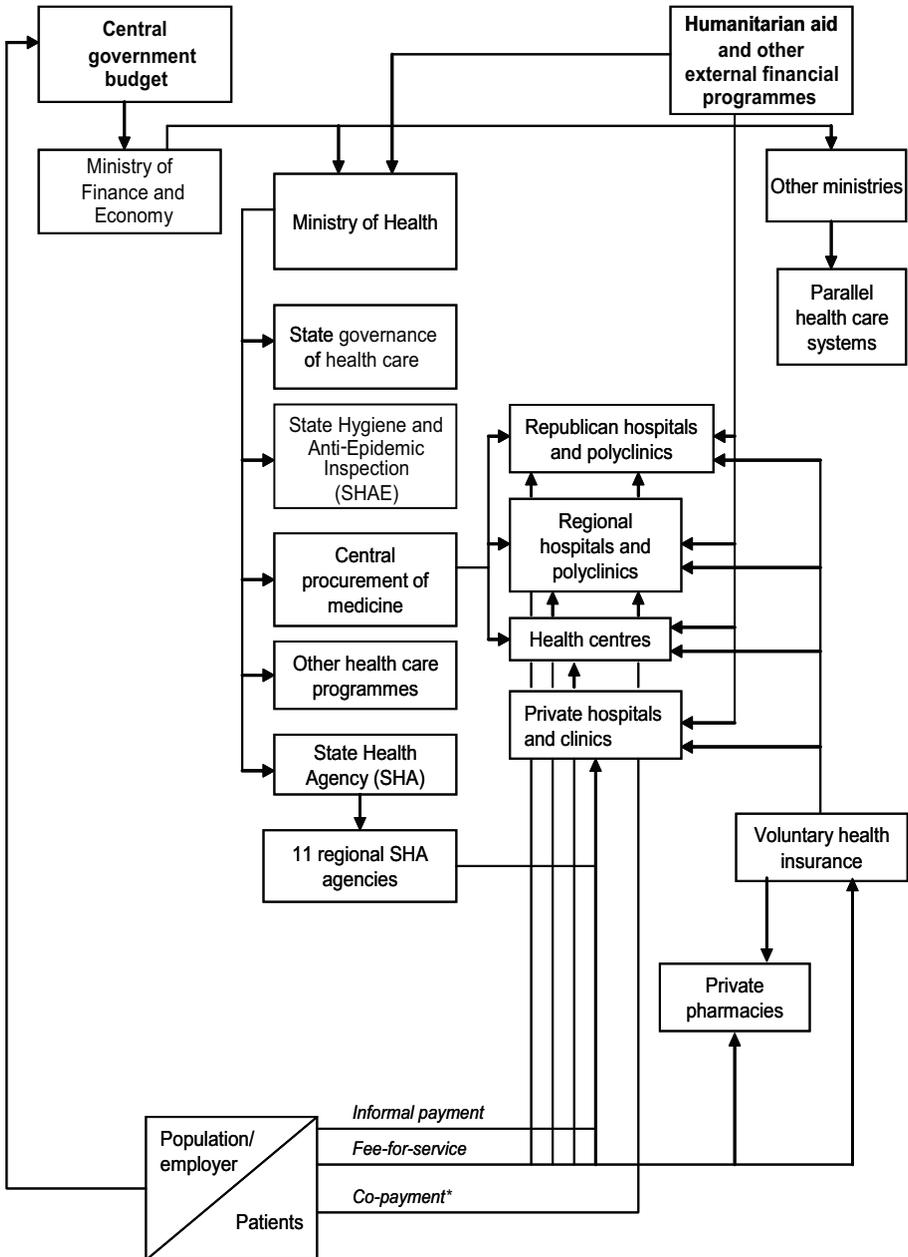
* As of September 2003, Yerevan hospitals only.

3.1   Revenue mobilization

Historically, the state budget was the primary funding source. Currently, the health system is financed both from domestic and from international sources. The main domestic sources are the state budget and direct out-of-pocket payments by the population. International financing sources are general humanitarian donations and project-specific support. While the emphasis of current reforms is on improved state budget financing and more efficient use of those resources, the majority of financing is still derived from out-of-pocket payments, both formal and informal (see Fig. 3.2 and also Section 3.4 "Health care expenditure").

Fig. 3.2   Health care financing by funding source, 2003
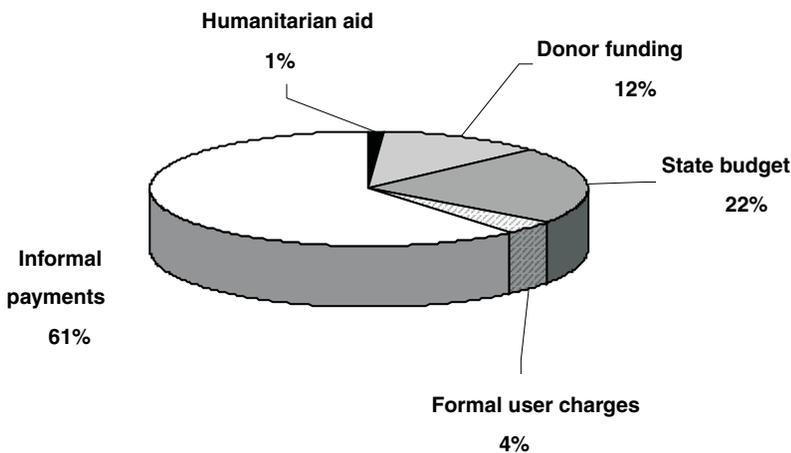
Source: Aristakesyan, Margaryants & Makarova 2005.

3.1.1   Main sources of finance

The state budget remains the main formal source of financing. As noted above, state funds are derived from general tax revenue, including customs fees, VAT, excise tax, income tax, property tax and ecological fees. There is no tax that is specifically earmarked for the health care sector.

State health expenditure is not sufficient to support the core system and to meet the health needs of the population. Current state financing is estimated to be at just over one fifth of total health expenditure in the country (Table 3.1).

In 2000, actual public health care expenditure amounted to only 4.2% of the state budget, approximately 1.0% of GDP. However, this share has risen since, to 5.4% of the state budget in 2004 (1.3% of GDP) (see Table 3.2). This latter increase has been attributed to the strengthening of sustainable budgetary policy introduced by the Government as well as a wider public acceptance of poverty reduction and related programmes that are directed towards improving health as a national priority. The 2005 health budget is projected to reach 8.3% of the total state budget, subsequently to rise to 10% by the year 2008, and to 12% by 2015 (Government of the Republic of Armenia 2003d). This trend indicates that health has become a higher priority in the allocation of funds across the various sectors of the state budget. However, state allocations are still too low to meet the costs of the BBP (see Section 2.3 "Population coverage, entitlements, benefits and patient rights").

3.1.2   Out-of-pocket payments

As indicated above, out-of-pocket payments now constitute a major source of revenue for the health care system in Armenia, at an estimated 65% of all health care expenditure (Aristakesyan 2002b). These payments can be divided

Table 3.1   State financing of the health system, 1990–2004 (selected years)

Indicators	1990	1995	1999	2000	2001	2002	2003	2004
GDP (billion drams)	10.1[a]	522.3	987.4	1 031.3	1 175.9	1 362.5	1 624.6	1 896.4
State budgetary expenditure for health (billion drams)								
Planned	0.30[a]	12.6	18.0	19.9	18.6	16.2	21.0	24.8
Actual	0.29[a]	9.6	13.6	9.8	15.7	15.9	19.6	24.7
State budgetary expenditure for health (million US$)								
Planned	–	31.0	33.6	36.9	33.5	28.3	36.3	46.5
Actual	–	23.8	25.4	18.2	28.4	27.8	34.6	46.3
(exchange rate of US$)	–	(405.9)	(535.1)	(539.5)	(555.1)	(573.4)	(578.8)	(533.5)
State budgetary expenditure for health as % of GDP								
Planned	3.0	2.4	1.8	1.9	1.6	1.2	1.2	1.3
Actual	2.9	1.8	1.4	1.0	1.3	1.2	1.2	1.3
State budgetary expenditure for health as % of state budget								
Planned	8.4	10.0	7.0	6.5	7.5	6.2	5.9	5.4
Actual	8.1	7.7	5.4	4.2	6.1	5.7	5.9	5.4

Source: Data provided by National Statistical Service; Ministry of Finance and Economy of the Republic of Armenia.

Note: [a] In roubles.

Table 3.2   Sources of finance of general health expenditure, 1997–2003 (selected years)

	1997	1998	1999	2000	2001	2002	2003
Total health care expenditure (US$ million)	**97**	**113**	**109**	**126**	**133**	**135**	**164**
State budget	19	27	25	18	28	28	36
NGOs and non-profit-making organizations	10	12	13	15	16	19	21
Direct (formal) payments	2	3	3	4	6	7	7
Informal payments	65	71	67	89	81	81	100
Total health care expenditure (%)							
State budget	20.0	24.0	23.3	14.5	21.4	20.6	21.7
NGOs and non-profit-making organizations	10.7	10.7	12.1	11.9	12.4	14.3	12.8
Direct (formal) payments	2.3	2.8	3.1	3.1	4.9	5.2	4.4
Informal payments	67.0	62.5	61.5	70.4	61.3	60.0	61.1

Source: Adapted from Aristakesyan & Van den Maele 2005.

Note: Figures might not always equal 100% as a result of rounding.

into three categories: official (formal) co-payments charged for services that are only partly covered by the state budget; official (formal) direct user charges for the provision of services outside the state benefits package, and unofficial or informal payments, including gratuities provided on a voluntary basis or demanded by providers for services, over and above the official state payments and user fees.

Co-payment mechanisms are widely used in many countries as a means of balancing access and appropriate utilization and they may constitute a considerable proportion of health care expenditure. The situation is different in Armenia. Following an unsuccessful pilot of introducing co-payments for child delivery as of September 2001 (but lasting for one quarter of a year only), in October 2003 co-payments were introduced for specified inpatient services provided in Yerevan's hospitals (Government of the Republic of Armenia 2003b). Co-payments are only charged to residents who are not considered socially vulnerable and are a fixed flat rate of AMD 10 000 (US$ 18) for admission to the hospital and according to a list of diagnoses as approved by the Ministry of Health.

Official user charges were introduced in 1997, alongside the introduction of the state BBP for services not covered under the BBP (Government of the Republic of Armenia 1997a). The actual level of user charges outside the state BBP is not regulated. Health facilities usually adopt their own list of prices or fees, which are generally comparable to those charged within the state BBP or are sometimes even lower. This is because health facilities aim to ensure that the services they provide are affordable to their users even though the fees may not be sufficient to recover actual costs. On the other hand, this practice can be interpreted as an attempt to decrease the taxation burden, and also to charge informally.

The SHA is partly involved in this process by means of verifying the eligibility of patients and services claimed under the BBP. Until April 2001, the SHA collected data on out-of-pocket payments but did so without analysing them any further because of a lack of capacity, time and incentives. It is estimated that in 1999 user charges accounted for less than 15% of the officially reported total health care expenditure; however, with increasing privatization within the health care sector this proportion has risen over time and in 2003 was estimated to account for 20% of total health care expenditure, comprising, mainly, pharmaceuticals and medical supplies and consumables (Government of the Republic of Armenia 2003e). Overall, there is little monitoring of the actual volume of user charges outside the BBP; while corresponding data have to be reported to marz governments and the Ministry of Health, there appears to be no direct link to decision-making. This lack of monitoring is likely to undermine the appropriateness of services rendered to those segments of the population not eligible for the BBP.

During the Soviet period, informal gratuity payments became standard practice in secondary and tertiary care settings. This practice reflected both the gratitude of patients receiving care and an acknowledgment of the low salaries within the health sector; however, informal payments were not perceived as a significant source of health financing. With the economic collapse following independence, informal payments effectively became the sole financing source for the system. The introduction of official user charges in 1997, noted above, aimed to legitimize this revenue stream but with little success thus far. Insufficient reimbursement levels for services both within and outside the state-funded BBP that are provided in health care facilities, along with the lack of correspondence between service production and the remuneration of staff, reinforce this practice.

Informal payments have now developed into an almost formalized system of fees, including barter goods and services in rural areas, for health care providers, auxiliary personnel and administrators. It is estimated that of the previously mentioned 65% of health care expenditure that is attributed to out-

of-pocket payments, approximately 93% is constituted by informal payments (Aristakesyan 2002b). Recent evidence indicates that the importance of informal payments as a share of total private expenditure for health prevails. Thus, a survey implemented in 2001–2002 by the Armenian National Statistical Service found that household expenditures amounted to 4.5 times the officially recorded payments for health care and 5.65 times the officially recorded volume of pharmaceutical sales (National Statistical Service of the Republic of Armenia 2003). Data from one other household survey undertaken by the Armenia Social Transition Program (ASTP) suggest that in 2001 median household expenditure on any illness amounted to AMD 7000, with approximately 30% spending AMD 10 000 and more, i.e. at least half the average wage in that year (PADCO ASTP 2002). Findings from a recent qualitative study undertaken in 2004 provide estimates of AMD 20 000 (US$ 35) being charged for a hospital admission, up to US$ 200 for a caesarian section (Poletti & Balabanova 2005) – approximately 2.5 times the average monthly salary.

It is difficult to provide accurate estimates of the size of the informal payments patients are being charged when consulting a health professional, partly because few estimates distinguish between the formal tariff payments for services and the additional informal payment (PADCO ASTP 2002). Also, the amount will vary depending on the type of service, health professional, patient and location (urban/rural). Limited evidence suggests that the highest informal payments are being requested for obstetrics/gynaecological services, followed by surgery and any procedure or service related to death or dying (Emerging Markets Group Ltd 2005). There is anecdotal evidence of incidents in which women have not been allowed to leave hospital after the delivery of a newborn until additional payments had been made (PADCO ASTP 2002). While perhaps not representative, these and other examples give a very vivid impression of the extent of the problem.

3.1.3   Voluntary health insurance

The 2004 Law on insurance in Armenia allows for the introduction and development of VHI. At present, such schemes are generally limited to the staff of international organizations and a few private organizations and the market is very small with only approximately 20% of the 20 registered insurance companies engaging in VHI (see Section 2.2 "Organizational overview"). This emerging industry faces numerous challenges. For example, the population has only limited knowledge and understanding of insurance schemes in general, and health insurance schemes in particular, thus difficulties are experienced in effectively assessing the advantages and disadvantages of such schemes. Also, there is little confidence that the quality and safety of care under insurance

conditions would be any better than in the traditional system; the extent of informal payments for quality services gives voluntary insurance schemes little added value. At the same time, current taxation policies, especially in relation to income tax, present little incentive for employers to offer relevant schemes to their employees since it will reduce further the size of salaries. Finally, given the current socioeconomic situation in Armenia, further expansion of VHI will be limited largely because of the high costs of commercial insurance premiums, which are unaffordable for the majority of the population.

Nevertheless, work is now under way within the scope of the recently approved credit by the World Bank, supporting poverty reduction policies in Armenia to explore the possibility of expanding the VHI sector further, including strengthening the regulatory framework for VHI in Armenia (World Bank 2004c).

3.1.4   Other sources of finance

Official external health financing sources include humanitarian aid (donations of medical supplies and equipment) as well as credit and grant programmes with or in coordination with the Ministry of Health. Following the devastating 1988 Spitak earthquake Armenia received considerable international humanitarian assistance, which continued through the early phase of independence. The volume of humanitarian aid has, however, declined as benefactors have shifted their focus towards development efforts or have left Armenia.

Precise data on external health financing sources are largely unavailable. According to some sources, between 1990 and 1995 humanitarian aid accounted for 15% of estimated health care expenditure (Hovhannisyan et al. 2001). Since then, humanitarian aid has been falling and for the period 1997–2003 the level of humanitarian aid channelled through the Ministry of Health has been estimated at only 1.2–2.3%. This figure reflects the proportion of humanitarian aid spent on health care based on state funding plus other official sources as a denominator. It does not consider revenues from paid services and out-of-pocket payments.

Early donations of humanitarian aid were poorly regulated and coordinated. In response, the Ministry of Health began regulating humanitarian donations in 1997–1998 so as to ensure that donations are consistent with the needs of the health system. The Diaspora remains a significant contributor of humanitarian aid, often informal in nature. Informal aid is provided directly to health facilities, providers, and those in need without the direct involvement or knowledge of the Ministry of Health. The Ministry of Health has been trying to track these donations, but it is often only the larger donations that are recorded. In 2002, the

Armenian Medical International Committee (AMIC) supported the development of a Diaspora donor and recipient database to assist the Ministry in tracking these projects and to inform donors and potential donors of ongoing projects and unmet needs (AMIC [no date]).

Grants and credit projects, financed by foreign governments and international and multilateral organizations such as the United Nations, the EU and the World Bank are now the dominant form of external support. Among the larger programmes is the World Bank-supported "Health financing and PHC development project" (1998–2003), followed by the "Armenia health system modernization project" (2004–2009). These programmes aim at supporting the development of PHC and improvements to the health financing infrastructure (see Chapter 6 "Provision of services" and Chapter 7 "Health care reforms"). The United States Government supports the ASTP, which complements the World Bank programme and includes supporting the development of capacity in PHC, a health information system and improving access to services for the vulnerable population. The Government of Japan is supporting the renovation and equipping of several secondary and tertiary health facilities. The German Government is supporting the strengthening and improvement of the hospital infrastructure through equipment and training funds and a TB control programme as part of a regional initiative for the Caucasus.

United Nations agencies (UNICEF, UNDP, UNFPA and others) support programmes on immunization, maternal and child health, including Integrated Management Childhood Illness (IMCI), reproductive health, adolescent health, iodine deficiency, and HIV/AIDS prevention emphasizing mother to child transmission. The Ministry of Health signs biannual cooperative agreements (2004/2005 at the time of writing) with WHO to provide technical assistance to the Ministry of Health on mutually agreed priority areas. The programme is implemented via the WHO Liaison Office in coordination with the Ministry of Health. In 2003, the Global Fund approved a five-year grant to support a national programme on HIV/AIDS prevention in Armenia, to be implemented by "World Vision Armenia" as the principal recipient of the grant (World Vision Armenia 2005).

To gather more detailed information on the volume of external assistance, a recent pilot survey of off-budget health spending, funded by international benefactors, NGOs and Diaspora organizations, involved interviews with representatives of 37 major providers and recipients of aid (mainly hospitals) and was undertaken in 2002. It found that incoming assistance amounted to approximately 50% of the regular government health budget, or approximately 35% when technical assistance is excluded. It is important to note that this assessment is only approximate since the costs of medical items procured by benefactors are often higher than local market prices; also, current capacity

does not allow for accurately measuring direct and indirect costs. There is disagreement between the Government and benefactors about whether to consolidate the donations as budget resources or to include them as external revenues and expenditures. This is because benefactors consider their funds or donations as targeted and restricted supplements to the State.

3.1.5   Financing reforms

Successive health financing reforms from 1992 to 1997 introduced both organizational and legal changes that would facilitate formal private practice opportunities and free providers to operate under a market system, create a multi-source financing system, and develop mechanisms to allocate and procure resources and to reimburse providers for services (Mkrtchyan 2001). Assessment of these reforms indicated, however, that a more comprehensive, complex and long-term reformatting strategy was required. The 1996 health care Law thus specified that financing sources for health care services may include the state budget, insurance contributions, direct payments and other sources not prohibited by law.

To implement this Law, the strategic project document on "The development of health and medico-sanitary care financing" (Mkrtchyan 2001) was adopted on 28 November 1996 and became effective in 1998. This document formed the basis for the next stage of reforms, initiated by the 1997 government decree which, as noted above, created the framework for the BBP, which focused state funding to support vulnerable groups, including the poor, and to prioritize treatment of socially important diseases (see Section 2.3 "Population coverage, entitlements, benefits and patient rights"). It also introduced formal user charges for health care services, transferred responsibility for financial management of health care facilities to health service providers and created incentives for efficient use of scarce budgetary funds.

However, the new system faced numerous challenges such as those related to frequent changes in the range of groups and services covered under the BBP, mentioned earlier, and the Government's inability to adequately cover providers' reimbursement to reflect actual costs (see Section 3.2 "Third party budget-setting and resource allocation"). Recognizing these problems, the Government sought to further elaborate state funding priorities and mechanisms through the 2002 Decree on acceptance of the programme on further development of the BBP under the state health target programmes of the Republic of Armenia (Government of the Republic of Armenia 2002c). The impact of these policy changes remains uncertain, however, since health care is still not "free", even for those covered under the BBP.

At the same time, so as to balance competing interests in the regulation of the health care system, efforts were made to separate the purchasing function from the financing function and to separate both from the policy function. It was anticipated that this move would increase efficiency in the use of public funds, to clarify contractor–client relationships, to explicate state responsibilities for the provision of health care services through defining a BBP and to develop further control mechanisms including monitoring and evaluation (M&E). To this end, the SHA was established in 1998 (see Chapter 2 "Organizational structure") and its main responsibility is to allocate financial resources to health care providers in accordance with contractual obligations for the delivery of state-funded health care services (see also Section 3.2 "Third-party budget setting and resource allocation").

Current efforts in health financing reform are targeted at strengthening the financial risk protection function of the State; providing for an enhanced role of PHC and family medicine in particular; developing effective payment mechanisms for health care services and incentives for providers; improving approaches to resource utilization and financial management; identifying and introducing alternative sources of funding; and developing and introducing standards of care, among others. The main objective of health financing is to mobilize, pool and allocate resources and to purchase services so as to reverse the recent decline in the health status of the population and to enhance access to care in order to meet the constitutional right of the population to the protection of health.

As the economy improves, employment-based mandatory and VHI systems seem to become more viable. The Ministry of Health views mandatory health insurance as the main way of financing core services, with VHI as a means to compensate for services not covered under the BBP. In 2000, the Government adopted the "Concept of introduction of medical insurance in the Republic of Armenia" (Government of the Republic of Armenia 2000a). The Ministry of Health followed by drafting a Law on mandatory health insurance in 2002; however, this has so far not been adopted, owing to opposition by those advocating a voluntary insurance system. Overall, there appears to be a general lack of understanding among policy-makers of the importance of strengthening the State's financial protection mechanisms and using existing opportunities to do so in the absence of a mandatory health insurance scheme. The recent rise in the annual state budget for health offers a unique opportunity to explore different approaches to allocating and managing more resources, so as to ensure that state benefits reach the eligible population, thereby providing better protection for those vulnerable groups from the financial risk of illness.

3.2   Third-party budget setting and resource allocation

The process of health budget setting in Armenia follows a typical annual cycle. The budget for the following fiscal year is usually drafted by July, reviewed by and agreed with the Ministry of Finance and Economy and then submitted to the Parliament for adoption. The development of the 2004 health budget saw some innovative steps as it was based on a newly introduced 2004–2006 medium-term expenditure framework (MTEF), which has been designed within the key strategic government priorities as set out in the 2003 PRSP (Government of the Republic of Armenia 2003e). It is envisaged that the Government and the Ministry of Finance and Economy will continue using the MTEF as a practical approach to formulating and implementing the macroeconomic and fiscal policy and planning. The MTEF approach has been evidently useful for the Ministry of Health financing forecasting and allocations planning.

Since 1999, the state health budget has been planned and executed through target programmes. The number of programmes included can vary from year to year depending on health priorities and programme composition. The 2004 health budget comprises five major categories, each specified further by defined subcomponents, including around 30 at the time of writing. The five categories comprise primary and ambulatory-polyclinic care (38.1% of the 2004 budget allocations); hospital care (48.5%); hygiene and anti-epidemic services (4%); other health care services and programmes (5%); and public administration in the health sector (1.8%) (Government of the Republic of Armenia 2003e).

Budget allocations are mainly based on historic figures. Some adjustments can be made to account for policy priorities and spending targets (e.g. increased allocations to primary care), to reflect budget composition changes (e.g. outpatient drugs as a separate subprogramme or part of the delivery of outpatient services) and occasionally to adjust historic cost estimates or expenditure to account for inflation and volume base change (e.g. population size). Territorial allocations of health budgets are planned in a similar manner. In practice, the main principle remains the one inherited from Soviet times where rising expenditure (i.e. budget executed) will be followed by higher budget allocations. However, work is now under way to reform health financing, addressing the redistribution practice as a means of increasing efficiency and equity in resource allocation.

The SHA, established in 1998, performs the role of a third-party payer that pools and allocates public funds (see Subsection "The State Health Agency as a purchasing organization" and Chapter 2 "Organizational structure"). The introduction of a separate purchasing organization allowed for some equalization

and defragmentation of financial allocations from the state budget and the implementation of a purchaser–provider contracting system. The SHA acts a single purchaser of health care: it allocates more than 80% of the public health care resources. The remainder is allocated by the Ministry of Health, and is largely directed towards the centralized procurement of drugs and medical equipment. In theory, this single public allocation system provides opportunities for better financial planning and coordinated allocation of funds.

Local governments are by law permitted to allocate funds to relevant health programmes; however, they are not mandated to provide such allocations and their willingness to do so largely depends on community leadership and the availability of funds from the collection of local revenues. There is so far little evidence of any local health programme funding across the regions in Armenia.

The State Health Agency as a purchasing organization

As noted earlier, the SHA was established in 1998 as a semi-autonomous institution under the Prime Minister's office and outside the Ministry of Health. Its main functions include:

- contracting with health care providers for the delivery of publicly financed health services, according to the law;
- activity and financial reporting on signed contracts;
- allocating funds to health care providers;
- supervision of the quality and quantity of publicly financed health services according to established standards; and
- participating in the development and introduction of standards, norms, modern approaches to organization, management and financing of health services.

The above-mentioned incorporation of the SHA into the Ministry of Health in 2002 received mixed responses. On the one hand, the initial set-up was perceived as lacking a credible accountability framework since the agency had not been subject to any external governance (World Bank 2004b). Thus, the two-layer control approach with both the Prime Minister and the Minister of Health overseeing the SHA could potentially better ensure compliance with laws and public fund allocations to health care providers. On the other hand, the SHA does not have the authority and means to evolve into an effective purchaser organization. Specifically, it does not have the power to perform selective purchasing but has to contract with every licensed health facility regardless of its performance; there have been no cases of contract terminations. Contracts with provider organizations are not based on or related to performance, so

there is little incentive for providers to change behaviour. There is no formal negotiating procedure for agreeing contractual terms and the negotiating power of both purchasers and providers is weak. In addition, since the SHA has to operate within an imbalanced benefits package, reimbursements offered are usually lower than the real costs of service production, while health provider organizations have to agree to any terms as they cannot maintain themselves without public funding. Also, the SHA has to agree payment rates with the Ministry of Finance and Economy and thus cannot implement its own reimbursement policy. Furthermore, the SHA has literally no degree of freedom to reallocate funds between programmes once the state programmes budget has been approved by the Ministry of Finance and Economy. Thus, if it wants to reallocate funding, for example to improve efficiency or for strategic reasons, it will have to apply to the Government to be able to do so.

The consequences of the limited decision-making authority of the SHA became evident in the late 1990s and early 2000s when poorly executed health budgets led to considerable underfunding of health facilities – by 40–50% compared with the contractual terms. The situation had improved somewhat by 2003–2004 because of the overall improvement in state budget revenue and increased allocations of funds to the health care sector. However, the SHA remains a "vulnerable" contractor because of its sole responsibility for carrying out its obligations in the context of limited financial allocations to health care and without any managerial autonomy. It is perhaps not surprising that the SHA is thus somewhat hesitant to take on any financial responsibility for departing from payment schedules and methods as agreed by contractual terms. Also, having no financial responsibility, the SHA does not seek a greater role in monitoring the financial performance of contracted health care providers and ensuring the most effective use of allocated resources. Indeed, the SHA itself has little incentive to perform as an effective and efficient purchaser organization.

In summary, the SHA has only limited institutional, legal and administrative authority, hindering the development of an effective purchasing and contracting system in the health care sector. To carry out a strategic purchaser function it will require the means for direct participation in the process of determining the benefits package, in decision-making on balancing revenue for and costs of the benefits package implementation, as well as in the process of selecting providers to be financed from public funds. A proposal is now under way within the World Bank-supported "Armenia health system modernization project" that aims to strengthen the capacity of the SHA in terms of both defining the boundaries for SHA decision-making authority and performance criteria and developing and introducing procedures to increase the transparency of the SHA's operations (World Bank 2004d). Successful implementation will, however, also depend on the successful reform of private financing through the introduction of

effective mechanisms to mobilize private resources in the form of prepayment and official user charges.

Budget allocation planning

Under the Soviet system, and continued well into the 1990s in independent Armenia, health financing from the state budget was based on the normative principle. Allocation of financial resources was implemented according to facility categories and financing was based on capacity indicators (number of staff, bed capacity, number of visits, number of ambulance calls, etc.), incentivizing expansion but not efficiency. This changed only recently, essentially with the establishment of the SHA and the introduction of the state BBP, modifying the traditional approach based on capacity towards a system that takes account of population size, historic expenditures, service utilization and the availability of funds. This refined approach to budget allocation has become more dynamic owing to the annual revisions of the BBP and lately also because of growing public allocations to health care.

Budget allocation planning for ambulatory care

Budget allocation planning in ambulatory care follows a capitation rate approach for each type of care and group of beneficiaries. Table 3.3 presents the system of budget allocation planning for ambulatory care in place in 2004.

Budget allocations are planned according to catchment area population size and capitation rates approved by the Ministry of Health. Capitation rates used for allocation planning vary by age, size of enrolment pool per physician and by type of medical services. There are currently five main groups of services considered under this scheme (Ministry of Health 2004):[4]

• ambulatory services provided to residents aged 18 (2004) and older
• ambulatory services provided to residents aged under 18 (2004)
• obstetric-gynaecological care
• dispensary care
• examinations of residents at (pre-)conscript age.

Within these categories only the rates for ambulatory services provided by district or family physicians are also used as provider payment rates; the

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[4] See Section 10.3 for a complete list of budget allocation rates for ambulatory services in the financial years 2004 and 2005.

Table 3.3   Budget allocation planning system in the ambulatory-outpatient sector, 2004

Services	Budget calculation		Services covered by the State (free of charge)	Population covered
	Children	Adults		
Primary health care				
Family doctors, paediatricians, therapists	CA population x CR1	CA population x CR2	All services provided by PHC physicians (except home visits)	Entire population
Gynaecology/ obstetrics		CA pregnant women x CR3	Antenatal/postnatal care Gynaecological services	All pregnant women Vulnerable population
School health	CA population x CR6		Nurses	Children
Secondary health care				
Surgery, neurology, cardiology, endocrinology, ophthalmology, ENT, DC	CA population x CR7	CA population x CR8	All services in specialty (DC: prophylaxis only)	Vulnerable population with referral
Laboratory and X-ray	CA population x CR9	CA population x CR10	List of tests and examinations prescribed by specialists	Vulnerable population with referral
Dispensary: TB, oncology, psychiatry, dermatology	CA population x CR11		All services in specialty	All/vulnerable population
ID			Services related to ID	Entire population

Source: Adapted from Devillé, Both & Réveillon 2004.

Notes: CA: catchment area; PHC: primary health care; CR: capitation rate; ENT: ear, nose and throat; DC: dental care; ID: infectious diseases; TB: tuberculosis.

remainder are budget markers that, for provider payment purposes, are converted into "prices".

The budget for PHC comprises all services provided by PHC physicians and nurses (family physicians, paediatricians, district physicians and school nurses) for the entire population, while the budget for specialists' services is meant to cover only vulnerable groups referred by the PHC level. The capitated budget is applied as a ceiling to the total amount of a contract between the SHA and the health service provider organization. Fixing the financing ceiling at facility level makes funds allocation more predictable for both contracting parties and

protects the SHA from financial risks as the total amount to be allocated will remain within this budget regardless of actual work carried out by the health service provider. Such an approach appears reasonable for primary care, where capitation is used for both budget allocation planning and actual provider payment. However, in other than routine PHC services capitation is applied to budget allocation planning only, while actual services are paid retrospectively on a per-case or per-service/visit basis. Thus, provider organizations that deliver services in excess of historic levels will not be compensated for the additional services provided. Conversely, if the volume of services provided is less than in the preceding year, the provider will not be able to use the excess funds as reallocation of funds within a contract is not permitted.

In view of the already poor quality of services and information gaps with regard to historic utilization patterns, such an allocation practice is likely to prevent improvements in utilization rates, case-mix and service composition and is also likely to hamper the development of more effective referral and patient flow patterns. Setting budget ceilings at facility level restricts competition between provider organizations, the restructuring of service and ultimately productivity growth and quality improvement. One way to enhance utilization volumes, health service structure and referral patterns and to facilitate the development of competition for the delivery of specialist services between health care providers within the ambulatory sector as well as between ambulatory and hospital facilities could involve moving towards the "global budgeting" approach that is applied at regional level. Global budgeting at regional level may reasonably be expected to protect the payer from financial risks and at the same time permits a more effective flow of funds between service providers and across service levels. This option has, however, not received any serious consideration in the health policy debate so far.

There are several additional issues in the current system of budget allocation planning in the ambulatory sector that require attention. One important limitation relates to capitation budgeting only adjusting for population size, with the budget then being assigned to provider organizations in accordance with the size of the catchment area population. Budget allocation does not account for other variables determining utilization such as age and sex as basic demographic indicators, health risks, utilization targets and profiles of health care expenses. However, even if one was to adjust for basic demographic indicators in the first instance, there remains the problem of reliability and validity of vital data in Armenia (see also Section 1.4 "Health status"), which may result in inappropriate resource allocation simply because of data inaccuracies. This could be further exacerbated through the practice of planning budgets based on historical figures which would then reproduce existing distortions, for example in availability of resources in urban and rural areas.

Budget allocation planning for hospital care

The calculation of budgets for hospitals is based on decisions made for different state programmes within the BBP. It is largely based on historic allocations and the size of the overall budget (increase/decrease). Hospital care programmes comprise many subprogrammes; budget ceilings are thus determined for different subprogrammes.

Fig. 3.3 illustrates the calculation of the hospital budget comprising services under the BBP for vulnerable groups. The number of vulnerable people (VP) is used to determine the average allocation rate per person which is applicable to the whole country. Each hospital's budget ceiling is a function of the historic budget and a coefficient that reflects an increase (or decrease) of the overall budget.

Admissions for defined types of care (e.g. infectious disease; obstetric and gynaecological care, including deliveries; rehabilitation; emergency care) are budgeted based on the actual number of cases reported in the previous year. The budget for haemodialysis is allocated among hospitals providing these services in accordance with the number of sessions approved by the Ministry of Health (patients and sessions per patient). The budget for inpatient treatment of TB, STIs, mental disorders, substance abuse, post-traumatic stress disorder and other so-called diseases of social importance is allocated per number of beds and the average occupancy rate reported for the preceding year, as these services are provided by specialized hospitals.

Fig. 3.3   Budget calculation for hospitals: example of the State Order for vulnerable groups
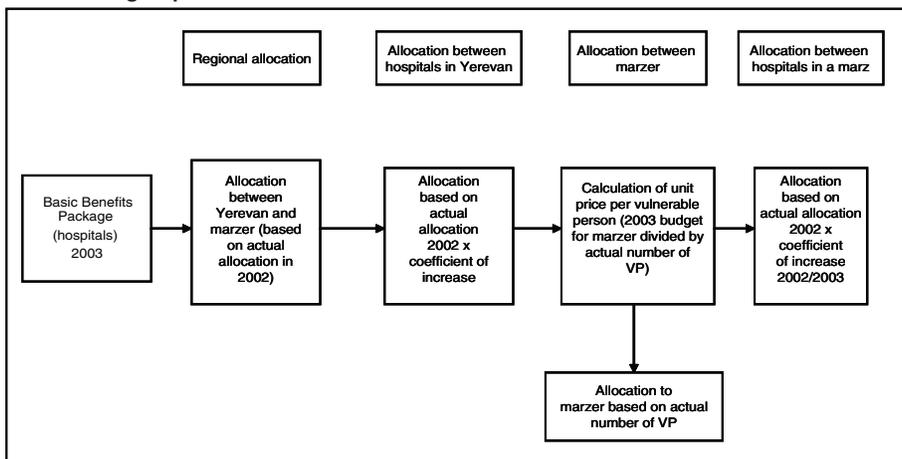
Source: Adapted from Devillé, Both & Réveillon 2004.

Note: VP: vulnerable people.

It is important to note that at the time of writing, budget allocation planning for hospital care is carried out separately for Yerevan city and marzer. This suggests that the system lacks the necessary experience to assess appropriateness of admissions and hospital service utilization at the different administrative levels (regional hospital/capital city hospital/national hospital) and to implement cross-regional reallocations against historic figures. Failure to do so reinforces the current weakness in the system of inappropriate referral patterns, which are illustrated by high self-referral rates.

In summary, current hospital budget allocation planning in Armenia is directed at utilization, based on historically reported data, but does not take into account the appropriateness of admissions, measures of effectiveness and efficiency or approaches to substituting inpatient care by cost-effective alternatives. At the same time, however, there has been an important shift towards more cost-effective alternatives through strengthening PHC and family medicine. Still, a need remains for more flexibility in budget allocations across programmes and subprogrammes, so as to create conditions for achieving better allocative efficiency during an annual financing cycle.

3.3   Payment mechanisms

In line with the budget allocation process in Armenia, the provider payment system only changed in the mid-1990s from the traditional line-item budgeting approach applied during Soviet times. Line-item budgeting was known for its relatively regular transactions and reproduction of historic expenditure, financed through a "system" of irregular transfers from the state budget, but actually relying largely on user charges, both official and unofficial. It became critical to address both underfunding from public sources as well as the inefficiencies associated with line-item budgeting, so as to protect the population from the financial risk of illness and maintain a motivated workforce for the delivery of appropriate, timely and effective health care. Reforming the provider payment system was thus considered one of the key strategies for improving the performance of the health care system in Armenia. As noted above, the health system is to a large degree funded from private sources with mainly informal out-of-pocket payments competing with a formalized payment system that has created perverse incentives for providers and provider organizations. Strengthening the provider payment system is therefore viewed as one means of effectively combating informal payments in the Armenian health care sector.

3.3.1   Paying health care personnel

In the Soviet period, remuneration of health care workers was directly regulated and administered by the State. Typically, salary scales for public sector employees, and particularly those in the health care sector were adopted for one or several years and were mandatory in every public facility. This changed, however, with the decentralization process in the late 1990s, when the role of the national Government was redefined to set the general legislative framework for remuneration. This includes the national Law on minimum wage as well as health sector regulation on remuneration from public sources. The 2001 Law on remuneration regulates remuneration for any activity in any entity in Armenia. It stipulates that the legal base for remuneration varies with the sector; thus for civil servants and employees of budget facilities (i.e. facilities funded by the State), the legal basis is the relevant state order whereas in any other sector the legal base is determined by the employment contract between the employer and the employee.

Box 3.1 provides details about the evolution of the payment system for health care workers in Armenia. Today, remuneration of health care workers in Armenia essentially follows two models. Health care workers providing services that are largely funded by the State, i.e. in primary care, are remunerated according to strict regulation. For all other health care workers, those providing services funded by both public and private sources or by private sources only, remuneration is less regulated and will vary. However, both models are expected to comply with the regulation on the minimum wage as a minimum requirement for remuneration. As noted earlier (see Section 1.3 "Economic context"), in 2004 the minimum wage was set at AMD 13 000 or US$ 25 per month for work equivalent to one full-time equivalent.

Remuneration of health care workers in primary care (i.e. PHC physicians and nurses) is essentially determined by the Ministry of Health. In compliance with the legislation on the minimum wage, it sets salaries higher than the minimum wage with annual incremental increases. Remuneration rates are set on a per-capita basis and depend on the number of patients assigned to a physician. The size of the population pool (catchment area) to be served by a physician is also regulated by the Ministry, defining a minimum and maximum number of patients per catchment area (i.e. 2500 adults per district/family physician in urban settings and 2700 adults in rural areas; 1200 (urban) and 1400 (rural) children per district paediatrician). The introduction of a maximum number of patients is designed to ensure access to and the quality of services and the incentive for compliance with these numbers is maintained through

Box 3.1   Payment of health care workers

> Between 1992 and 2002 economic recession and ensuing financial shortages in the health care sector contributed to irregular and late payment of wages to health care workers. Public health facilities were incurring mounting debt, primarily in the form of unpaid salaries. This only changed in 2003/2004 when the budget allocated to the health care sector was increased, resulting in the regular allocation of funds to health care facilities and permitting timely payments of salaries to health care personnel.

remuneration. Thus, PHC workers serving a population pool that is between minimum and optimal size will be receiving higher remuneration per-capita rates compared with those where the pool exceeds the defined maximum number of patients. For example, the optimal (maximum) number of patients in urban areas has been defined as 2500 adults per district physician ("therapist") and, in 2005, will be reimbursed at a per-capita rate of AMD 23.4 per adult patient (Table 3.4). Exceeding this size by at least 500 patients (e.g. 3000 patients) will result in a reduction in the per-capita rate by 50% to AMD 11.7 (see Table 3.4 and Table 3.5), thus, at least in theory, creating strong incentives to maintain a patient pool at a defined size.

In 2004, the average monthly salary for primary care physicians was AMD 36 000 (US$ 67), representing an increase of 30% compared to 2003. The average monthly salary of a primary care nurse increased by 35% to AMD 23 000 (US$ 43). The somewhat steeper increase in the salary for nurses has led to a slight decrease in the salary ratio for physicians and nurses in primary care, from 1:1.62 in 2003 to 1:1.56 in 2004 and 2005.

The approach to regulating remuneration rates for primary care providers was modified in 2005, when the Ministry of Health introduced higher remuneration rates for providers trained in family medicine, i.e. physicians and nurses. It aims at encouraging both physicians and nurses to be trained/retrained and to practise in family medicine. Family physicians can also increase their remuneration by additionally providing certain services that are usually delivered by specialists.

While perhaps representing some improvement to the previous system of provider reimbursement, the current system does face several challenges. Thus, the system provides little incentive to enhance provider performance since capitation-based salaries do not differentiate for quality and performance of services provided by health care workers, rewarding, for example, the efficient use of resources or appropriate referral practices. Also, since most physicians

Table 3.4 **Remuneration rates for selected health care workers in various health care settings, serving minimum to optimal population numbers, 2005**

Specialty	Remuneration rate (drams)
Primary health care	
Family physician	Adult: 25.0 / child: 50.0
Family nurse	Adult: 16.0 / child: 32.0
District physician/paediatrician	Adult: 23.4 / child: 46.8
Nurse to district physician/paediatrician	Adult: 15.0 / child: 30.0
Specialist care (cardiologic, ophthalmologic, ENT, etc.) provided by family physician/nurse	
Family physician	Adult: 2.8 / child: 4.78
Family nurse	Adult: 1.88 / child: 3.07
Dispensary care (endocrinology, infectious diseases)	
Family physician	All patients: 1.88
Family nurse	All patients: 1.2
Health posts	
FAP nurse	Adult: 17.5 / child: 30.0

Source: Data provided by Ministry of Health of the Republic of Armenia.

Notes: ENT: ear, nose and throat; FAP: feldsher accousher post (midwife).

serve population pools of a similar size, their salary will also be similar, again regardless of the quality of services provided. Moreover, where the size of the population pool is different and a particular physician of high competence and skills happens to serve a population that is smaller than that of a less skilled and competent physician, the former will still earn less, simply because of differences in the size of the catchment area population.

These problems are further exacerbated by the relatively low reliability of vital statistics on population composition and migration. Also, depending on available figures, regional governments may redefine the size of the population assigned to a given facility on a year-on-year basis or may reassign populations between provider organizations. Thus, facilities will lose or gain capitation revenue owing to changes in the size of the catchment area population. However, this may not necessarily be associated with any changes in staffing made by a facility manager as a requirement from the State or a private owner. As the Ministry imposes requirements for minimum, optimal and maximum population pools per primary care physician, physicians may hold full- or part-time equivalent positions with salaries paid accordingly. Typically, physicians serving a population pool below the minimum size are not yet being dismissed.

In order to explore performance-based remuneration in primary care as a means of refining the current approach to health care worker reimbursement, in 2003 the Ministry of Health, together with the USAID-funded ASTP, introduced a remuneration pilot programme in 13 primary care facilities with

**Table 3.5   Remuneration rates in catchment areas with higher than maximum
             population numbers (district and family physicians), 2005**

Specialty	Remuneration rate (drams)
Family physician/rate per adult patient	
1500–2000 adult patients	18.75
2000–2500 adult patients	12.50
More than 2500 adult patients	6.25
Family physician/rate per child	
800–1000 patients under 18	37.50
1000–1250 patients under 18	25.00
More than 1250 patients under 18	12.50
District physician in urban polyclinics/rate per adult patient	
2500–3000 adult patients	17.55
3000–3500 adult patients	11.70
More than 3500 adult patients	5.85
District physician in urban polyclinics/rate per child	
1200–1500 patients under 18	35.10
1500–1750 patients under 18	23.40
More than 1750 patients under 18	11.70
District physician in rural health centres and rural ambulatories/rate per adult patient	
2700–3000 adult patients	17.55
3000–3250 adult patients	11.70
More than 3250 adult patients	5.85
District paediatrician in rural health centres and rural ambulatories/rate per child	
1400–2000 patients under 18	35.10
2000–2250 patients under 18	23.40
More than 2250 patients under 18	11.70

Source: Ministry of Health of the Republic of Armenia.

approximately 500 PHC providers. These PHC providers participated in a model of open enrolment, among which six facilities have also introduced clinical practice based on the principle of family medicine (Government of the Republic of Armenia 2004d; National Statistical Service of the Republic of Armenia 2004b). It builds on an approach to primary care financing that introduces an increase in capitation payments for each resident openly enrolling with a primary care physician of their choice. The main feature of this new model is the establishment of fixed (guaranteed) and variable payroll funds and a similar division of monthly payments to primary care physicians and nurses, with the salary comprising a guaranteed base component and a variable performance-based component.

The pilot offers essentially three options for calculating the "guaranteed" or fixed salary component, which is generally based on regulation from the Government and/or the Ministry of Health, with the flexible component being calculated based on the number of enrolled patients. The three options may be summarized as follows:

• as the product of the *number of served population* and capitation rates, differentiated for adults and children, as defined by the Ministry of Health;

• as the product of the *number of enrolled population* and capitation rates, differentiated for adults and children, as defined by the Ministry of Health;

• as *a fixed salary according to a facility fee schedule*, but not less than the minimum level defined in the Republic of Armenia (ASTP 2005b).

Each pilot facility chooses from among the above options that have been approved by the Ministry of Health. The flexible component of the payroll funds is allocated to the primary care workers in pilot facilities according to defined indicators of process, quantity and quality performance. The number of indicators is kept small, however, so as to create greater incentives, to make expectations of physicians more transparent and explicit and to ease the administrative burden created by such a system. Tracking individual provider performance is supported by modern health information systems.

As an important step in furthering the provider payment system in Armenia, the remuneration pilot has provided some practical lessons from which to learn. The variable payroll fund in each pilot facility is expected to amount to at least 30% of a guaranteed payroll fund; thus, expectations of achieving change in provider behaviour are high. In each pilot site the implementation of the remuneration system is accompanied by M&E systems in order to monitor staff satisfaction with the new system and to evaluate its impact on individual and aggregate health care provider performance. Particular attention is given to physicians and nurses who are not performing well under the new system in order to identify the underlying causes and allow for appropriate action such as review and/or overhaul of the system, or disciplinary action for underperforming health care workers. Monitoring is also required to assess any potential "gaming" through staff working only to meet specified performance targets while neglecting other aspects of quality improvement. The 2004 pilot approach also involved, at facility level, the selection of a set of indicators from an indicator list approved by the Ministry of Health, and regular (monthly, quarterly) updates of performance indicators so as to prevent providers from focusing on particular performance indicators only instead of on comprehensive performance improvement.

Assessment of the impact of the 2004 pilot remuneration model on provider behaviour and performance found the performance-based approach to be effective, while highlighting the importance of applying a stricter approach to the selection and use of indicators. Thus, in 2005, the pilot sites saw the introduction of uniform indicators that were set for an annual cycle and analysed quarterly by a newly established joint commission. This would enable the quarterly transfers from the SHA to be aligned with the pilot performance results. As a result, pilot facilities received over AMD 21 million in the first half of 2005 for remunerating providers in line with their performance. Physician salaries increased, on average, by approximately 16.5%, whereas high-performing physicians could earn more than 70% in addition to their fixed salaries (ASTP 2005b). This new performance-based remuneration system has the potential to be replicated in other facilities, along with scaling up open enrolment. The likelihood of this happening is as yet uncertain; however, the pilots have received decisive support from the Government (see also Subsection 3.3.2 "Paying for health services").

As noted above, remuneration of health care workers other than those in primary care is somewhat less regulated, although it is determined within the framework of the legally set minimum wage, with overtime payments and benefits regulated according to the Law on remuneration. Remuneration levels vary widely between the managers (directors) of health facilities down to a guaranteed minimum wage for personnel that are only partially involved in providing state-funded services under the BBP or that operate entirely on the basis of private payments. For example, specialists working in the ambulatory sector are often paid the guaranteed minimum wage only. This grossly underpays specialists' services and implies that, according to some "unwritten rule", those affected will charge patients "under the table" (informally) so as to compensate for the low wages. This practice does not, however, seem to be applicable to all facilities. Thus, some facilities apply internal fee schedules which grade physicians' and nurses' salaries at a higher than minimum wage level. The additional earnings of specialists in the ambulatory sector will depend on the individual workload in providing paid services and in accordance with the payroll system adopted by the individual facility. Thus, in some facilities the flexible part of individual income operates on a fee-for-service basis (e.g. 50% of service price) while others apply monthly flat amounts to be paid to health care workers for providing paid services in addition to the guaranteed salary earned through providing services under the BBP.

In general, health care workers outside primary care are considered to be less protected with regards to remuneration than their colleagues working in primary care. However, specialists in outpatient and inpatient care may still have

high earning potential as they provide paid services and also directly charge patients even for those services that are officially free of charge.

Remuneration of health administrators has its specifics. Those in public facilities are contracted by regional governments, and their salaries are comparable with those of government employees. However, when a health care facility has the status of a joint-stock company its director may be paid up to eight times the average salary of employees in a given facility (enterprise, company), as this is regulated by the Law on joint-stock companies.

Discussions are now under way both within the Government and with consultants on the prospect of introducing a more comprehensively regulated remuneration system in the health and other social sectors.

3.3.2   Paying for health services

In 1997, Armenia began transforming the payment of provider organizations from an input- to an output-based system. Changes were introduced alongside the state BBP that defined eligibility for guaranteed state services to specific groups (see Section 2.3 "Population coverage, entitlements, benefits and patient rights"). Only primary care remained subject to universal coverage. Ambulatory care was to be funded on a per-capita and fee-for-service basis while hospital (inpatient) care was funded according to a case-based system.

The change in the payment system for health care services was expected to enhance accessibility, quality and effectiveness of patient care. However, there are several limitations on the existing provider payment system, relating to regularity of payments, the scope of services covered and adequacy of payment rates. For example, the adoption of the BBP was expected to create the conditions for balancing revenues and costs of the state health programmes. However, since its inception the BBP has been experiencing financial deficits or imbalances. Thus, as noted earlier, payment rates often do not reflect the actual costs, creating considerable problems for service providers. Although there are no representative costing studies, anecdotal evidence suggests that the higher the volume of service provision, the greater the difference between provider payment rates as contracted and the actual costs of service production. Importantly, as long as the SHA has to operate within the confines of insufficient funds for the BBP, any refinement of existing payment models will remain largely ineffective (see also the Subsection "The State Health Agency as a purchasing organization"). In addition, owing to the fragmentation of the BBP across beneficiary groups and health care services, those facilities that provide a greater share of services under the BBP are likely to be most affected by the payment system, as their cash revenues mainly come through this payment

mechanism. Facilities where the BBP accounts for a relatively small revenue inflow are less likely to introduce incentives stimulating providers to enhance health care quality, effectiveness and efficiency.

A major weakness of the current provider payment system is the relative lack of capacity within both the Ministry of Health and the SHA to enable the assessment of its effectiveness and impact on provider behaviour. While the volume of services provided is, to a certain extent, monitored through a reporting system, quality of care is not. Human and institutional capacity to monitor contracts, devise and undertake surveys and studies to evaluate the outcomes of the current payment system should thus become an integral part of the programme to strengthen the SHA.

Outpatient facilities

As noted above, until 1997 the payment system for ambulatory services remained along the lines of the Soviet approach to line-item budgeting based on the number of physicians employed or full-time equivalents approved for a particular facility. The establishment of the SHA in 1998 replaced the traditional line-item budgeting with capitation payments for primary care and fee-for-service payments for ambulatory specialists. The SHA thus "purchases" outpatient care on a capitation basis, currently using crude age adjusters that differentiate between adults and children. Capitation rates are frequently revised, usually annually, to account for increased availability of state funds (Table 3.6).

Table 3.6   Capitation payments for primary health care (drams), 2002–2005

Population age group	2002	2003	2004	2005
Adults	460	578	642	863
Children	1 099	1 110	1 358	1 690

Source: Data provided by Ministry of Health of the Republic of Armenia.

Capitation payments for primary care are guaranteed to any outpatient facility that serves a defined catchment area population. The size of the catchment area is approved annually by regional governments and is used by the SHA to define contractual terms for PHC capitation payments. However, as indicated earlier, because of limited reliability of population statistics in Armenia estimated population figures may diverge considerably from the true number of people residing in a particular area, thus potentially negatively impacting on the income of facilities affected.

According to the 1996 health care Law residents of the Republic of Armenia have the right to choose their health care provider; in practice this option has not been implemented and the population remain assigned to ambulatory facilities by the State, according to residence. The principle of assigning a defined population to outpatient facilities has protected those facilities with regards to the potential service load and hence guaranteed state funding from the SHA regardless of the actual quantity and quality of services provided.

Increasing choice was thus one of the key objectives of the above-mentioned remuneration pilot programme exploring the model of open enrolment in selected PHC facilities (see Subsection 3.3.1 "Paying health care personnel"). Residents in pilot regions select a PHC provider of their choice (family physician, district physician, district paediatrician) and register accordingly. Initially restricting enrolment for catchment area populations to individual facilities, the pilot subsequently moved towards region-wide implementation of open enrolment. This offer was taken up rather rapidly by the population. Thus, in the Erebuni district of Yerevan city, over 60% of the district population (of more than 100 000) registered with a PHC physician of their choice in one out of five polyclinics within the first nine months following the introduction of the pilot. The regional centre of Lori marz – the city of Vanadzor – became the first city in Armenia to implement city-wide population enrolment. The initiative has been closely monitored in order to inform policy-making with regard to further scaling up and appropriate regulatory support. It is envisaged that in case of success, enrolment-based capitation may substitute the catchment area capitation model in provider payment, with corresponding changes applied to individual providers' remuneration systems. In the meantime, however, the Government has decided to support the open enrolment pilot by introducing increased capitation rates for all facilities and physicians participating in enrolling population.

With the introduction of capitation-based payment in primary care, Armenia followed a trend seen elsewhere in the former Soviet Union. Yet Armenia may have missed the opportunity for reforming the payment system more radically towards a model that would incentivize providers in primary care to enhance productivity. As noted earlier, utilization of ambulatory services in Armenia has been declining over recent years (see Subsection 2.3.1 "Entitlements and benefits"); however, capitation does not currently offer the appropriate mix of incentives to respond to this decline by, for example, providing more services of higher quality. The move to capitation also had an impact on the annual reporting of health statistics. Previously, reported service utilization rates were disaggregated according to type of service provided (i.e. specialty); this figure is now being collapsed into one summary indicator. Thus, detailed information on utilization of type of service and type of provider is no longer available,

thereby obscuring labour productivity in the primary care sector and changing patterns of service utilization. In addition, the introduction of capitation was not accompanied by supporting measures such as clinical guidelines or protocols emphasizing a reorientation of primary care towards health promotion, disease prevention, chronic case management and the like. The health management infrastructure also remained too weak to utilize opportunities for increased efficiency associated with capitation as a financing model.

To address some of the limitations of the current capitation approach and to increase financial support for enhancing the scope of primary care, in 2004, the Ministry of Health/SHA introduced case-based payments for outpatient treatment. This involves the payment of a flat rate of AMD 10 000 per average case (approximately US$ 20) to polyclinics and rural ambulatory facilities for every case within a prospectively agreed number of cases per year. Payment for gynaecological services for pregnant women is based on a pre-defined annual rate per pregnant woman with proportional payments being disbursed on a monthly basis following registration of pregnancy.

The above-mentioned remuneration pilot programme (see Subsection 3.3.1 "Paying health care personnel") has recently also begun to explore a "combined formula" approach that combines capitation with performance-based payment of PHC providers. In addition to contracting with the SHA on the basis of regular capitation, pilot facilities are entitled to explore additional performance-based contracts as they commit to introduce new PHC practices and systems such as open enrolment; continuous quality improvement; implementation of family medicine; health information systems; and new management practices. In 2004, the additional funding allocated to this programme accounted for 10% of the capitated budget for these facilities, rising to over 20% in 2005 (or AMD 65 million). The use of performance indicators has evolved from one in 2004 (the number of enrolled patients), to seven indicators in 2005, including: number of consultations; early detection of selected chronic conditions, such as hypertension; early detection of health and development problems in infants; immunization coverage of children; and peer chart reviews by PHC physicians. This experience has been translated into a set of recommendations by the ASTP towards scaling up this combined approach to PHC financing because of its potential for balancing the existing shortcomings and inadequacies of the capitation method (ASTP 2005c).

Specialists in outpatient facilities are reimbursed for services they provide to the vulnerable population at fixed prices and within an annual agreed maximum volume of services. Being reimbursed on a fee-for-service basis provides an incentive to increase the volumes of services up to the level agreed upon within the financial ceiling for the current year (quarter). However, the system in place enables family physicians to be paid fees in addition to the salary

earned on the basis of capitation rates. These fees are due for services provided that fall into the "specialist" category, i.e. for every patient attended to by the family physician instead of a specialist, funds are diverted from the budget for specialists' services. This is also the case for services provided to patients with endocrinological disorders or infectious diseases, when funds are diverted from the dispensary care budget. This may prove to be an example of an effective payment tool that may be considered for restructuring the delivery system.

There is a challenge, however, regarding how to best balance primary care capitation and fee-for-service payments for specialist services. These two approaches to payment, when applied in a single system, may negatively impact on provider performance. For example, in an urban polyclinic where primary care physicians and specialists are working alongside each other, sharing the same building, equipment, etc., both groups have an incentive to refer patients to a specialist, regardless of whether this is appropriate, because of the payment structure. This practice would be reinforced by the manager's interests as this referral would increase the overall income of the polyclinic.

The payment systems for polyclinics and rural ambulatory facilities are illustrated in Fig. 3.4. It presents two payment systems: capitation fee paid monthly as a lump sum for PHC and dispensary care provided in polyclinics and rural ambulatory facilities; and fee-for-service paid monthly according to the reported workload of the specialist and laboratory/diagnostic services. The payment rates for physicians in ambulatory practice vary by type of service provided, as do the prices for specified medical tests and diagnostic services, which ranged from AMD 600 (US$ 1) for simple blood tests to AMD 125 000 for laser eye surgery (US$ 235) in 2004 (see Section 10.5 for a complete list of prices for the various services in 2004 and 2005) (Ministry of Health 2003a; Ministry of Health 2004).

In an ongoing effort to strengthen PHC, the Ministry of Health has given the financing of family medicine particular attention through incentives designed to support the further development of this field within the Armenian health care system. This has been achieved through the use of six instruments: (1) an increased additional per-capita payment for PHC facilities that are staffed with family physicians to address infectious, endocrinological, cardiological and neurological diseases; (2) fee-for-service reimbursement for laboratory and diagnostic services if provided by family physicians; (3) a special capitation rate for services provided by family physicians to women with normal pregnancies; (4) fee-for-service reimbursement for laboratory and diagnostic services provided by family physicians to pregnant women; (5) fee-for-service reimbursement for home visits (if after hours) and ambulance services (using an ambulance vehicle) rendered 24 hours by family physicians; and (6) specific

Fig. 3.4   Payment systems for polyclinics and rural ambulatory facilities, 2004

	Budget calculation	Payment from State Health Agency (SHA) to polyclinics	

Children | Adults

		Children	Adults		
Primary Health Care (PHC)	Family physician, paediatrician, therapist	CA Pop. x CR1	CA Pop. x CR2	Total budget paid on a monthly basis	
	Obstetrics-gynaecology		CA PW x CR3		
	School health	CA Pop. x CR6			Polyclinic
Secondary Health Care (SHC)	Surgery, neurology, cardiology, endocrinology, ophthalmology, ENT, dental care	CA Pop. x CR7	CA Pop. x CR8	Payment based on actual number of visits/tests (with total budget ceiling): fee-for-service (AMD 900 for all specialist visits, AMD 1000 for surgery)	
	Laboratory and X-ray	CA Pop. x CR9	CA Pop. x CR10		
	Dispensary care: TB, oncology, psychiatry, dermatology	CA Pop. x CR11			
	Infectious diseases				

Source: Adapted from Devillé, Both & Réveillon 2004.

Notes: ENT: ear, nose and throat; TB: tuberculosis; CA Pop.: catchment area population; CR: capitation rate; AMD: Armenian drams.

financial arrangements for family physicians practicing in rural ambulatory facilities (or health centres), involving management of funds for specialist and diagnostic services for their assigned population, and fundholding for specialist and diagnostic services.

New opportunities and challenges are anticipated in the outpatient care payment system once PHC providers and specialists have been separated through the restructuring of polyclinics into freestanding general practices and shifting most of the specialists into hospitals. These moves are foreseen as the next stage in health system optimization.

Hospitals

Traditionally, hospitals in Armenia were paid based on line-item budgeting, with the size of the budget being calculated from bed capacity, number of staff and other resource indicators. This created strong incentives for hospitals to increase bed capacity and raise utilization of resources, and they benefited from reporting full execution of budget allocations. There was little incentive for hospitals and staff working in hospitals to report on outputs such as workload in terms of admissions volume, case-mix and complexity or severity of cases. Similar to the ambulatory sector, the hospital payment system changed in 1998 with the introduction of the BBP and the establishment of the SHA, introducing global budgeting to be applied to the state BBP hospital programme. The 2000 "Strategy of health care system development in Armenia 2000–2003" referred to global budgeting as a means of enhancing efficiency in the use of public resources and creating provider incentives to identify mechanisms for cost recovery through the generation of off-budget revenue. Hospital global budget payments were introduced as a prospective payment system based on an agreed number of hospital cases. The global budget was set as a ceiling defined by availability of funds, historic expenditure and number of cases. Hospital cases are differentiated according to clinical specialty or condition, type of care required (hospital-based – outpatient, inpatient routine and inpatient long-term care), age (child, adult) and average length of stay. Hospitals have to meet their obligations within the global budget. There is, however, some allowance for deviation from the planned budget, of 10% ("risk corridor principle"), provided those deviations are justified.

The payment of hospitals is based on a system that multiplies the number of cases by a unit price and then summarizes across all services (Box 3.2) (Devillé, Both & Réveillon 2004). Hospitals are reimbursed monthly per discharged patient and per patient attended to in the outpatient or day care setting as reported to the SHA. The SHA then inspects the hospital reports primarily to assess the eligibility of patients under the BBP. In 1999, the SHA changed the hospital reporting system towards the production of short reports on each patient in order to receive payment along with monthly reports on hospital activities. This change in the reported system has been estimated by the SHA to have saved AMD 500 billion.

The SHA sets hospital rates for each diagnosis or disease group as defined in the relevant hospital care subprogrammes of the BBP. Rates are refined on an annual basis and are based on an obligated budget rather than production costs. Prospectively determined payment rates are meant to cover variable and fixed costs and to reflect relative differences in case-specific length of hospital stay and clinical complexity. There are two types of rates: daily rates for cases

Box 3.2   Budget execution for hospitals

```
Service 1       Number of cases    x  unit price per case 1    = Total service 1
Service 2       Number of cases    x  unit price per case 2    = Total service 2
Service 3       Number of cases    x  unit price per case 3    = Total service 3
Service N       Number of cases    x  unit price per case N    = Total service N

Total budget execution = sum of the totals for services 1 to N
```

where length of hospital stay is less than three days and rates that average the "cost" per diagnosis. So-called treatment complexity coefficients differentiate payment rates by resource intensity of treatment across diagnoses and patient age against the average rate per hospital day. A complete list of state-guaranteed hospital care provided free of charge along with service rates for the years 2004 and 2005 and the treatment complexity coefficient for each year are presented in Section 10.5 (Ministry of Health 2003a; Ministry of Health 2004).

The current approach to hospital payment has a series of limitations that require prime attention since spending on hospital care increases at a greater pace than budget allocations to health. One major problem is related to the range of services that are covered under the BBP and which include some conditions that usually do not require inpatient treatment, such as 'flu, or inappropriately defined lengths of stay for conditions such as TB, STIs or chronic psychiatric conditions, thus encouraging inappropriate hospital treatment. Second, although the system is being described as a prospective payment system, in practice it operates retrospectively, thereby encouraging hospitals to increase hospital admissions within the agreed budget ceiling, while creating no incentives to move treatment out of the hospital into outpatient or day care settings. Third, payment rates allocated by the SHA remain below the actual cost of service production, thereby potentially threatening the viability of hospitals despite annual increases in payment rates. However, what rates would be appropriate is debatable in a system where actual production costs reproduce stark inefficiencies in the delivery of care with facilities remaining largely underutilized, often expanding input rather than reducing capacity.

It is also important to emphasize that the implementation of this payment method did not foresee the inclusion of instruments such as prospective case planning, negotiation procedures, requirements for utilization management, clinical guidelines, weighing of payment rates and others, i.e. tools which are considered to improve the clinical and financial performance of hospitals. As a consequence, the potential of the chosen payment method remains somewhat underexploited.

In October 2003, in a pilot approach, the Government introduced formal co-payments for hospital services in 21 facilities in the capital city of Yerevan. Co-payments are not applied to vulnerable population groups and pensioners. So far, co-payments have been set at a flat rate of AMD 10 000 (US$ 18) per admission regardless of the length of stay. This pilot is expected to show whether co-payments can replace informal fees, thereby increasing accessibility to and the quality of hospital care as well as stimulating the efficient use of revenue towards clinical services and drugs rather than maintaining poorly occupied hospitals. It is envisaged that part of the revenue from co-payments would also be allocated to paying health care staff in relation to performance. This pilot is yet to be evaluated and its intermediate results are expected to inform health policy either towards expanding co-payments to other services or a complete re-evaluation of the use of co-payments as a means to combat informal payments.

3.4   Health care expenditure

The exact level of total health expenditure in Armenia is difficult to determine. Legislation does not require the systematic collection of comparable information and existing systems for data collection and analysis are fragmented. Thus, current estimates of health care expenditure in Armenia vary by source through the application of different definitions and standards on informal payments, formal user charges and co-payments and humanitarian and international donations and grants. However, even by the most optimistic estimates of health care expenditure, available figures suggest that Armenia lags far behind Europe and other CIS countries in terms of expenditure levels.

Compared with European countries that are members of the Council of Europe, Armenia, with a share of state health expenditures of 41.2% of total health care expenditure, was ranked 43 out of 46 countries (WHO 2004). At the same time, Armenia was ranked 3rd with respect to the share of private sources, estimated at 58.8% of total health care expenditure and 27th with 11.5% of state expenditure allocated to health. Also, Armenia was ranked last (46th) with the highest share of out-of-pocket payments as a percentage of total private expenditure on health, at 100%.

In absolute terms, total per-capita expenditure on health in Armenia in 2002 was estimated at US$ 45 (US$ 10 public per-capita expenditure on health), which was only 2.2% of the per-capita expenditure in the United Kingdom, at US$ 2031 (US$ 1693 public per-capita expenditure), or 1.5% of the level

seen in Luxembourg, which has the highest per-capita expenditure in the EU, at US$ 2951 (WHO 2005b). Compared with other former Soviet countries, Armenia is lagging behind the Russian Federation (US$ 150 and US$ 84) and Belarus (US$ 93 and US$ 69), though expenditure is estimated to be higher than in neighbouring Georgia (US$ 25 and US$ 7) and Azerbaijan (US$ 27 and US$ 6). The comparatively high level of health expenditure, as estimated by WHO and as shown in Table 3.7, is due to the inclusion of estimates of informal payments as part of the total health care expenditure, although estimates of the size of the informal economy in Armenia are not included in calculating the GDP. However, figures shown in the table also suggest that health expenditure in Armenia, both actual and proportional, has increased in recent years. In addition, Fig. 3.5, Fig. 3.6 and Fig. 3.7 show Armenian health care expenditure trends using WHO data.

Structure of health care expenditure

Available data are insufficient to provide a clear picture of the structure of health care expenditure. Existing evaluations do not include all expenses for procuring medicine, medical equipment and supplies or expenditures for dental and alternative/complementary medicine. User charges for health services and diagnostic procedures are only partially covered even though these categories represent a significant share of out-of-pocket payments. For example, it was estimated that in 2001 official pharmaceutical sales alone amounted to US$ 20 million (Aristakesyan 2002a; Aristakesyan 1998). Excluding these items thus presents a skewed picture of the nature and magnitude of health care costs and the distribution of the burden of payment. Also, these estimates reflect actual expenditure only and do not account for costs of care required to address unmet need or deduct from the total the costs of inappropriate and/or inefficient care.

Figures shown in Table 3.7 illustrate how, in the early stages of transition, Armenia had retained the emphasis on expensive, inefficient hospital-based care inherited from the Soviet era, with most state funds being directed to secondary and tertiary care. Conversely, primary care/outpatient services and public health received a disproportionately small share of available resources. This pattern is slowly changing, however, with the share of resources allocated to primary care rising substantially from one fifth in 2002 to at least one third from 2003 onwards.

It is important to note that, in 2000, state budget expenditures were greatly reduced, which affected resources allocated to the health care sector in particular. Within this sector, the only category in which planned and actual

Table 3.7   Health care expenditure: comparing different assessments, 1995–2003

	1995	1996	1997	1998	1999	2000	2001	2002	2003
Health expenditure as % of GDP									
WHO[a]	–	–	–	5.8	7.1	5.2	7.0	5.8	–
Ministry of Health/other[b]									
State budget expenditure	1.8	1.4	1.2	1.4	1.4	1.0	1.3	1.2	1.3
Budget expenses, direct payments, external sources	2.1	1.5	2.0	2.2	2.3	1.9	2.4	2.3	2.3
Total expenditure including informal payments	4.8	4.7	5.9	6.0	5.9	4.6	6.3	5.7	5.9
State health expenditure as % of total health expenditure									
WHO[a]	–	–	–	24.7	30.8	29.8	21.5	22.9	–
Ministry of Health/other[b]	42.6	32.5	30.7	34.7	35.4	37.4	33.8	34.9	34.5
Private expenditure as % of total health expenditure									
WHO[a]	–	–	–	75.3	69.2	70.2	78.5	77.1	–
Ministry of Health/other[b]	57.4	67.5	69.3	65.3	64.6	62.6	66.2	65.1	65.5
State health care expenditure as % of state budget									
WHO[a]	–	–	–	5.7	7.6	6.1	6.2	6.0	–
Ministry of Health[b]									
Planned	10.0	9.8	8.1	8.3	7.0	6.5	7.5	6.2	6.3
Actual	7.7	7.2	6.5	6.7	5.6	4.4	6.4	6.0	6.2
External sources as % of total health expenditure									
WHO[a]	–	–	–	11.7	19.6	20.9	24.8	18.6	–
Ministry of Health/other[b]	4.4	3.5	10.7	10.7	12.1	16.9	12.4	14.3	12.8
Per-capita total health expenditure (average US$ exchange rate)									
WHO (US$)[a]	–	–	–	34	42	32	48	45	–
Ministry of Health/other[b]									
US$	17	20	26	30	29	23	35	37	51
AMD	6 705	8 317	12 590	15 036	15 379	12 602	19 358	20 935	29 525
Per-capita government health expenditure (average US$ exchange rate)									
WHO (US$)[a]	–	–	–	9	13	10	10	10	–
Ministry of Health/other[b]									
US$	6	6	5	7	7	5	7	8	11
AMD	2 565	2 408	2 520	3 607	3 580	2 589	4 142	4 304	6 415

Sources: [a] WHO 2005b; [b] Data provided by Ministry of Health, Ministry of Finance and Economy, National Statistical Office of the Republic of Armenia; Aristakesyan & Van der Maele 2005.

Notes: GDP: gross domestic product; WHO: World Health Organization; AMD: Armenian drams.

Fig. 3.5   Trends in total expenditure on health as a percentage of GDP in Armenia and selected countries, 1998–2004, WHO estimates
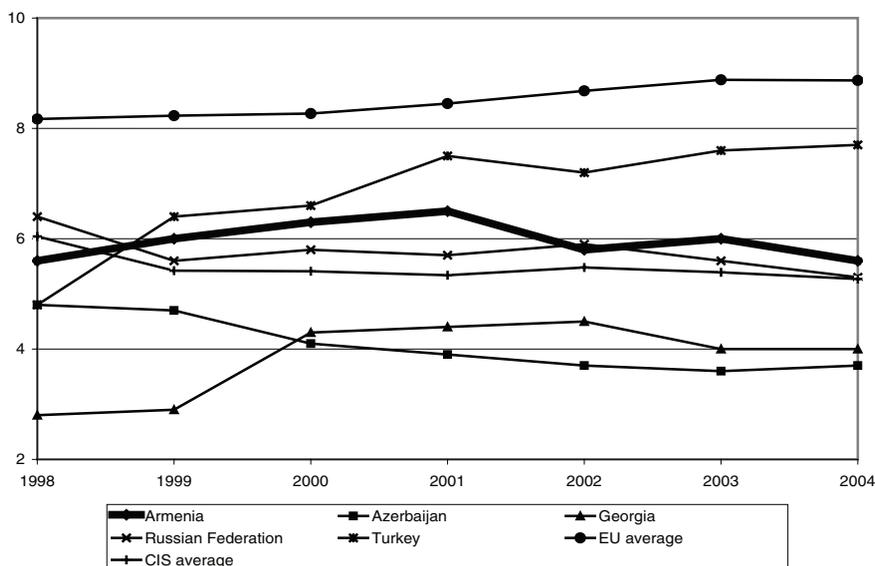
Source: WHO Regional Office for Europe (2006).
Notes: CIS: Commonwealth of Independent States; EU: European Union.

average expenditure remained unaffected were SHAE services, as indicated by the short-lived increase in proportional allocations from an average of 5% to 6.9% in 2000, whereas all other categories showed substantial reductions (Table 3.8).

Table 3.8   Distribution of public expenditure on health (percentage of actual allocations), 1996–2004 (selected years)

	1996	1997	1998	1999	2000	2001	2002	2003	2004
State governance		0.4	0.3	0.6	1.5	0.5	0.5	1.7	2.0
Primary care (ambulatory, polyclinic)	15.0	19.3	19.0	22.7	19.4	19.1	21.2	33.2	32.3
Hospital care	75.6	62.2	56.6	53.8	53.0	56.5	57.2	52.7	52.5
Sanitary and epidemiological services	9.3	5.2	5.4	4.5	6.9	4.8	5.0	3.0	4.0
Other health services	0.0	13.0	18.7	18.3	19.2	19.2	16.2	9.4	9.1

Sources: Data provided by Ministry of Finance and Economy of the Republic of Armenia; National Statistical Office of the Republic of Armenia.

Fig. 3.6   Total expenditure on health in US$ PPP per capita in the WHO European Region, 2004, WHO estimates

Western Europe

Country	Value
Monaco	4 797
Luxembourg	3 992
Switzerland	3 954
Norway	3 862
Iceland	3 508
San Marino	3 172
Netherlands	3 056
Germany	3 052
France	3 016
Belgium	2 922
Sweden	2 875
Denmark	2 838
Ireland	2 619
Andorra	2 581
United Kingdom	2 531
Italy	2 424
Austria	2 365
Finland	2 275
Greece	2 106
Israel	1 972
Spain	1 908
Portugal	1 903
Malta	1 686
Cyprus	972
Turkey	589

Central and south-eastern Europe

Country	Value
Slovenia	1 760
Hungary	1 334
Czech Republic	1 333
Croatia	897
Slovakia	829
Lithuania	816
Poland	810
Estonia	776
Latvia	751
Bulgaria	635
Romania	566
Serbia and Montenegro	431
The former Yugoslav Republic of Macedonia	411
Albania	409
Bosnia and Herzegovina	359

CIS

Country	Value
Belarus	740
Russian Federation	571
Kazakhstan	393
Ukraine	361
Armenia	321
Turkmenistan	224
Republic of Moldova	202
Georgia	193
Kyrgyzstan	177
Uzbekistan	169
Azerbaijan	160
Tajikistan	82

Averages

	Value
EU average	2 376
EU Member States before 1 May 2004	2 645
EU Member States joining EU on 1 May 2004	985
CIS	444

US$ PPP

Source: WHO Regional Office for Europe (2006).
Notes: CIS: Commonwealth of Independent States; EU: European Union.

Fig. 3.7   Total expenditure on health as a percentage of GDP in the WHO European Region, 2004, WHO estimates

Western Europe

Switzerland	11.6
Germany	10.9
Iceland	10.8
France	10.0
Norway	9.9
Monaco	9.9
Portugal	9.8
Netherlands	9.8
Greece	9.8
Sweden	9.5
Belgium	9.3
Malta	9.2
Denmark	9.0
Italy	8.7
Israel	8.7
United Kingdom	8.1
Spain	7.8
San Marino	7.8
Turkey	7.7
Finland	7.5
Austria	7.5
Ireland	7.2
Andorra	7.1
Luxembourg	6.9
Cyprus	6.2

Central and south-eastern Europe

Serbia and Montenegro	10.1
Bosnia and Herzegovina	9.3
Slovenia	8.7
Hungary	8.4
Croatia	7.9
Bulgaria	7.7
Czech Republic	7.2
The former Yugoslav Republic of Macedonia	7.0
Albania	6.6
Lithuania	6.5
Poland	6.4
Latvia	6.4
Slovakia	5.8
Romania	5.7
Estonia	5.5

CIS

Republic of Moldova	7.5
Belarus	6.3
Ukraine	5.8
Armenia	5.6
Uzbekistan	5.4
Kyrgyzstan	5.4
Russian Federation	5.3
Tajikistan	4.5
Georgia	4.0
Kazakhstan	3.9
Turkmenistan	3.8
Azerbaijan	3.7

Averages

EU average	8.9
EU Member States before 1 May 2004	9.3
EU Member States joining EU on 1 May 2004	6.8
CIS average	5.3

% of GDP

Source: WHO Regional Office for Europe (2006).

Notes: CIS: Commonwealth of Independent States; EU: European Union.

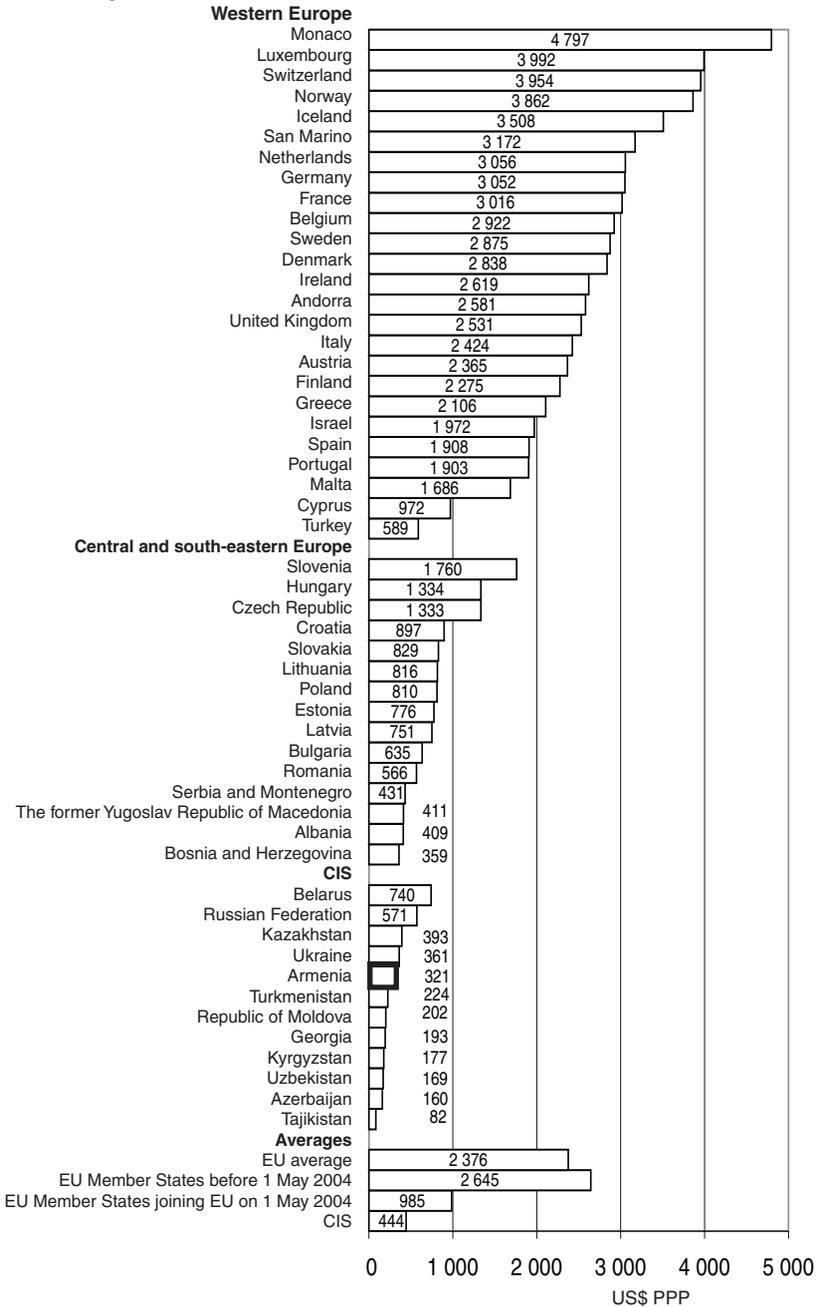However, while the recent shift towards increasing expenditure in PHC at the expense of hospital/inpatient care certainly represents a substantial move forward, the overall public budget allocated to the health care sector is considered only sufficient to cover operating costs. Thus, until 2003, there was essentially no capital investment from the state budget into the renovation of facilities or the procurement of medical equipment.

In view of the increasing recurrent costs for utilities, fuel and communications, along with increasing contractual obligations to non-public providers of health services, salaries for health care workers in the public sector have remained rather low. This is likely to perpetuate and reinforce the system of informal payments as the salaries of many workers in the health care sector fall well below subsistence levels and it also drives pressures to increase formal payments and co-payments. In combination, these factors further reduce the affordability and accessibility of health care for large parts of the population. This is likely to impact on levels of population health, which, in turn, contributes to perpetuating the cycle of poverty.

Table 3.9   Projected health care expenditure, 2005–2007

	2005		2006		2007	
	Recurrent	**Capital**	**Recurrent**	**Capital**	**Recurrent**	**Capital**
State governance						
AMD (million)	695.9	–	1 001.6	–	1 047.8	–
%	2.3	–	2.8	–	2.2	–
Hospital care						
AMD (million)	13 500.0	–	14 300.0	–	18 340.0	–
%	44.1	–	40.5	–	38.7	
Primary care (ambulatory, polyclinic)						
AMD (million)	12 467.0	–	15 407.0	–	21 183.4	–
%	40.7	–	43.6	–	44.6	–
Sanitary and epidemiological services						
AMD (million)	1 440.0	–	2 000.0	–	2 500.0	–
%	4.7	–	5.7	–	5.3	–
Other health services and programmes						
AMD (million)	2 535.1	1 070.3	2 598.6	1 482.9	4 376.4	2 672.6
%	8.3	100.0	7.4	100.0	9.2	100.0
Total	**30 638.0**	**1 070.3**	**35 307.2**	**1 482.9**	**47 447.6**	**2 672.6**

Source: Data provided by the Government of the Republic of Armenia.

Note: AMD: Armenian drams.

However, as indicated in Table 3.9, efforts are now under way to change this situation towards targeting increased access to and utilization of primary care and poverty reduction as core objectives for both human and economic development (Government of the Republic of Armenia 2003d). Thus, the share of resources allocated to primary care and total funding allocated to health are projected to increase at rates of over 10% annually over the next decade (Government of the Republic of Armenia 2003d). Health care expenditure is projected to reach 10% of the state budget in 2008 and 12% by 2015.

Between 2004 and 2015 public expenditure on health is projected to increase by 1.1% against GDP, to reach 2.5% of GDP by 2015, as set out in the PRSP (Government of the Republic of Armenia 2003d). Budget growth will be directed, in part, towards increasing staff salaries and equipping facilities with sufficient resources to operate, while also allowing for modest renovations and procurement of equipment. The emphasis is on improving PHC facilities and services, particularly in rural areas. Consequently, allocations to secondary and tertiary care facilities will be reduced and the corresponding funds will be redirected, primarily to mother and child care and to the control of communicable and so-called socially important diseases. The share of expenditure allocated to PHC is projected to increase to 40% of state funds by 2006, to 45% by 2008 and to 50% by 2015. In this period, the nascent family medicine system will be rolled out nationwide and will operate under a number of autonomous models largely financed by capitation and fee-for-service contracts with the State.

These changes are expected to free up resources for the State to provide primary care diagnostic services to the population, especially its vulnerable sections. In preparation for this transition, the diagnostic capacity of regional (secondary) facilities and larger primary care facilities have been enhanced under the first credit programme supported by the World Bank (World Bank 2004b). Specialized tertiary diagnostic services will also be covered, albeit to a limited extent, and capacity expanded at selected tertiary facilities or freestanding diagnostic facilities as part of a tiered model of health care services.

These efforts may be expected to result in improved access to primary care of high quality and efficiency. For these developments to be successful, the State needs to develop further its regulatory function as it becomes a purchaser of services and an assuror of quality, leaving provision of services to an increasingly privatized (though not necessarily for-profit) delivery system. To achieve this goal, significant investment must be made in human capacity development, especially management, finance, and leadership training at all levels of staffing and the creation of policy analysis and synthesis skills within the Ministry of Health, in order for it to remain at the forefront of strategic planning for health.

4 Regulation, planning and management

Since the mid-1990s, the health sector has remained a low governmental priority with the Minister of Health having only minimal political power. This was in part because of the ongoing tensions between Armenia and its neighbours, leading to defence being prioritized and relevant powers deferred to the Ministry of Defence, but also because the ministers of health had a low negotiation capacity to articulate the priorities, needs and strategies to secure wide-ranging political support. Communication with and involvement of stakeholders in other sectors such as education, finance, labour, parliamentary committees, local governments and, particularly, civil society and professional associations has also been limited and poorly coordinated. This is likely to have limited the overall potential to form coalitions capable of influencing the national policy agenda. A national health policy strategy is lacking thus far, and there is a need for critical, evidence-based policy-setting, analysis and policy-development capacity within the Ministry of Health, which is further compromising effective health policy-making. However, although a national health policy was not approved formally, existing policy documents served as the basis for drafting a new health law and developing concept papers developed by the Ministry of Health.

In order to meet the needs of the Armenian population, in 2001 the Government adopted the "Concept of the optimization of the health care system of the Republic of Armenia" (Government of the Republic of Armenia 2001a). This document places considerable importance on the objectives of the WHO Health for All policy and sets out the principles for the organization of health care at the three levels of service provision, hospital and capacity planning, privatization of facilities and the legislative framework. Yet, the system's capacity in terms of number of facilities, beds and human resources continues

to exceed demand substantially, while resources allocated for maintaining existing health care facilities have so far been insufficient.

Frequent changes in the national Government and ministerial appointments (the average service time of a Minister of Health has been approximately 18 months) have resulted in fragmented and disrupted leadership and numerous, sometimes contradicting, changes in organizational structure involving mergers, dissolutions and reorganization of functional units and assignments. One example is the SHA. Established in 1998 as a separate, semi-governmental health care financing entity it was subsequently (2002) incorporated within the structure of the Ministry of Health, as noted earlier. Similarly, 2000 saw a short-lived merger of the ministries of health and the (then) social security authorities into the Ministry of Health and Social Affairs, at least on paper, before that concept, too, was abandoned. These irregular changes, combined with low wages and poor mid-level management practices have contributed to low morale and an exodus of professional staff. It is difficult to assess the extent to which these transformations have had an impact on the overall coordination and effectiveness of the Ministry's functions, as no evaluation has been undertaken so far. In addition, few programmes had been fully implemented before being radically changed.

4.1   Regulation

As described earlier (see Section 2.2 "Organizational overview") the Ministry of Health performs a number of distinct duties involving regulatory functions. These include the following areas (Hovhannisyan et al. 2001).

- *Pharmaceuticals.* Together with the Drug and Technology Scientific Expertise Centre (formerly Drug and Medical Technology Agency) the Ministry of Health is responsible for monitoring quality (see Section 6.4 "Pharmaceutical care").

- *Medical education and training.* The Ministry of Health and the Ministry of Education and Science determine standards for undergraduate medical and nursing schools; admission of students (student numbers) is regulated by the Ministry of Health's human resources department. The Ministry of Health oversees postgraduate training and is responsible for accreditation of postgraduate training facilities and legislation and regulation governing the professional specialization process (see Section 5.2 "Human resources").

- *Basic Benefits Package.* The Ministry of Health sets the rates (prices) of all service components of the BBP centrally. It determines prices of outpatient

visits and rates for case payments for inpatient care (see Section 3.3 "Payment mechanisms").

- *Remuneration of health care workers.* The Ministry of Health determines salary levels of health personnel, but restricted to those providing primarily publicly funded services, for example PHC (see Section 3.3 "Payment mechanisms").

- *Licensing.* The Ministry of Health is the sole body responsible for the licensing of outpatient facilities and hospitals.

- *High-technology equipment.* While provider autonomy has been increased, permitting health care facilities to procure equipment independently, the Ministry of Health has retained the right to license the use of all high-technology equipment as a means to maintain standards.

4.2   Planning and management

Approaches to planning in the Armenian health care system have evolved from a centralized model characteristic of the Semashko model into a segmented vertical system of planning that essentially originates from the Parliament through to Republican Government and Ministry of Health down to regional departments of health and social protection to facility and, ultimately, community level. This structure has yet to develop the requisite horizontal linkages and structures to enable efficient and decentralized coordination.

Regional governments and their health departments generally tend to have little input into planning or regulatory activities. However, there are a number that have been intensively involved in setting the reform agenda in cooperation with international donor organizations, as for example within the first World Bank-supported health financing and PHC development project. It included the financial support of establishing family medicine in mostly rural communities, which involved the creation of facility management boards that comprised representatives from the marz health department, the primary care team, the community as well as the head of the local community (*hamaynk*), to undertake community health needs assessment, submit proposals and business plans and oversee the implementation of the programme at local level (World Bank 2004b). Similarly, the introduction of CBHI schemes in selected rural districts, supported by Oxfam, is characterized by strong community involvement in the management of the funds (Poletti & Balabanova 2005). For example, the recent creation of two Healthcare Foundations in Vayots Dzor and Syunik involves a board of trustees with representatives from local authorities, Oxfam, the

local NGO "Support the Community", as well as the local community itself. Each party has four staff employed to undertake financial audits and provide budget oversight of the individual schemes (Poletti & Balabanova 2005). It is important to reiterate, however, that this active involvement of regional or local authorities tends to be very selective and generally in cooperation with external benefactors only.

At national level, the main focus has been on the perceived oversupply of the health care workforce and facilities and consequently on optimization efforts to reduce the extensive health service network, as first set out in the 1995 "Program for development and reform of the health care system of the Republic of Armenia 1996–2000" and further defined in the 2001 "[C]oncept of the optimization of the health care system of the Republic of Armenia" (see Section 2.1 "Historical background"). The results of initial optimization efforts were mixed, however, as the plan was not comprehensive and limited to separate activities within marzer. Also, it did not address the substantial capacity gap between urban and rural areas, which is in excessive oversupply in urban areas only. Further, there was no coherent strategy as to how to address the resulting unemployed resources (Hovhannisyan et al. 2001). Optimization remains high on the policy agenda, with current efforts concentrating on the Yerevan area in particular (see Section 6.3 "Secondary/inpatient care" and Section 7.1 "Analysis of recent reforms").

Management of health facilities is generally characterized by a strong vertical hierarchical structure, headed by a director. Most hospitals lack a governing body such as a board and thus remain the de facto personal fiefdoms of the director. The planning of hospital operation or activities is based on annual assessments and reports but with little strategic planning. Also, approaches to performance management are virtually absent from all but the most progressively managed hospitals. This has been attributed to the legacy of the centrally planned economy under the Soviet system in which managers had no training or experience in strategic planning and had to continue to struggle without outside support and guidance. Instead, the approach of most managers and planners, both naive and well-intentioned, has been to direct scarce financial resources to sustain a defunct system, rather than evolving to provide high-quality and safe medical care in accordance with the conditions of the new environment. Thus, in 2000, 65% of the health care budget was spent on maintaining more than 20 000 beds with an average occupancy rate of 33%, yet a salaried staff team for 100% occupancy (Hovhannisyan et al. 2001). PHC, on the other hand, received less than 30% of the health care budget. In 2002, state budget allocations for hospitals were more than three times those allocated to develop and maintain the PHC system, although this is now changing, with allocations to the primary care sector successively growing, so that in 2004 allocations to the hospital sector

exceeded those devoted to primary care by a factor of 1.5 only (see Section 3.4 "Health care expenditure").

Planning of human resources for health is incidental and largely left to health facilities. As for the supply of health professionals, there is currently no clear national policy and commitment of resources to redirect the professional education system so as to train appropriate numbers of primary care providers and specialists. Although the Ministry of Health does not recognize newly established private medical schools and their graduates are not granted a licence to practise (see Section 5.2 "Human resources"), these institutes have, however, contributed to supplying even more specialists, often with dubious qualifications, to an already overstaffed health care system. The Ministry of Health is now reviewing its policies in this area and the coming years are critical for the formulation and implementation of respective strategies.

Effective planning and management is largely absent at all levels of the system. Strategic planning remains at an embryonic stage. Operational planning is obstructed by poor data quality, lack of skills and limited opportunities for viable applications. Health technology assessment is currently not on the national health policy agenda at all.

M&E as a management practice is undertaken only piecemeal in the areas of external support (for example project-related fields) and is confronted with insufficient human capacity and lack of adequate translation into policy and management decision-making. The World Bank has committed to support an ambitious programme of action to strengthen the Ministry's capacity in M&E and to expand the scope of M&E to areas such as access, equity, quality, effectiveness, efficiency, sustainability and poverty impact of national policies (World Bank 2004d). Specifically, it envisages the adoption of the M&E framework as developed by WHO in collaboration with its Member Countries as a component for health systems performance assessment with a view to enhancing the national health system, along with the development of a framework and implementation of regular health system performance assessments.

5   Physical and human resources

5.1   Physical resources

Similar to other countries in the region, Armenia inherited an oversized health care system with a major focus on specialized care, with a total of 183 hospitals in 1991, equating to 5 hospitals per 100 000 population compared to 3.7 per 100 000 in all 25 EU countries (WHO Regional Office for Europe 2006). The number of hospitals was subsequently reduced, however, to a total of 140 hospitals in 2004, with the number of hospital beds almost halving, from 8.5 per 1000 population in 1991 to 4.4 per 1000 in 2004 (National Statistical Service of the Republic of Armenia 2005c, WHO Regional Office for Europe 2006). The number of acute care hospital beds fell from 7.7 per 1000 population in 1991 to 3.9 per 1000 in 2004, slightly lower than the average for all 25 EU countries, which was 4.2 per 1000 (WHO Regional Office for Europe 2006). Of the approximately 14 000 hospital beds, almost 1 300 beds (9.2%) are now in the private sector, owing to the recent privatization of selected secondary and tertiary care hospitals and centres. The distribution of hospital beds by specialization is dominated by internal medicine (therapeutic beds), surgery, paediatrics and maternity homes (see Table 5.1).

In general, hospitals are responsible for controlling their day-to-day operation, rationally spending resources and keeping within the operating global budget arrangements. Typically, there is little public accountability to the communities they serve. Primary obligatory reporting requirements are to central and regional governmental authorities.

Despite recent efforts to reduce the number of beds, the system of hospital care in Armenia is still characterized by excess capacity (see Fig. 5.1 and Fig. 5.2), while a substantial number of patients would be more appropriately and cost-effectively treated in day care or outpatient settings. However, even with

Table 5.1   Distribution of hospital beds by specialization, 2004

Specialty	Number of beds	Per 1000 population	% of total hospital beds
Therapeutic	2 447	0.76	17.2
Surgical	3 214	1.00	22.5
Infectious	865	0.27	6.1
Paediatric (noninfectious, per number of children)	1 818	2.61	12.7
Tuberculosis	600	0.19	4.2
Psychiatric	1 305	0.41	9.2
Obstetrics	1 662	1.8	11.7
Narcology	80	0.02	0.6
Other	2 268	-	15.9
Total	**14 259**	**4.43**	**100.0**

Source: National Statistical Office of the Republic of Armenia 2005.

Note: Figures may not equal 100% as a result of rounding.

inappropriate admissions, the occupancy rate is less than would be expected based on historical figures of reported average occupancy rates of around 85% in the 1980s (WHO Regional Office for Europe 2006). Currently, occupancy rates are fluctuating between 30 and 40%, and in some facilities are even lower than 20%, indicating poor access to services. The average length of stay has fallen recently, from 13.7 days in 1991 (acute care hospitals) to 8.7 days in 2003, compared with an average of 6.8 days in all 25 EU countries (WHO Regional Office for Europe 2006) (for more details see Table 5.2).

The role of hospitals and other inpatient institutions within the evolving system of PHC emphasis appears uncertain both for national health care leaders and providers. Hospitals are largely autonomous and major hospital resources remain tied up in equipment, physical constructions and unsustainable administrative costs. Without external demands for gains in efficiency and

Table 5.2   Inpatient facility utilization and performance in acute care hospitals, 2000–2004

	2000	2001	2002	2003	2004
Hospital beds per 1000 population	5.7	4.4	3.8	3.9	3.9
Admissions per 100 population	5.8	5.5	5.9	6.5	6.7
Average length of stay in days	10.3	9.6	8.9	8.7	8.5
Occupancy rate (%)	28.2	31.6	37.3	40.7	41.8

Source: WHO Regional Office for Europe (2006).

**Fig. 5.1   Hospital beds in acute hospitals per 1000 population in central and
             south-eastern Europe and CIS countries, 1990 and 2004
             (or latest available year)**
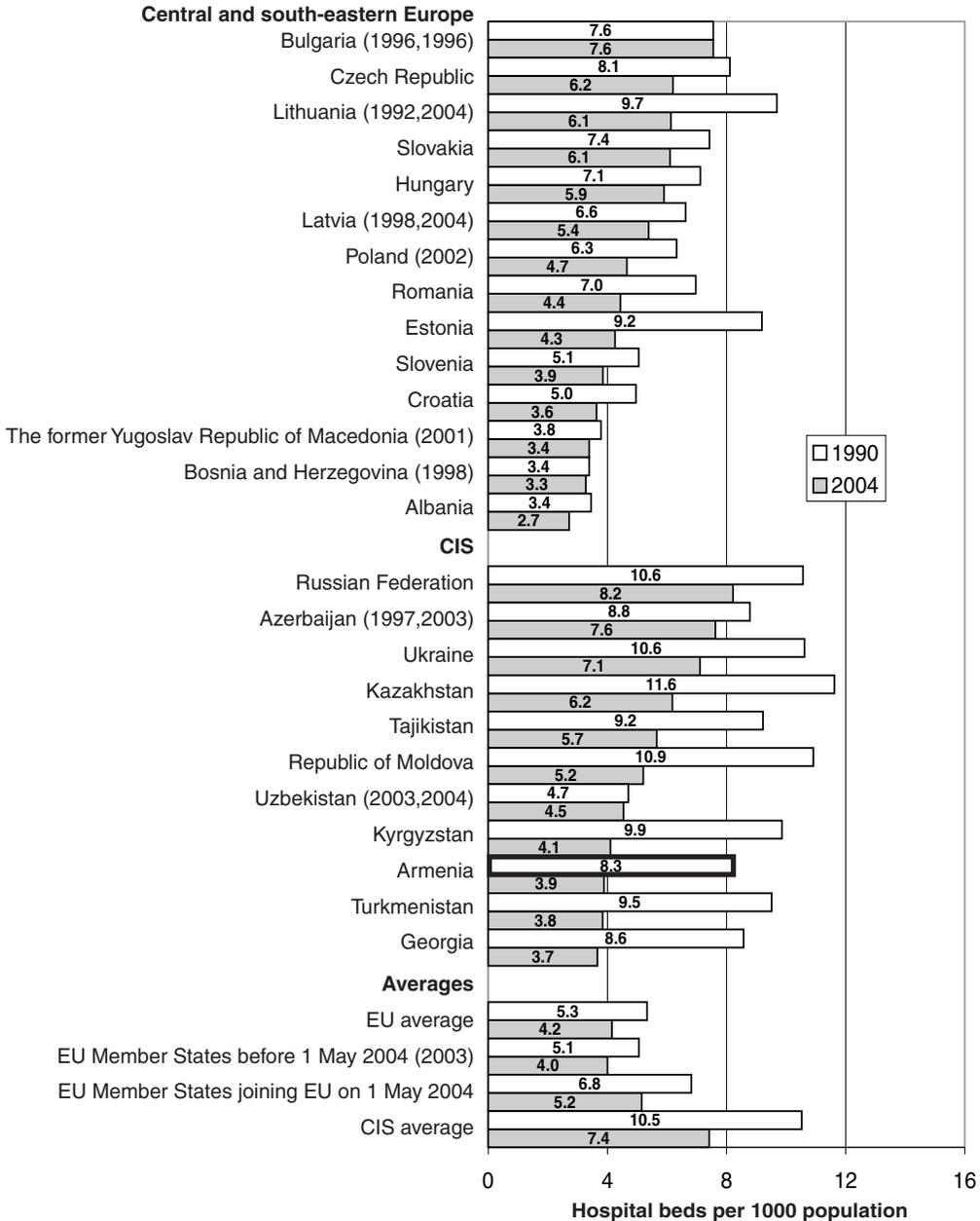
Source: WHO Regional Office for Europe (2006).

Notes: CIS: Commonwealth of Independent States; EU: European Union; Countries without data not included.

Fig. 5.2   Hospital beds in acute hospitals per 1000 population in Armenia and selected countries, 1990–2004 (selected years)
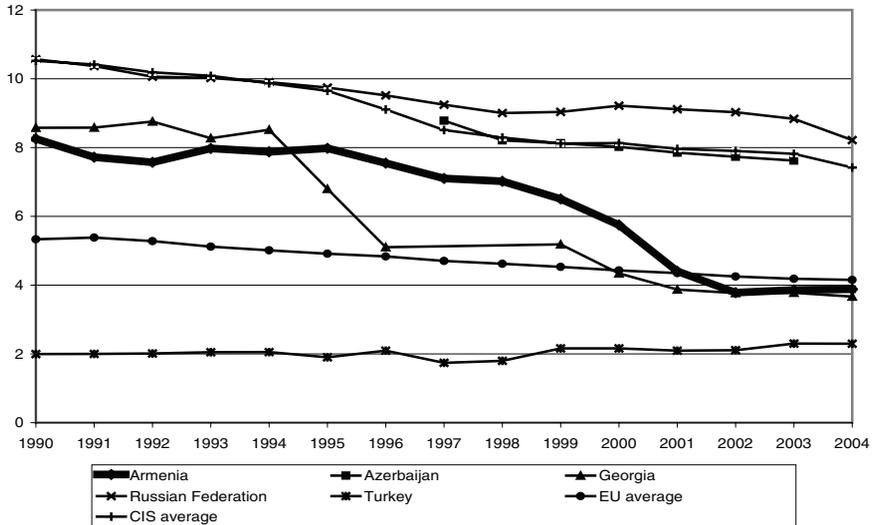
Notes: CIS: Commonwealth of Independent States; EU: European Union.

quality of care and limited public accountability, there are few incentives in the present system to reorient hospital management practices (see also Section 6.3 "Secondary/inpatient care").

5.2   Human resources

The Ministry of Health classifies health sector staff according to three categories.

- *University-qualified health care personnel*: including physicians, dentists, pharmacists, biologists, chemists, clinical psychologists and others.
- *Intermediate graduate health care personnel*: including social workers, qualified nursing staff, midwives, physiotherapists, occupational therapists, specialist technicians, dental nurses, and auxiliary nursing staff.
- *Auxiliary personnel*: including technical, special service, maintenance and other staff in health facilities.

The majority of health care staff working in public facilities have a status similar to that of civil servants. General regulations on terms and working

conditions in the public health care sector are overseen centrally by the Ministry of Health and locally, at municipal or regional level, by departments of health and social security. Directors of facilities (chief doctors, administrators) such as hospitals and polyclinics have only limited authority to negotiate the terms of working conditions as, for example, financial incentives. This has been interpreted as impeding the development of more flexible human resources policies and as hampering the promotion of institutional values and the defining of objectives as priorities. Also, while Armenia has embraced the privatization of health care delivery, this has not involved systematic planning or regulation of the health care workforce in the country, i.e. of the number and specialization of providers that should be trained and licensed and their desired geographic distribution.

5.2.1   Trends

Staffing levels

Until the mid-1990s, the health care sector in Armenia was characterized by a large workforce, particularly physicians (see Table 5.3), with the state medical university producing between 500 and 800 graduates each year. This only changed recently, with the number of students entering medical school being reduced to approximately 400 and fewer since the mid-1990s. In 1990, Armenia had 3.9 physicians per 1000 population compared to 4.0 in the CIS and 3.0 in the 25 countries belonging to the EU (see Fig. 5.3). By 2004 this number had fallen to approximately 3.3 per 1000, less than in the CIS, at 3.7 per 1000, and comparable to figures recorded for all 25 EU countries, at 3.5 per 1000 in 2003 (WHO Regional Office for Europe 2006).

A key feature of the medical workforce in Armenia is the overprovision of specialists relative to physicians working at the primary care level. In the past, residency slots were effectively based on student interest and not on actual need. In the current context, this has caused unemployment among specialists in certain fields. Just under half of the physicians (43.9% in 2004) work in hospitals (WHO Regional Office for Europe 2006), leaving some areas, especially in the primary care sector, inadequately covered. There is also a shortage of physicians in rural areas. The current situation is further characterized by the low remuneration of doctors and other health care staff.

Table 5.3   Health care personnel per 1000 population, 1985, 1990, 1995–2004

	1985	1990	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004
Physicians	3.58	3.92	3.51	3.62	3.68	3.70	3.59	3.52	3.39	3.41	3.42	3.27
Dentists	0.23	0.32	0.32	0.34	0.33	0.32	0.32	0.31	0.22	0.19	0.25	0.27
Certified nurses	6.15	7.29	6.68	6.30	5.85	5.64	5.42	4.96	4.55	4.26	4.15	4.06
Pharmacists	0.19	0.22	0.16	0.10	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04

Source: WHO Regional Office for Europe (2006).

The number of nurses has fallen considerably over recent years, from 7.3 per 1000 population in 1990 down to 4.0 per 1000 in 2004 (see Fig. 5.4). This compares to 7.9 per 1000 in the CIS and 7.2 in all 25 EU Member States (WHO Regional Office for Europe 2006). Not only is the number of nurses low in international comparison (see Fig. 5.5), their skills are also considered inadequate for independent work (World Bank 2004b). The number of dentists per 1000 population appears to have changed very little since independence,

Fig. 5.3   Number of physicians per 1000 population in Armenia and selected countries, 1990–2004
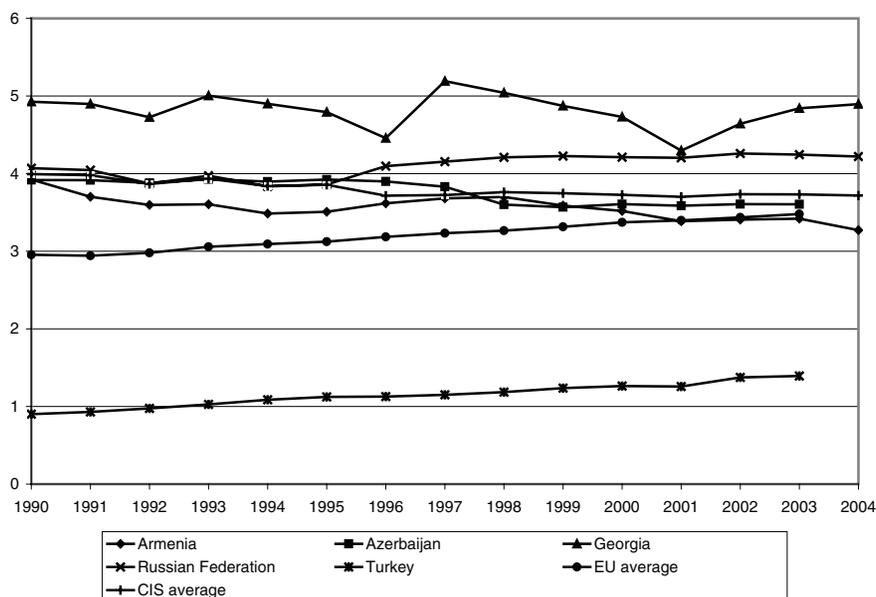
Source: WHO Regional Office for Europe (2006).

Notes: CIS: Commonwealth of Independent States; EU: European Union.

while the number of pharmacists appears to have fallen quite dramatically, by over 80% between 1990 and 2004 (WHO Regional Office for Europe 2006). The true current numbers of dentists and pharmacists is, however, unknown, since most dental care facilities and pharmacies have been privatized and reporting is incomplete (World Bank 2004b). Anecdotal evidence suggests that because of low incentives and salaries, many health professionals have moved from the public to the private sector; there are, however, no reliable data on the extent of this movement.

Fig. 5.4   Number of nurses per 1000 population in Armenia and selected countries, 1990–2004
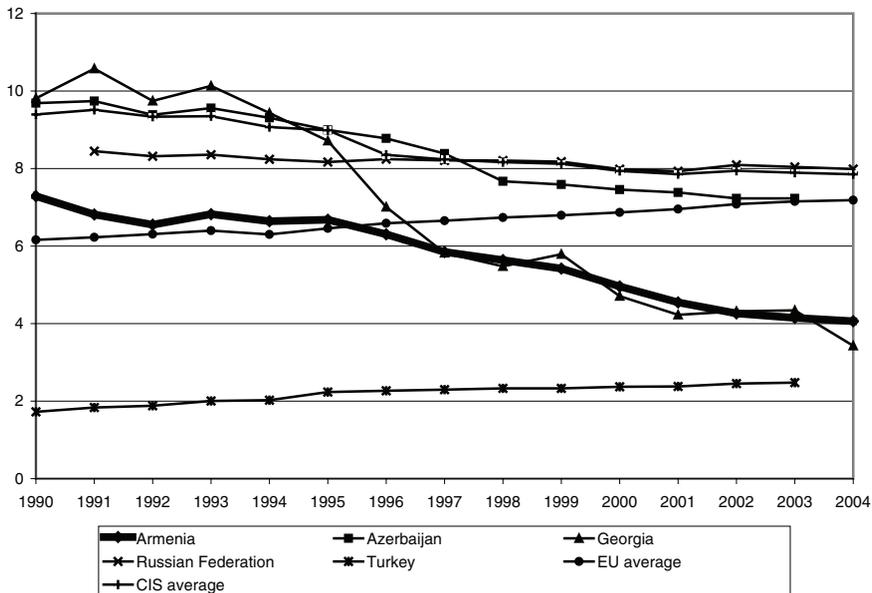
Source: WHO Regional Office for Europe (2006).

Notes: CIS: Commonwealth of Independent States; EU: European Union.

5.2.2   Training

The Ministry of Education is responsible for the undergraduate education and training of most health personnel. Basic university-level medical education lasts six years compared to five years for most other undergraduate university education for health-related professions such as biologists, chemists and others. Undergraduate medical training is provided at the Yerevan State Medical University (SMU), the only accredited medical school in Armenia. There are also four private medical schools which were established after

Fig. 5.5   Number of physicians and nurses per 1000 population in central and south-eastern Europe and CIS countries, 2004 or latest available year (in parentheses)

Central and south-eastern Europe

Country	Physicians	Nurses
Lithuania	3.9	7.5
Bulgaria	3.5	3.8
Czech Republic	3.5	8.5
Hungary	3.3	8.6
Estonia (2003,2003)	3.2	6.5
Slovakia	3.1	6.6
Latvia	3.1	5.3
Serbia and Montenegro (2002,2002)	2.7	6.0
Croatia	2.5	5.1
Poland (2003,2003)	2.3	4.7
Slovenia (2003,2002)	2.3	7.2
The former Yugoslav Republic of Macedonia (2001,2001)	2.2	5.2
Romania	2.0	4.0
Bosnia and Herzegovina	1.4	4.3
Albania	1.2	3.6

CIS

Country	Physicians	Nurses
Georgia	4.9	3.4
Belarus	4.6	11.7
Russian Federation	4.2	8.0
Kazakhstan	3.6	6.3
Azerbaijan (2003,2003)	3.6	7.2
Armenia	3.3	4.1
Republic of Moldova	3.1	7.0
Ukraine	3.0	7.8
Uzbekistan	2.7	9.9
Turkmenistan	2.6	4.7
Kyrgyzstan	2.6	6.2
Tajikistan	2.0	4.5

Averages

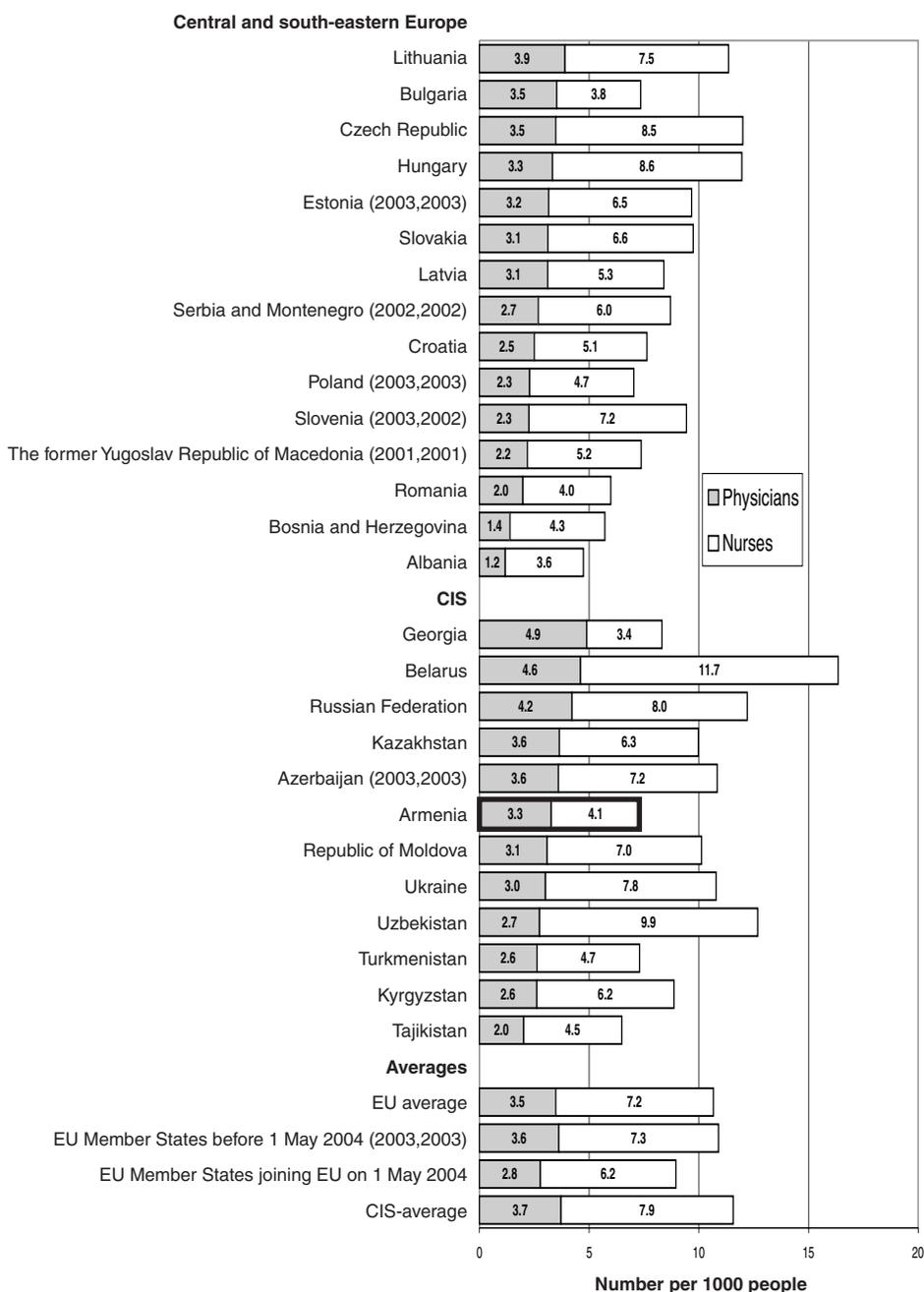| Country	Physicians	Nurses
EU average	3.5	7.2
EU Member States before 1 May 2004 (2003,2003)	3.6	7.3
EU Member States joining EU on 1 May 2004	2.8	6.2
CIS-average	3.7	7.9

□ Physicians
□ Nurses

Number per 1000 people (0, 5, 10, 15, 20)

Source: WHO Regional Office for Europe (2006).

Notes: CIS: Commonwealth of Independent States; EU: European Union.

independence. The Government does not, however, recognize these schools and students are not entitled to take the state medical exams. Under current regulations, graduates from the private medical schools are not granted licences to practise (Hovhannisyan et al. 2001). As indicated above, in order to reduce the oversupply of physicians in the country, the admission of students to the SMU was decreased from 700 in 1992 to 350 in 2002 (World Bank 2004b). Of those, 118 are funded by the Government whereas the remainder have to pay private tuition fees.

Nurses, midwives, dental nurses and physiotherapists are trained at nursing schools and colleges, and their education lasts between three and four years. Training is provided at seven state nursing colleges and there are an additional 10 private nursing colleges; although, as with the private medical schools, the private colleges are not recognized by the Government.

Specialist training of doctors

The training of medical specialists and family physicians is organized through the system of postgraduate education at the National Institute of Health (NIH) and Yerevan SMU.

As noted above, the health care sector in Armenia is characterized by an imbalance between specialists and generalists, a legacy from the Soviet model with its emphasis on secondary care. This is reflected by the high number of different specialties officially recognized by the State, currently at 89, compared to only 33 specialties recognized in the EU (World Bank 2004b). Training requires between two and four years, depending on the particular specialization and is provided by the specialized clinical centres and university hospitals and services, which are specifically accredited to provide such training. Each specialization is governed and closely monitored by the institutional administration and academic board, made up of representatives of the relevant clinical departments, faculty and university teachers, and health professionals.

Postgraduate training programmes in different specialties require approval from the Ministry of Health. In general, any health care institution, public or private, may apply for accreditation of specialist training programmes, provided they comply with existing standards. However, since most training facilities still belong to the public sector, this is rarely an issue. There is no limitation on the number of graduate students admitted, provided they pass the entry tests. The duration of training is set according to the specialty.

Specialist postgraduate training in nursing disciplines is not systematically developed and is generally provided through individual short-term programmes

and projects delivered, locally or abroad, by various international organizations through the ASTP or by UNICEF and NGOs. For example, in the mid-1990s UNICEF supported programmes that also provided the training of 180 nurses and doctors in preventive care, child development and clinical care (World Bank 2005).

Historically, doctors without further specialty qualification provided PHC, thus there are only few qualified primary care doctors. However, Armenia was one of the first countries in the CIS to establish chairs in family medicine, so providing a specialty qualification in PHC (World Bank 2004b). Chairs were established in 1997 at the NIH, the Yerevan SMU and the Yerevan Basic Medical College (BMC). The NIH mainly provides retraining programmes for health professionals working in primary care, including district physicians, district paediatricians, nurses and midwives and also offers residency training. The SMU offers family medicine training for undergraduate medical students and postgraduate residency programmes, while the BMC provides training in family medicine for undergraduate nursing students and postgraduate specialization in family medicine nursing (World Bank 2004b). In this framework, Armenia has also discontinued the separate undergraduate specialty programme leading to PHC paediatricians, but has instead recognized paediatrics as a postgraduate specialty (World Bank 2004b).

The retraining programmes at both the SMU and the NIH are considered to be in line with international standards, with key strengths including, among others, a well-defined concept of family medicine, well-established training centres in Yerevan and Gumri, and appropriately designed curricula (World Bank 2005). In 2002–2003, the Armenian Association of Family Physicians, with support from USAID/the ASTP, developed a Unified Curriculum for Family Medicine that comprises 33 modules (World Bank 2005). The curriculum was adopted by the Ministry of Health in July 2003 and has been implemented since December 2003.

The retraining programmes for specialists in the field of primary care at the NIH and the SMU complement the Government's efforts to coordinate the workforce through optimization strategies and merging and downsizing of hospitals and other provider institutions, in parallel with gradually reducing the number of entry-level medical students at the medical university. The residency retraining is significantly shorter than the residency for recent graduates, providing a swifter supply of the specialists needed and providing employment opportunities for skilled but unemployed or underemployed physicians. Other recent innovations include a baccalaureate programme in nursing and expanded postgraduate opportunities in public health and health management, as set out below.

Specialist training of managers

Health care managers are a critical component of the health care workforce. The current organizational arrangements in the health care sector do not require specific management qualifications for those employed to carry out administrative and/or leadership functions. Nearly all chief health care administrators (directors, chief doctors) are specialist doctors with little formal knowledge of or training in modern approaches to health care management. Few health care professionals and decision-makers have higher degrees, at diploma or Master's level in public health or health care management and administration.

In 1995, the AUA launched a Master's programme in public health, addressing the need to train public health specialists. The NIH further launched a two-year postgraduate specialization in health care organization and management. This was joined by a USAID-funded university partnership programme in health care management education, which, in 1999–2000 formed the School of Health Care Management and Administration (SHCMA), providing new capacity for advanced postgraduate professional training. The SHCMA is currently running under the coordinated guidance of the Ministry of Health and the AUA.

5.2.3   Registration/licensing

The general professional licensing process and relevant procedures in Armenia are regulated by statutory proceedings detailed in the 2001 Law on licensing, by state regulatory acts and statements set out in the Civil Code, other regulatory bylaws and associated international agreements. These documents describe the types and nomenclature of professional activities that require mandatory licensing and regulate all relationships between parties involved in the process.

According to current regulations, licensing applies only to the nature of professional activities and business character, such as trades, banking and finance, security and customs, education, agriculture as well as the health care sector. Here, activities requiring a licence include:

• pharmaceutical industry and retail of pharmaceutical products
• retail of herbs
• pharmacies and drug stores
• provision of health services by organizations or individual entrepreneurs
• biotechnology activities.

There is no formal system of registration of qualified practitioners, except for an annual registration of the number of graduates from medical schools and/or colleges. The mandatory five-year relicensing term for all medical specialists was suspended for several years and was only recently reinstituted. The final details of the revised system are still being discussed; it is envisaged that it will regulate the type, quantity and content of training which would qualify for continuing education credits. Armenia's training programmes in health care do not conform to EU standards, thus making it difficult to support mutual recognition of training.

6 Provision of services

The Armenian health care system still carries the legacy from the Soviet model of health care delivery that relied extensively on hospital-based physicians with a strong focus on curative services as a means to reduce the burden of disease and mortality, while health promotion activities and the creation of healthy living conditions were less of a priority. Only approximately 40% of active physicians work in the primary care sector, acting as gatekeepers to the system. In practice, these providers have only limited tools to control access to specialists and allied providers, hospital admissions, diagnostic testing and prescription drug therapy. In many cases, they also lack competent training and experience for performing their gatekeeping function. A recent assessment of the delivery system in Armenia concluded that current services "are still characterized by antiquated and costly facilities, and a vertical, highly specialized, non-integrated approach to care" (USAID/Armenia 2004). The system continues to feature an excess capacity of providers, underutilized facilities and an inappropriate skill mix. At the same time, there is considerable inequity in the level of services provided in rural and urban areas; for example, approximately two thirds of the health care labour force are based in the capital city. Ad hoc restructuring has often consolidated facilities in a way that decreases access to care, especially for rural populations, while increasing administrative costs and disrupting established referral systems. It has also led to excessive vertical segmentation, further complicating the monitoring of health resource utilization at lower levels of the health system. The following patient pathway highlights the many challenges faced by the health care sector in Armenia in trying to achieve an efficient delivery system of high quality.

Patient pathways

A male patient in need of radical prostatectomy due to locally advanced cancer would take the following steps.

- During a free visit to the district physician ("therapist") with whom he is registered, the physician refers him for an additional consultation to a specialist (urologist) in the polyclinic.

- Following a physical examination and basic diagnostic tests, the urologist then refers him to a hospital surgery (or urology) department; these steps generally do not involve significant charges or fees.

- The patient has access to any (public or private) secondary/tertiary care hospital and his urologist advises him which hospital to select based on the patient's area of residence, special needs, expected quality of specialist care within the chosen hospital, etc.

- If he opts for public services he must pay the formal charges which apply to selected services, including an admission fee and "hotel" charges; also, he or his family will have to make an additional informal payment to the urologist/surgeon as well as other personnel (such as the anaesthetist, nurse, hospital caregivers and auxiliary staff); formal user charges will be waived if the patient is considered a member of a vulnerable group, as the surgery/treatment will be covered under the BBP; however, in most cases he will still have to make an informal payment.

- If the patient opts for a private hospital, he has to pay all the charges for surgery and any other type of treatment; some proportion of his expenses might be covered by charity, sponsors or, very rarely, private insurance.

- In either case, referral usually does not involve any waiting time since hospitals in Armenia are generally underutilized; in many cases the patient may choose to bypass referral through the district physician altogether and enter as a "walk-in" customer (self-referral).

- Surgery will be scheduled soon after a further detailed assessment of the patient; this usually involves repeating many diagnostic tests and procedures as hospital specialists generally have little confidence in the quality of diagnostics undertaken in primary care/polyclinics.

- Following surgery and a recovery period at the hospital, which generally does not involve any precise care or discharge plan, the patient goes home, where he might need additional home care; this is provided by his family or a visiting nurse from the local polyclinic; the latter is typically not part of a systematic after-care plan but considered as personal courtesy or paid visits (charged informally).

Fig. 6.1   Organizational structure of the State Hygiene and Anti-Epidemic Inspection
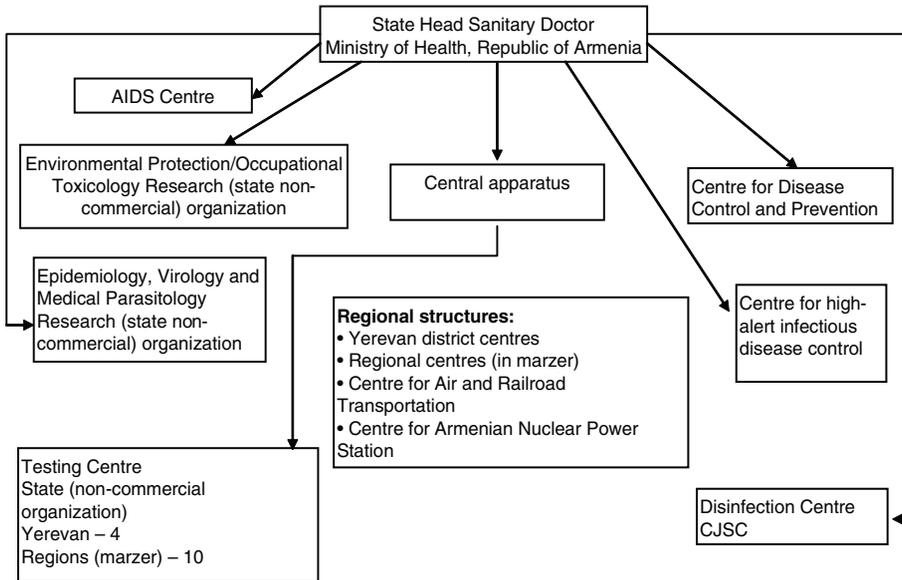
- In most cases, the patient will pass on the discharge summary to his district physician; there is no formal responsibility for further follow-up either through the district physician or the specialist who performed the surgery; any follow-up will be negotiated between the patient and his service provider.
- For specialist follow-up and further specialist treatment, the patient will be referred to an oncologist at a specialized oncology facility (centre/dispensary).

6.1   Public health

Public health services in Armenia, as elsewhere in the former Soviet Union, are organized around the old sanitary and epidemiological services. The country's sanitary legislation is based on the 1992 Law on sanitary-epidemic safety for the population and other legislative documents and bylaws complementing the main document. In 2002, the country's sanitary and epidemiological services were reorganized as the SHAE Inspection under the Ministry of Health. The SHAE Inspection consists of a headquarters office and seven operations offices in Yerevan as well as 10 regional offices and several additional facilities (see Fig. 6.1). There are also 14 non-profit-making so-called "testing centres" which

were established in 2002 so as to provide the necessary laboratory control, expertise and public protection.

The SHAE Inspection at the Ministry of Health assumes a range of responsibilities including:

- ensuring the sanitary-epidemiological safety of the population;
- inspecting and monitoring legal and physical entities with regard to the requirements of sanitary laws and bylaws;
- protecting the public's health and coordinating prevention activities for communicable and noncommunicable diseases;
- defining sanitary-epidemiological safety standards, rules and norms;
- ensuring healthy living conditions;
- transfer of knowledge and educating the public;
- identifying and preventing hazards affecting population safety.

In 2001, with the support of the WHO Regional Office for Europe and based on the WHO Recommended Surveillance Standards, the Ministry of Health developed the National Surveillance Standards of Infectious Diseases, which were subsequently approved and recommended for implementation within the system of state sanitary-epidemiological surveillance and control. In 2003, with the technical assistance from the WHO Regional Office for Europe, a strategy for structural reform of the SHAE Inspection was developed and presented for professional guidance and implementation. The system was further strengthened within the first World Bank health project through the provision of modern bacteriological laboratory equipment to 40 epidemiological centres, and 12 mobile laboratories to marz epidemiological centres (World Bank 2004b).

A new professional training and re-training system for specialists in the SHAE Inspection was introduced recently, including graduate and postgraduate education. However, the existing system of professional training is not satisfactory and requires more appropriate programmes and curricula. The availability of graduates with a Master's degree in public health, from the AUA and abroad, has not been factored into the professional staff plans for the SHAE Inspection.

The processing and consideration of citizens' complaints and concerns about the safety of potable water, water supply networks, the quality of food, environmental pollution and sanitary conditions in public institutions and organizations are not yet satisfactory and the functions of the SHAE Inspection bodies and "testing centres" are not yet fully defined, especially with regard to their coordination with other agencies.

6.1.1   Core programmes

Epidemiological surveillance
At present, all physicians are required to notify health authorities about all cases diagnosed as communicable diseases. This is expected to facilitate timely data collection, analysis, and assessment in support of disease control and outbreak response.

HIV/AIDS
Activities in this area are directed towards, among others, improving the knowledge and analysis of HIV/AIDS in the country; the development of prevention programmes (information and education campaigns on healthy lifestyle, safe sex); training and support programmes for health care staff; and screening of donor blood. As noted earlier, while Armenia is still considered a low prevalence country with regard to HIV/AIDS, recent developments, including rising levels of intravenous drug use and commercial sex work, coupled with large migrant populations that temporarily work in high-HIV prevalence countries such as the Russian Federation and Ukraine (World Bank 2004d), may indicate the potential for a future epidemic.

In response to the HIV/AIDS threat, the Government passed HIV/AIDS-related legislation in 1997 and adopted a Strategic Program of National Response to the HIV/AIDS epidemic in 2001 (World Bank 2004d). In 2002 the Armenian National AIDS Centre hosted the 6th European Red Cross/Red Crescent (RC/RC) Network on HIV/AIDS (ERNA) Conference dedicated to HIV/AIDS harm reduction, the co-existence of HIV/AIDS and TB, and the actions to be further undertaken by the RC/RC National Societies in the field of HIV/AIDS prevention. In 2003, Armenia received a grant from the Global Fund to Fight AIDS, TB and Malaria (GFATM) of a total of US$ 7.2 million to support a national programme on HIV/AIDS prevention in Armenia, with components including peer education activities, care and support for people living with HIV/AIDS, awareness-raising information campaigns, harm reduction programmes, supporting vulnerable groups, technical equipment and facilities as well as anti-retroviral drug treatment and prevention of mother-to-child HIV transmission (Global Fund to Fight AIDS, Tuberculosis and Malaria 2005).

Preventive services and health promotion
The majority of preventive services and health promotion activities are integrated with PHC and partly carried out by nurses, mainly involving immunization programmes.

Immunization

The planning and management of immunization programmes, both routine and special, are the responsibility of the Ministry of Health, which has approved a unified immunization schedule; the actual administering of vaccinations is undertaken by nurses in primary care. Although dependent upon benefactor support for supplies, the programme in place is regarded as highly successful with reported coverage rates approaching 95% among one-year-olds (UNICEF 2005). This finding is corroborated by recent falls and continued low levels in vaccine preventable illnesses. Thus, Armenia has been declared polio-free since 1996, and there have been very few cases of diphtheria, pertussis and tetanus since 2001 (WHO Regional Office for Europe 2006). However, considerable problems remain with regard to mumps and measles, as the MMR vaccine was only recently introduced and a significant portion of the population, especially in rural areas, remain unprotected (see also Table 6.1 and Fig. 6.2).

Table 6.1   Mandatory vaccination (% of infants vaccinated), 1990–2004 (selected years)

	1990	1995	2000	2001	2002	2003	2004
Poliomyelitis	89.0	98.0	97.0	97.0	98.0	95.1	93.0
Diphtheria	90.0	97.0	97.0	97.0	98.0	97.0	90.8
Tetanus	90.0	97.0	97.0	97.0	98.0	97.0	90.8
Pertussis	90.0	97.0	97.0	97.0	98.0	97.0	90.8
Measles	85.0	91.0	95.0	95.0	96.0	93.2	91.5
Tuberculosis	94.0	97.0	89.7	83.9	94.0	97.1	95.8

Source: WHO Regional Office for Europe. European Health for All database (HFA-DB) [online database] June 2006.

Health education

Effective and accessible health education in Armenia requires further development. The Ministry of Health has recently launched a series of national awareness and information campaigns on specific health problems, such as tobacco, alcohol, drugs, HIV/AIDS or work-related illnesses. It has also come to an agreement with the Ministry of Education to introduce health education programmes into the school curricula.

The Ministry of Health is, however, no longer the only agency addressing this need: other ministries and organizations are now publishing materials and promoting behaviour change, such as the Ministry of Education, the National Red Cross Society, departments of health and social security at municipal and regional levels, NGOs and others. Public and private mass media are also actively preparing, publishing and broadcasting reports, interviews and round-table discussions on healthy lifestyle issues such as smoke-free work places, personal

Fig. 6.2   Levels of immunization for measles in the WHO European Region, 2004

	Percentage
Western Europe	
Monaco	99
Andorra	98
San Marino	98
Spain	97
Finland	97
Netherlands	96
Denmark	96
Luxembourg	95
Israel	95
Portugal	95
Sweden	95
Iceland	93
Germany	93
Norway	88
Greece	88
Malta	87
Cyprus	86
France	86
Italy	84
Belgium	82
Switzerland	82
Ireland	81
United Kingdom	81
Turkey	81
Austria	74
Central and south-eastern Europe	
Hungary	100
Latvia	99
Slovakia	98
Lithuania	98
Poland	97
Romania	97
Czech Republic	97
The former Yugoslav Republic of Macedonia	96
Albania	96
Croatia	96
Serbia and Montenegro	96
Estonia	96
Bulgaria	95
Slovenia	94
Bosnia and Herzegovina	88
CIS	
Kyrgyzstan	99
Ukraine	99
Tajikistan	99
Belarus	99
Kazakhstan	99
Uzbekistan	99
Russian Federation	98
Azerbaijan	98
Turkmenistan	97
Republic of Moldova	96
Armenia	92
Georgia	86
Averages	
EU average	90
EU Member States before 1 May 2004	88
EU Member States joining EU on 1 May 2004	97
CIS average	98

Source: WHO Regional Office for Europe (2006).
Notes: CIS: Commonwealth of Independent States; EU: European Union.

behaviour, diet and nutritional habits, etc. Nevertheless, social marketing is still a relatively new phenomenon, and not effectively implemented. Its potential is great and capacity is slowly developing to take advantage of this potential.

6.2   Primary/ambulatory health care

PHC in Armenia is typically provided by a network of first-contact outpatient facilities involving urban polyclinics, health centres, rural ambulatory facilities and feldsher/midwife health posts (*feldsher accousher posts;* FAPs), depending on the size of the population in a particular community. According to governmental norms, a physician at PHC level serves a population of 1200–2000 adults and a paediatrician typically covers 700–800 children. In 2002, PHC institutions in Armenia comprised over 400 ambulatory facilities and polyclinics (including 73 in the capital city of Yerevan) and over 600 FAPs.

FAPs are located in small villages and are run by nurses, midwives, and/or feldshers who are supervised by staff from nearby polyclinics and ambulatory facilities. Officially, the role of FAP staff has been limited to very basic interventions, and in order to access higher levels of PHC, people in rural areas have to travel to population centres with a population of more than 2000, which are served by ambulatory facilities and polyclinics staffed by physicians, nurses and midwives (Poletti & Balabanova 2005). Yet, FAP staff are often forced by circumstances to deliver services for which they are not appropriately trained (USAID/Armenia 2004). Rural health posts have deteriorated since independence, although there is a view that with some minor improvements, FAPs present a viable option for delivering high-quality PHC to rural populations (USAID/Armenia 2004), since they fulfil an important advisory, triage and referral function (Poletti & Balabanova 2005).

The decentralization process of the mid-1990s has led to a functional disintegration of the PHC system and created considerable inequity in access to services between urban and rural areas. Thus, of the more than 14 000 health professionals working in primary care (doctors and nurses), over 2000 physicians (approximately 44%) and 2500 nurses (27%) are based in the capital city, approximately twice the rate seen in rural areas. The Government's strategy for the optimization of the extensive health service network (see Section 2.1 "Historical background") involved a series of closures and mergers of health care facilities, leading to a reduction of outpatient facilities by 26% in 2001/2002. This has, however, not led to improvement of the remaining facilities.

At the end of 2003, by governmental decree, a number of freestanding polyclinics and primary care facilities in the city of Yerevan were merged with hospitals, tertiary care centres, and "maternity homes", forming a dozen integrated health care networks providing both outpatient and inpatient specialist care. It was hoped these networks would eliminate excess capacity, improve utilization and management and reduce maintenance expenses. While the administrative burden and some operational cost and expenses appear to have been reduced, the overall rationale behind this strategy was not well communicated and appears to have lacked a sound conceptual basis, since already constrained geographical access was further reduced and the tension between primary care providers and specialists increased. Also, issues around improving quality and continuity of care have remained absent from this debate. Thus, licensing/certification and accreditation procedures were not updated prior to the mergers, creating inherent conflicts between existing government standards and government-mandated changes.

It is important to note that utilization declined more for PHC services than for hospital care. This may be explained by a combination of factors; for example, the poor quality of PHC services would have led to referrals in any case, but many patients avoid seeking care because of the costs involved and the perceived level of quality, preferring to wait until a more specialist level of care was needed (World Bank 2004d). Overall, the quality of care appears to lag significantly behind international standards. This is perhaps not surprising as PHC facilities remain in poor condition, are poorly equipped and inappropriately staffed. This is despite significant international investment, such as the World Bank-supported PHC project that involved investment in equipment for over 80 ambulatories, along with the provision of approximately 90 ambulances to selected rural ambulatories and marz polyclinics (World Bank 2004b). Facilities lack cost-effective diagnostic equipment as well as basic information and record-keeping technology. There is a general lack of applying standardized laboratory practice to support appropriate diagnostics and evidence-based clinical decision-making.

Until the mid-1990s, Armenians were assigned to a district polyclinic, which performed gatekeeping and coordinating functions, and patients did not have a formal choice of physicians. However, with the 1996 health care Law, residents of the Republic of Armenia now have the right to choose their health care provider. In practice, this option has not been implemented, however, and the population continue to be assigned to ambulatory facilities by the State according to residence (see Subsection 4.3.2 "Paying for health services"). Still, most Armenians directly self-refer to a primary care provider or specialist, with

Fig. 6.3   Outpatient contacts per person in the WHO European Region, 2004 or latest available year (in parentheses)

Western Europe

Country	Value
Switzerland (1992)	11.0
Spain (2003)	9.5
Denmark	7.5
Israel (2000)	7.1
Belgium	7.1
Austria (2001)	6.7
Germany (1996)	6.5
France (1996)	6.5
Italy (1999)	6.0
Netherlands (2002)	5.6
Iceland (2002)	5.5
United Kingdom (1998)	5.4
Finland	4.2
Norway (1991)	3.8
Portugal (2003)	3.7
Sweden (2003)	2.8
Luxembourg (1998)	2.8
Turkey (2001)	2.6
Malta	2.4
Cyprus (2003)	1.9

Central and south-eastern Europe

Country	Value
Czech Republic	15.2
Slovakia	13.0
Hungary	12.6
Croatia	7.6
Serbia and Montenegro (2002)	7.1
Slovenia	7.0
Estonia	6.8
Lithuania	6.6
Poland (2003)	5.9
Romania	5.8
Bulgaria (1999)	5.4
Latvia	5.0
Bosnia and Herzegovina	3.1
The former Yugoslav Republic of Macedonia (2001)	3.0
Albania	1.9

CIS

Country	Value
Belarus	12.4
Ukraine	10.5
Russian Federation	9.0
Uzbekistan	8.6
Turkmenistan	7.6
Kazakhstan	6.7
Republic of Moldova	5.5
Azerbaijan (2003)	4.6
Tajikistan	4.4
Kyrgyzstan	2.9
Armenia	2.1
Georgia	2.0

Averages

	Value
EU average (2003)	6.8
EU Member States before 1 May 2004 (1998)	6.3
EU Member States joining EU on 1 May 2004	8.6
CIS average	8.6

Contacts per person

Source: WHO Regional Office for Europe (2006).

Notes: CIS: Commonwealth of Independent States; EU: European Union; Countries without data not included.

the latter seemingly the preferred option because of the low professional status and quality of PHC services and the deteriorating infrastructure. Fig. 6.3 shows outpatient contact levels in the WHO European Region.

The development and strengthening of PHC has been identified as a key priority of Armenia's health system reform programme since the mid-1990s. The main shortcomings of the PHC system have been summarized as (ASTP 2005a):

- low utilization rates;
- poorly developed infrastructure and capacity;
- lack of incentives in PHC financing as a means to improve efficiency, quality or performance;
- lack of knowledge about and management of service delivery costs;
- emphasis on diagnosis and treatment, as well as frequent referrals, with weak capacity for prevention;
- lack of quality improvement systems;
- low level of quality, variety and use of new technology for laboratory and diagnostic services;
- limited teamwork among doctors, nurses and allied health professionals;
- lack of reliable data and information required for planning and M&E;
- limited opportunities for user participation in service planning and delivery.

The country, with the support of international benefactors, has since been experimenting with a series of micro and pilot projects as a means to further developing PHC services in Armenia (see, for example, Box 6.1). For example, since 2003, to reinforce the role of primary care providers as gatekeepers and at the same time maintain and improve patient choice, the Ministry of Health, together with the USAID-funded ASTP, has been piloting an open enrolment system in 13 PHC facilities, involving over 500 health care workers and servicing a population of over 360 000 (for a detailed overview see Subsection 4.3.2 "Paying for health services") (Government of the Republic of Armenia 2004d; National Statistical Service of the Republic of Armenia 2004b). It has involved the design of a new model of PHC that addresses both structural (introduction of family medicine, open enrolment, continuous quality improvement and financial incentives) and functional components (provider training, management information systems, equipment, supplies, etc.) (ASTP 2005a). The pilot sites have now formally been recognized as national health system pilots, with the principle of open enrolment incorporated into the Government's new PHC strategy (USAID/Armenia 2004).

Box 6.1   Developing primary health care

One of the key objectives of the World Bank-supported "Health financing and primary health care development project" (1998–2003) involved improving the quality and efficiency of primary health care through training and retraining of PHC staff, the introduction of practice guidelines and improving the infrastructure and equipment in selected PHC facilities (World Bank 2004b). In 2003, the project intervention areas covered approximately 19% of the population, mostly rural communities and a recent evaluation noted a rise in utilization rates when experiencing health problems, from 54% in 1998 to 61%, indicating improvements in accessibility, efficiency and quality of services (World Bank 2004b). It also found a substantial reduction in the number of referrals and self-referrals for specialist and hospital care as well as improved accuracy of diagnosis at primary care level, suggesting increased efficiency of services. In addition, patients seeking care in communities served by a retrained family physician were only half as likely to pay for consultations compared with those in other communities and the total out-of-pocket payments for treatment in a family medicine setting were approximately 10% lower than in other primary care settings.

A series of priorities are now being developed to strengthen PHC in Armenia, including:

- the creation of a legal and regulatory framework on the status and activities of different categories of primary care providers (family physician, family medicine group practices);

- clarifying, defining and differentiating the roles of PHC and the SHAE Inspection concerning public awareness, public health education and infection control;

- introducing provider payment systems involving financial incentives based on the principle of fundholding and managed care, along with improvements in health indicators of the population and increased preventive activities;

- ensuring free choice of PHC provider as guaranteed by legislation through the introduction of contractual-based open enrolment;

- enforcing the gatekeeping role of PHC providers (district physician, paediatrician, family physician) through financial and other (dis)incentives;

- developing management information systems for polyclinics and ambulatory facilities;

- strengthening the emergency care role and financing for family physicians practising in rural communities;

- moving follow-up care for so-called socially important diseases to PHC providers.

Family medicine

Key to reforms in the PHC sector in Armenia has been the introduction of family medicine as the integrative, "first point of contact" organizational principle for the delivery of care and the main direction for improving accessibility of care. Training in family medicine began as early as in 1993, with 12 physicians being trained as family doctors, although the laws at that time did not permit them to actually practise as family physicians (World Bank 2005). Armenia was one the first countries in the former Soviet Union to establish chairs in family medicine, at the NIH and the Yerevan SMU, and in family nursing at Yerevan BMC, all in 1997, and so to provide specialist qualifications in PHC (see Section 5.2 "Human resources") (World Bank 2004b).

Development of PHC and family medicine was soon accelerated, with support from the World Bank and the United States Government, among others, implementing basic and postgraduate education programmes at the NIH and the SMU. Examples include the World Bank-supported PHC development projects, involving the retraining of 116 family physicians and 130 family nurses, as well as the graduation of over 40 family physician residents and 26 family nurse residents (World Bank 2004b). Together, it is estimated that this covers approximately 11% of the demand for family doctors and approximately 5% of that for PHC nursing staff in Armenia. It also involved the establishment of a family medicine training centre in Yerevan, at Polyclinic Number 17, which opened in October 2003 and is used for the in-service training of medical students and family medicine residents (World Bank 2005). It has since become the National Family Medicine Training Centre.

It is estimated that by 2004 around 350 family physicians had graduated from the SMU and the NIH and a further 120 physicians were in training at both institutions (World Bank 2005). The Ministry of Health recommends that the minimum size for a family medicine practice should cover a population of 1000 (300 children and 700 adults), with 2000 viewed as the optimal size (700 children and 1300 adults) and 2500 (800 children and 1700 adults) as the maximum size. Based on these figures, to provide the country with family physicians at the optimal level, a total of 1500–2000 family physicians are required. The Government therefore aims to retrain around 160 family physicians each year to achieve a target of around 1200 family physicians in the next five years (World Bank 2005). This implies that for the implementation of family medicine in Armenia, at least 10 years will be needed in order to achieve countrywide coverage.

In parallel, legal reforms were implemented to define the scope of practice for family medicine and to provide for innovative practice models (e.g. solo practice, group practice, multispecialty group practice). Safeguards have been

planned to prevent self-referral to specialists and there are clear rules on which types of business arrangements are prohibited. Thus, the Government recently issued a Decree on approval of procedures for patient referrals and forms of service delivery by family physicians of ambulatory and polyclinic medical organizations (Government of the Republic of Armenia 2004a). It recognizes that a formalized referral system will strengthen the role of PHC in regulating narrow specialized and diagnostic services, thus ensuring the targeted allocation of financial resources. The Decree aims to clearly define the role of specialists in ambulatory and polyclinic facilities involved in inpatient care and sets out the procedures for patient referral between hospitals, polyclinics and other health care organizations (National Statistical Service of the Republic of Armenia 2004b).

Despite the progress achieved so far, the introduction of family medicine as the principal organizational core for the provision of PHC in Armenia has been, and continues to be, difficult. The traditional focus on specialist care has posed a particular challenge, as have the large number of unemployed professionals, low salaries and uncertainty with regard to the future of PHC (World Bank 2005). The Ministry of Health noted that the introduction of family physicians did not receive adequate financial and regulatory support (World Bank 2004b). Limited financing under the BBP restricted the ability of newly introduced family physicians to provide a broader range of services compared to traditional PHC providers. Also, the length of the training programme was considered insufficient, as was the lack of access to practical skills and constraints on physical training conditions required for adequate training (World Bank 2004b). Beyond these more specific constraints, family medicine as a concept has yet to gain tangible public support. There is little public understanding of the scope of services provided by family physicians. Strengthening family medicine as a specialty within the medical profession remains a challenge, as does the need to make family medicine a more attractive career option among physicians.

6.3   Secondary/inpatient care

Traditionally, hospital doors are considered the boundary between two basic forms of care in Armenia: hospital-based and community-based care. There is little consideration of the level of care or the integration and complexity of services. Secondary health care is traditionally provided in a range of institutions, including:

- freestanding municipal and regional multi-use hospitals;
- integrated multi-use hospitals (networks) with ambulatory care provision;

- health centres with beds for inpatient care;
- maternity homes, with and without consultation units;
- dispensaries, i.e. specialized units for inpatient and outpatient care (diabetes, oncology, psychiatric care, etc.).

Tertiary, highly specialized care is usually provided through specialized single-purpose health care structures (hospitals, centres), mainly concentrated in the capital city of Yerevan and with a major focus on complex technologies. Specialized services in Armenia are generally organized vertically, thus favouring the concentration of resources on a limited range of health problems, and diverting those resources from the development of a more comprehensive health system with a seamless service.

As noted earlier, hospital capacity in terms of number of facilities and beds in Armenia has fallen considerably since independence, particularly since the late 1990s (see Section 5.1 "Physical resources"); this was achieved, mainly, through centrally set hospital optimization targets for regional governments to meet using administrative measures (World Bank 2004d). According to an evaluation by the Ministry of Health in 2002, optimization efforts so far had led to a reduction of 30% in hospital capacity and a 15% reduction in nonmedical staff, resulting in estimated cost savings of approximately 12% (World Bank 2004d). The Ministry also reported substantial space savings of around 60 000 m^2, although an independent evaluation put this figure at less than 30 000 m^2 (Both 2002). However, it is important to note that the reductions were almost exclusively limited to hospitals outside the capital city and the estimated savings were largely achieved through closure of small rural hospitals and the reduction of bed numbers in regional and urban hospitals (World Bank 2004).

In 2002, the Government adopted a hospital master plan for Yerevan with the long-term goal of achieving a sustainable capacity of six to eight hospitals in total. This would be achieved mainly through mergers of the then 44 hospitals (World Bank 2004d). In November 2003, the Government issued a decree that effectively merged 24 public hospitals and 13 polyclinics in Yerevan into 10 hospital networks, providing both outpatient and inpatient specialist care, as well as providing facilities for family doctor teams (World Bank 2004d). This optimization process was supported further under the World Bank-supported "Armenia health system modernization project" that began in late 2004 (World Bank 2004d). The hospital groupings included in the project represent approximately 25% of total hospital bed capacity in Yerevan and between 40% and 50% of physical space, beds and hospital admissions of the 10 recently created hospital networks. The consolidation activities are expected to lead to substantial bed reductions along with the elimination of duplication and overlap in administration and maintenance, diagnostic capacity and clinical

departments (World Bank 2004d). A second stage is also envisaged, to support similar initiatives in the regions outside the capital.

Despite these recent changes, the inpatient system in Armenia remains poorly balanced with an oversupply of capacity and staff, often providing services to patients who would be more appropriately treated in day care or outpatient settings. Thus, even after a 23% decrease in bed capacity following the 2001–2002 optimization process, the average number of hospital beds per 1000 population in Yerevan is still twice as high as the country average. Hospital care continues to dominate the national health system, absorbing over 50% of the annual budget allocation in 2004, compared to only 35% allocated to PHC. This balance is expected to change, however, with the share of expenditure allocated to primary care projected to increase to 40% of state funds by 2006 and, eventually, 50% by 2015 as set out in the 2003 PRSP (Government of the Republic of Armenia 2003d) (see also Section 4.4 "Health care expenditure"). Yet, the future role of hospitals and other inpatient facilities and how they fit in with the vision of a primary care-led health care system remains uncertain for both policy-makers and providers. Hospitals in Armenia enjoy a rather high level of autonomy with regard to determining objectives and specific functions, strategic management, administration, financial management and procurement as well as human resource management. Recent efforts to optimize the hospital network have only had a limited impact on efficiency, quality of care and public accountability. Against this background, the Government (as the only shareholder in the public hospital network) needs to determine whether the level of autonomy granted to hospitals is indeed sustainable if the long-term goal of creating an efficient health care sector of high quality is to be achieved.

6.4   Pharmaceutical care

The Government's principal role with regard to pharmaceuticals is to regulate the sector and to procure a supply of drugs to meet the Government's commitments. Regulation primarily involves the registration of pharmaceuticals and the licensing of pharmacists and the pharmaceutical distribution system, both public and private. The legal basis for the pharmaceutical sector in Armenia is set out in the 1998 Law on pharmaceuticals, detailing all aspects of pharmaceutical procurement and supply. This Law has since been amended and additional laws have come into force including the 2002 National Patent Law and related regulations and bylaws that regulate the licensing of production and sales of pharmaceuticals, parallel import and related services (a new draft Law on pharmaceuticals is currently under consideration by the Parliament). These

statutory documents, along with provisions of the Law on licensing, outline conditions and entry requirements that are mandatory to establish new pharmacies and/or drug stores (such as space, sanitary conditions, security, staffing, etc.) (Government of the Republic of Armenia 2001b; Government of the Republic of Armenia 2000b). Intellectual property rights and related regulatory issues are, however, some of the areas that still need to be developed further to allow full compliance with the WTO TRIPS standards as they relate to transparency, post-marketing surveillance, supplementary protection certificates, etc.

In 1992, the Government established the Armenian Drug and Medical Technology Agency (now the Drug and Technology Scientific Expertise Centre), which is modelled on the United States Food and Drug Administration (FDA). It operates as a closed joint-stock company, i.e. all shares are "owned" by the Government. The FDA is responsible for the evaluation and registration of pharmaceuticals and devices – there are now over 3600 registered medicines in Armenia – as well as the development of relevant regulatory documents (Kazaryan 2003a). Until 2000, the agency monitored compliance with registration requirements through inspections. However, this responsibility has since been transferred to the Ministry of Health.

The State has also implemented the centralized procurement of drugs for the treatment of specific conditions such as diabetes and TB. Other drugs are considered within per-capita allocations to primary care facilities, allowing individual facilities to stock drugs based on their needs, but at the government rate. The Government also distributes pharmaceuticals and medical devices donated through humanitarian assistance, in place since 1988 and currently valued at US$ 1.5 million (2002). Donations of drugs have enabled the Government to meet its responsibilities for the provision of basic health services, with the three main donors of pharmaceuticals to Armenia, including:

• the United Armenia Fund (UAF)
• the United Methodist Committee On Relief (UMCOR)
• International Relief and Development (IRD).

Similar to other countries in the former Soviet Union, the pharmaceutical sector in Armenia has changed fundamentally since independence, evolving from the former state "Armpharmacy" Republic Association which comprised the majority of pharmacies and warehouses in the country (Kazaryan 2003a), into a private system with little regulation of the market by the State. While privatization has meant a rise in overall availability of drugs in Armenia, in recent years there have been continuing problems with the accessibility of drugs to the population. Consumer prices for pharmaceuticals and over-the-counter medicines are not regulated. There is no clawback system in place that would allow the Government to recapture excess pharmaceutical company profits,

except perhaps for the general taxation law that applies to franchisers and wholesalers. Until 2000, pharmaceuticals were exempt from VAT. This changed, however, with the 2001 amendments to the taxation law which introduced 20% VAT on all pharmaceutical products sold in Armenia. Similar to other imported items, VAT is currently levied on pharmaceuticals at the time of market entry in Armenia, which has resulted in substantial price increases, further reducing the accessibility of drugs to the population. The change in taxation regulations has also been identified as posing a substantial financial barrier to smaller businesses entering the market.

There are no precise data on consumption, demand and (unmet) need for pharmaceuticals. Unofficial estimates place the annual per-capita financial allocation of public funds for pharmaceuticals at US$ 0.5. The 2001/2002 Armenia Pharmaceutical Sector Report estimated that of all pharmaceuticals consumed annually, approximately 70–80% are purchased through the private pharmaceutical sector, amounting to approximately US$ 12.0 million in gross sales, equating to US$ 3.5 per person per year (Ruschman 2001/2002). Thus, in 2000, a total of US$ 4 per person and year was spent on pharmaceuticals. This compares with a total of US$ 300–400 per capita spent on pharmaceuticals in countries such as France, Germany and Italy, around US$ 80 in the Czech Republic and US$ 48 in Turkey (2000) (OECD 2004).

Manufacturing and retail

In the past, Armenia had few research or industrial pharmaceutical enterprises and virtually all collapsed following the break-up of the Soviet Union. Today, there is some production of pharmaceuticals which are intended primarily for domestic consumption, but domestic manufacturing of pharmaceuticals accounts for between 4% and 6% of Armenia's drug requirements. A total of six manufacturers, all located in Yerevan, collectively produce approximately 30 compounds, principally using imported raw materials. Most are generic products although a handful are produced under licence from western and eastern European companies. The one exception is the joint venture PharmaTech that specializes in the production of intravenous solutions for both domestic consumption and export. Within this narrow product category, PharmaTech satisfies 40–45% of domestic demand.

A total of approximately 130 licensed distributors share the pharmaceutical market, approximately 30 of which are considered "major" players. Among these, a small number account for as much as 80% of market sales. All major distributors maintain stocks of as many as 600 compounds and can supply orders to most retailers within two days. The estimated number of retailers in Armenia, essentially individual pharmacies, ranges between 900 and 1100, a

significant increase from the original 300 or so that were part of the former state system. The pharmacies are spread across Armenia although the majority appear to be concentrated in Yerevan, with some estimates at 70–80% of all private pharmacies being located in the capital city. Mail-order and/or Internet retail of pharmaceuticals does not yet operate in Armenia. There has been an interest among wholesalers in vertically integrating the pharmaceutical market in Armenia; however, so far retailers have largely retained their freedom to purchase their products from any source. Pharmacies both inside and outside Yerevan appear, for the most part, to be reasonably well stocked, although problems with holding sufficient assortments of essential drugs outside Yerevan have been reported (see Subsection "Rational drug use"), and supplies include some 30–40% of the compounds included in the Armenian "essential drug list" (EDL).

Rational drug use

Irrational and excessive prescribing has been identified as a major problem and the Ministry of Health has been engaging in efforts to rationalize drug consumption (Hovhannisyan et al. 2001), with the first EDL being introduced as early as 1992 (Kazaryan 2003b). Its latest update from December 2004 includes around 300 different pharmaceuticals. The potential efficiency gains through implementing the essential drug concept in Armenia were illustrated in a case study on the treatment of pneumonia. It was found that treating pneumonia according to approved clinical guidelines and using inexpensive generics would result in an average cost of US$ 1–2, whereas the average cost of usual treatment as observed in practice, which frequently uses new expensive antibiotics, was estimated at US$ 50 (Kazaryan 2003b). Yet in practice, the essential drug concept in Armenia is hardly enforced. Data on prescribing patterns indicate that in 1998/2000 only approximately half of the drugs prescribed were in fact included in the EDL; there is also substantial resistance among physicians towards restricting prescriber freedom (Kazaryan 2003b; Poletti & Balabanova 2005). Thus, despite the progress made in terms of adopting the essential drug concept in principle, an appropriate regulatory framework is still lacking but needs to be put in place if the EDL is to make a noticeable impact on prescribing patterns (Hovhannisyan et al. 2001).

Limited evidence also suggests that prescriber behaviour does not have a noticeable impact on overall consumption patterns. This is because many community pharmacies sell prescription-only drugs over the counter, with one report noting that this practice appears to involve practically all prescription-only drugs (Kazaryan 2003b, Poletti & Balabanova 2005). While current legislation defines the types and products that may be sold over the counter

(Ministry of Health 2000c), it is largely being ignored and the Government has as yet to take action to improve this situation. Legislation in place also prohibits direct-to-consumer advertising of prescription drugs, but again law enforcement is weak.

There is some use of drug formularies and treatment guidelines which would also promote rational drug use along with the introduction of evidence-based clinical practice. Except for the pilot sites that are implementing family medicine (see Section 6.2 "Primary/ambulatory health care"), these tools appear to have had only little impact on provider behaviour so far (Poletti & Balabanova 2005). This could be explained by the lack of an appropriate framework that allows the monitoring of prescribing patterns, along with a lack of incentives to encourage appropriate behaviour, as well as patient demand.

Access to pharmaceuticals

One key feature of lack of access to health care in Armenia has been identified as access to drugs, including essential drugs. The 2003 NHDS revealed that of the 170 communities included in the survey, almost 90% either did not have a pharmacy at all or the pharmacies were not operational (Aristakesyan 2005). Residents are thus required to purchase drugs elsewhere, usually in the nearest town or even in the capital city, as even small and medium-sized towns do not necessarily have access to drugs, either because of an absence of pharmacies or limited drug assortments (Aristakesyan 2005).

However, while a lack of physical access is an important aspect of accessing drugs in Armenia, a substantially higher burden comes from the financial inability to purchase the necessary drugs. Available evidence suggests that for a number of drugs, prices are similar to those observed in high-income OECD countries (Kazaryan 2003b). It has been estimated that, in 2002, the average cost of treating hypertension according to approved clinical guidelines would amount to US$ 14, which, in that year, equated to approximately one third of the nominal average monthly salary (Kazaryan 2003b). High prices are largely explained by the introduction of VAT on pharmaceutical products in 2001, as noted earlier, which led to large increases in profit margins for vendors, to approximately 50% in the wholesale and just over 40% in the retail market, within the space of just three months (Aristakesyan 2005). This compares to profit margins in retail of approximately 25% in western Europe, for example. As a consequence, actual market prices to be paid by consumers have risen by up to 40% following the change in VAT legislation.

Patients are required to purchase not only drugs prescribed in ambulatory care but also the majority of drugs required for hospital treatment. It has been

estimated that as much as 80% of inpatient drugs are purchased privately by patients (Hovhannisyan et al. 2001). Although the Government has provided for exemptions of certain vulnerable groups and the treatment of specific conditions (Government of the Republic of Armenia 1999) (see Section 2.3 "Population coverage, entitlements, benefits and patient rights"), this order is virtually unenforced (Aristakesyan 2005). Also, patients covered under the BBP are officially required to pay a nominal sum towards the cost of drugs in outpatient facilities, to then be reimbursed by the State. Yet, there is little reported evidence that reimbursement in fact takes place and it has been noted that even patients covered under the BBP have to pay the full cost of drugs out of pocket (Hovhannisyan et al. 2001).

These problems exacerbate the levels of inappropriate drug use in the country. Anecdotal evidence suggests that patients sometimes resort to drug-based treatments just because they are available and affordable even though they may not represent the most appropriate treatment for their conditions (Kazaryan 2003b). In other cases, patients in need of health care simply forgo consulting a health professional but choose to treat themselves. This may have serious consequences, with a recent report highlighting findings from the FDA indicating that, in a sample of residents in Yerevan, among the most-used drugs was a pharmaceutical product that had been withdrawn from the market in many other countries because of the high risk involved (Kazaryan 2003b). These particular findings date back to the mid- to late 1990s, however, and it is unclear to what extent this problem still exists. There is concern about the potential for antibiotic resistance due to inappropriate and widespread use of antibiotics bought over the counter in, for example, the treatment of the common cold during a recent influenza epidemic (Poletti & Balabanova 2005).

As a means of increasing access to drugs and basic health care in remote areas, Oxfam has, in partnership with the NGO "Support the Community", been active in supporting the establishment of an RDF, or CBHI schemes (Poletti & Balabanova 2005). Details of this programme are described in Section 2.2 "Organizational overview". In brief, CBHIs were initiated in the Vayots Dzor and Syunik districts in 1995, which are considered to be relatively inaccessible owing to the mountainous terrain and poor public transport links. The scheme guarantees unlimited use of the health facilities, including free provision of drugs, in return for a fixed monthly fee (currently AMD 2000 per quarter). This and similar schemes now cover approximately 80 000 people in 120 villages (Poletti & Balabanova 2005). Evidence from CBHI pilots suggests that participation in such schemes has improved access not only to drugs but also medical care offered at primary health care level.

6.5   Rehabilitation and long-term care

Rehabilitation and long-term care in Armenia are generally organized as hospital-based clinical services for the chronically ill and/or temporarily or permanently disabled. However, care for patients with severe physical and functional impairment, particularly in rural areas, is often inappropriate as it frequently involves rehabilitative services even though long-term care might be more appropriate.

The most comprehensive facilities are the International Post-Trauma Rehabilitation Centre for patients with spinal cord injuries and the Children's Rehabilitation Centre. Created in the early 1990s with donations from the IFRCS and the ADRA, the two centres have established close links with health and social services, thus facilitating the coordination of long-term treatment and physical/occupational rehabilitation (kinesotherapy, professional and physical rehabilitation) with social services. The centres offer modern rehabilitation services provided by newly trained physiotherapists. In contrast, rehabilitation services in municipal polyclinics and general hospitals are less comprehensive, provided by traditionally trained physiotherapists and nurses. Services involve a range of applied physical agents, exercises, bathing, massage and manual therapy.

There are virtually no dedicated facilities for long-term care. Most patients requiring long-term care are kept in general hospitals. There is also very little support for community care to facilitate care at home except perhaps for the National Centre for the Provision of Home Care Services for the elderly living alone and the disabled, which serves approximately 1200 elderly and disabled people in Yerevan (National Statistical Service of the Republic of Armenia 2004b). While there are little official data, there is a general view that the current approach to long-term care, or more specifically its absence, has considerable financial implications for patients and their families and for the system in general.

As for residential care, there are four state boarding houses for the elderly and the disabled, caring for an estimated 700 elderly and disabled people (National Statistical Service of the Republic of Armenia 2004b). Two facilities exclusively care for old-age pensioners who cannot live independently and do not have any relatives. One facility is dedicated to the care of disabled who are unable to live independently and do not have any relatives (Gyumri) and the boarding house of Vardenis looks after people with neurological or psychiatric conditions. In addition, there are eight orphanages, with a total of approximately 950 children, two of which specialize in the care of children with learning difficulties (National Statistical Service of the Republic of Armenia 2004b).

6.6   Palliative care

Palliative care has been defined as care that aims to relieve pain and suffering and to improve the quality of life of patients facing life-threatening illness and their families. There is no systematic approach to and/or national policy on palliative care in Armenia. According to a 2002 review of palliative care provision in Armenia, there were only three palliative services available as well as one inpatient hospice project, although this was not yet operational (International Observatory on End of Life Care 2002). The existing services appear largely to provide home care services. There is also an oncological dispensary based in Yerevan, as well as a network of district oncologists who provide palliative treatment for end-stage cancer patients at home (International Observatory on End of Life Care 2002). There is little information on the actual number of patients requiring palliative care; it is estimated that approximately 3500 patients per year are recorded as incurable (International Observatory on End of Life Care 2002).

While Armenia was signatory to the 2003 Council of Europe recommendations on the organization of palliative care, current governmental health policy does not envisage hospice care in the foreseeable future. Also, little has been done to address the shortage of staff qualified in palliative/supportive care or to support individuals and families in the community to be actively involved in palliative services. So far, the nongovernmental Association of Pain Management and Palliative Care of Armenia is the only organization addressing aspects of palliative care at national level. However, as it was founded only in 2003, much of the work of the Association is still at an early stage.

6.7   Mental health care

Mental health services in Armenia are sorely lacking, and what is available is poorly integrated into the primary care system. The current system focuses on inpatient care and a lack of appropriately trained social workers and other mental health providers further limits the potential for providing services at ambulatory and community levels.

Stigmatization of patients with mental health problems remains a challenge for both families and society as a whole. The extent of this problem is illustrated by a recent survey of knowledge of and attitudes towards mental illness in the general population (Van Baelen, Theocharopoulos & Hargreaves 2005). It found that over half of the respondents believed that people with mental illness should be kept in hospital and that they would have problems working with someone

who had a mental health problem. Approximately two thirds also believed that people with mental health problems are usually violent and dangerous (Van Baelen, Theocharopoulos & Hargreaves 2005). Although these findings, as noted by the authors of the survey, may not be that dissimilar from attitudes and beliefs observed in western Europe, their consequences are very different. For example, families tend to hide away relatives with mental health problems to avoid being isolated from the community, and treatment, if sought at all, is often reduced to a simple renewal of drug prescriptions (Von Schoen-Angerer 2004).

Essentially, psychiatric care is still exclusively provided in specialized mental health institutions including hospitals and social psychoneurological centres. There is an overcapacity of beds and staff in psychiatric hospitals, leading to the unnecessary admission of chronic patients who would be more appropriately treated in an outpatient, community setting. There is no systematic approach to developing community mental health services except for some small-scale pilots, usually supported by international organizations. For example, a joint pilot project by the Ministry of Health and MSF in Gegharkunik marz offers people with mental health problems free psychiatric care that is provided by a multidisciplinary team in a newly established mental health centre (Van Baelen, Theocharopoulos & Hargreaves 2005; Von Schoen-Angerer 2004). Similarly, the Armenian Mental Health Foundation, founded in 1996, has been engaged in the provision of community services since 1999, often with the support of international NGOs such as the Open Society Institute's Mental Disability Advocacy Program (OSIAF 2004). More recently a number of state-related mental health hospitals, a psychiatric dispensary and the Stress Centre in Yerevan, as well as the Mental Health Foundation, have introduced day care services. While promising, these new efforts fall far short of meeting the actual needs of the population and there are few cost-effective alternatives available.

The Mental Health Foundation has, along with other NGOs, also actively been working towards revising existing legislation to produce a Law on mental health that complies with international standards and covers the rights and responsibilities of patients with mental health problems and of physicians. The Law was eventually approved by the Parliament in May 2004 (Hovhannisyan 2004).

6.8   Dental health care

Dental care in Armenia, even under the Semashko system, was largely run in an entrepreneurial manner. Thus, dental services were the least affected by the social and economic transition. At least 80% of dental care clinics are now operating on a private for-profit basis. There are, however, a number of departments of dental care that remain public when located within the structure of municipal or rural polyclinics or ambulatory facilities, usually delivering dental care as specialist services for the catchment area population. While previous efforts to develop a national dental care strategy have not been successful, there is a state-coordinated and funded programme of annual school-based preventive dental visits for children from 6 to 12 years old.

Oral diseases such as dental caries and periodontitis appear to be a widespread health problem, especially among the poorer communities and in rural areas. In these communities, losing teeth is seen as a natural event and not considered a health impairment by most people. A recent unpublished survey found that almost all of the rural population was affected by gum disease and dental caries. In addition, between 80% and 98% of Yerevan schoolchildren and 86–100% of the general population were found to have dental caries. These low levels of oral health have been associated with heavy smoking, poor diet and other factors signifying an unhealthy lifestyle, which negatively affect health and quality of life. Among the few programmes aimed at promoting and improving dental health among schoolchildren in disadvantaged communities was the 2003 UMCOR Dental Care project as part of the UMCOR School Nutrition project (UMCOR 2005). Targeting 11 schools in Gegharkunik, Syunik, and Lori marzer, the project arranged for eight dentists from local polyclinics to provide dental screening and treatment for the children at these schools. The dental screening of just over 3400 children found that four out of five schoolchildren had dental problems and were in need of further treatment; the necessary supplies were provided by UMCOR.

Prices for dental health services provided in private dental clinics are largely regulated by the market, with the Government having little influence on pricing policy. Patients usually choose providers on the basis of perceived quality, affordability and access, with few formal, institutional safeguards. There is no explicit system of quality assurance for dental care services. The re-establishment of the position of "Chief specialist in dental care" in the Ministry of Health may revitalize efforts to develop further quality assurance in dental health care.

6.9   Alternative/complementary medicine

Alternative/complementary medicine was formally recognized as a specialization in 1977 as it refers to reflex therapy; homeopathy was added in 2001. Since then, alternative/complementary medicine has been considered mainstream in the health care system in Armenia. Alternative/complementary medicine in Armenia may only be practised by physicians since it requires a university qualification in clinical medicine and one year of postgraduate specialization (residency) or short re-training courses in various key areas such as acupuncture, herbal medicine, reflex therapy, manual therapy, bio-resonance testing, pulse testing, homeopathy and others.

Postgraduate training in the field of alternative/complementary medicine is offered at the Department and Centre of Alternative and Traditional Medicine at the NIH. Training has been developed in cooperation with international consultants in the preparation of curricula, textbooks and other teaching materials. Alternative/complementary services are generally not covered by any type of third-party payer and are thus financed through out-of-pocket payments.

6.10   Maternal and child health

Maternal and child health care in Armenia is implemented through a system of ambulatory polyclinics and hospitals, with only limited services in rural and remote areas (Emerging Markets Group Ltd 2005; Poletti & Balabanova 2005). Ambulatory health care is provided through children's and women's consultation polyclinics (National Statistical Service of the Republic of Armenia, Ministry of Health of the Republic of Armenia & ORC Macro 2001a); in rural areas the first point of contact is provided by feldsher/midwife FAPs. Obstetric care is provided at hospital obstetric-gynaecological departments, regional maternity homes and at republican centres for specialized care. These are generally confined to urban areas, though, with only few obstetricians being located outside urban areas. Thus, while the vast majority of women in Armenia receive maternal care services, there is a strong urban–rural divide. For example, women in urban areas are more likely to complete the full circle of antenatal care procedures and to give birth in a health facility, wheras in rural areas 16% of deliveries occur at home (National Statistical Service of the Republic of Armenia, Ministry of Health of the Republic of Armenia & ORC Macro 2001a).

Abortion is believed to be an important form of birth control. Survey data suggest that in 1998–2000 more than half of pregnancies in the sample

population resulted in an induced abortion; the annual number of abortions per 1000 women of reproductive age was estimated at 81, which was lower than in neighbouring Georgia and Azerbaijan, at 125 per 1000 and 116 per 1000 women respectively, but considerably higher than in other parts of the former Soviet Union (Centers for Disease Control and Prevention 2003). A recent rapid assessment of reproductive health and maternal and child health care services in Armenia further suggests that the current system seems to encourage abortion (over education on family planning) since each procedure draws formal payments for a health facility and also provides opportunities for additional informal payments (Emerging Markets Group Ltd 2005). It also noted that there is a widely held perception that abortion is more accessible, safer and cheaper than modern contraceptive methods.

More generally, it has been observed that the current system of reproductive health/maternal and child health care services in Armenia discourages women from seeking health care services except in cases of medical emergency. Thus, because of the payments involved (even where they are eligible to receive services free of charge under the BBP), pregnant women reportedly tend to forgo antenatal care of any kind unless complications demand they seek medical care (Emerging Markets Group Ltd 2005). The practice of charging informally in this sector contributes to women receiving inadequate ante- and postnatal care, and possibly pressing women to deliver at home instead of choosing to deliver in a hospital (Emerging Markets Group Ltd 2005), increasing the risk of subsequent maternal and child mortality and morbidity.

The health of children in Armenia may be illustrated by the moderately high levels of mortality among children under five years, largely reflecting elevated levels of infant mortality, whereas mortality rates among children aged 1–4 years, at 3 deaths per 1000 live births, appear relatively low (Centers for Disease Control and Prevention 2003) (see also Chapter 1 "Introduction"). In 2003, mortality of children under five years in Armenia was estimated at 33 deaths per 1000 live births, lower than in neighbouring Azerbaijan and Georgia, at 91 per 1000 and 45 per 1000, respectively, but higher than than the average rate in the CIS (at 19 per 1000) and approximately six times the level of the 25 countries belonging to the EU (at 6 per 1000) (UNICEF 2004; WHO Regional Office for Europe 2006).

The proportion of infants with low birth weight (i.e. under 2500 g) is estimated at around 8% in 2004, and thus very similar to levels seen elsewhere in the European region (WHO Regional Office for Europe 2006). However, this figure only applies to those births where relevant information has been recorded, and is likely to miss births occurring outside health facilities. Data from the 2000 Armenia Demographic and Health Survey (DHS) further indicate that neonates in rural areas are more likely to be of low birth weight (National Statistical

Table 6.2   Selected key indicators of maternal and child health, 1990–2003 (selected years)

	1990	1995	2000	2002	2003
Teenage pregnancy rate (%) (15–19 years)[a]	73.5	73.7	69.9	70.0	–
Perinatal mortality (deaths per 1000 births)[b]	17.6	15.6	16.3	15.0	14.9
Maternal mortality (deaths per 100 000 live births)[b]	40.1	34.7	72.9	18.6	22.4
STI incidence per 100 000 population[a]					
Syphilis	3.5	11.9	6.9	4.2	–
Gonococcal infection					
Acute	24.6	31.1	17.6	23.1	–
Chronic	5.0	4.1	6.4	7.8	–
Infertility prevalence (%)[c]					
Total			18.6		
(women)	–	–	(31.9)	-	–
Primary infertility (both sexes)	–	–	3.4	-	–

Sources: [a] Data provided by Ministry of Health of the Republic of Armenia; [b] WHO Regional Office for Europe (2006); [c] Khachikyan & Abrahamyan 1998.

Note: STI: sexually transmitted infection.

Service of the Republic of Armenia, Ministry of Health of the Republic of Armenia & ORC Macro 2001a). The DHS also reported that approximately 13% of children under five years showed signs of chronic, long-term undernutrition (stunting), with 3% considered severely stunted (National Statistical Service of the Republic of Armenia, Ministry of Health of the Republic of Armenia & ORC Macro 2001a). Levels vary by region, however, from a relative low of 8% in Yerevan up to 32% in Gegharkunik marz. A further 24% of children included in the DHS were identified as suffering from anaemia, again displaying substantial regional variation, with the prevalence of anaemia among children in rural areas being twice the rate of that among urban children, at 33% compared with 16% in 2000 (National Statistical Service of the Republic of Armenia, Ministry of Health of the Republic of Armenia & ORC Macro 2001a).

Maternal and child health has been recognized as a major priority in Armenia and has undergone many transformations towards improvement (see Table 6.2). Several legislative initiatives and campaigns were implemented recently, including the adoption of the Law on reproductive health and reproductive rights in 2002. This field of health care was also considered a main programme priority in the framework of the Armenian poverty reduction strategy, as a means of

combating poverty (Government of the Republic of Armenia 2003d). In 2003, the Government adopted a 10-year strategy on mother and child health care, aiming to improve maternal and child health through continuation of existing programmes (such as on food security) and the implementation of new projects (Government of the Republic of Armenia 2003a; National Statistical Service of the Republic of Armenia 2004b). Armenia has actively participated in the Global Movement for Children and the "Say Yes for Children" campaign (Global Movement for Children 2005), implemented through the Armenian NGO "For Family and Health" Association. 2003 also saw the implementation of a series of regional projects targeted, for example, at improving the quality of prenatal care (Kotyak marz) and encouraging breast feeding (e.g. in Lori and Kotyak marzer) (National Statistical Service of the Republic of Armenia 2004b), as well as the establishment of the Institute of Children's Health to coordinate health care services and to build support for the implementation of the IMCI model in Armenia, also supported by UNICEF.

7   Health care reforms

As noted previously, Armenia began reforming the health care sector at an early stage following independence. Major changes have involved administrative decentralization and the alteration of financing mechanisms with key reforms including the adoption of the 1996 Law on medical aid and services to the population, and the introduction of formal user charges in 1997 (see Section 2.1 "Historical background"). Development and strengthening of PHC was also identified as vital to Armenia's health system reform programme. More recently, the 2000 health care strategy set out the main directions of health care development in Armenia (Ministry of Health 2000d). Recognizing health and health care as a fundamental human right, the strategy identified the major components of health care reform as involving a reorientation of health services towards a balanced partnership between primary and hospital care; the promotion of health and prevention of disease through tackling the determinants of health; and a shift from the narrow biomedical model towards a social, multiprofessional and multisectoral approach to health and health care.

Based on these principles, the health care strategy set out a series of directions for the period 2000–2003 aimed at reversing the negative health trends in the population (Ministry of Health 2000d). Within the constraints of limited resources it thus sought:

- to ensure the constitutional right of the population to health protection;
- to increase utilization and volume of public health services provided free of charge;
- to initiate and maintain a sustainable balance between social- and market-oriented values and the formation of the public health system;
- to enhance citizen involvement;
- to promote multisectoral responsibility in the field of health protection.

It also sought to transform the leadership role of the Ministry of Health towards providing non-personal health services and promoting public health and to advance participatory health development policies that promote joint decision-making, implementation and accountability.

The current long-term directions and objectives include a combination of the following characteristics in service organization and delivery:

- increase accessibility and utilization, especially at PHC level;
- improve (refine) the system's organizational structure and governance;
- introduce evidence-based clinical standards and implement continuous quality improvement programmes;
- enhance consumer participation and responsibility in the clinical decision-making process;
- integrate patient safety programmes and medical error management into the system; and
- assure rational linkages between the different levels of health care delivery.

7.1   Analysis of recent reforms

Since 1997, structural and regulatory changes can be seen to have concentrated on three main areas: (1) decentralization, involving devolution and privatization; (2) implementation of new approaches to health care financing; and (3) optimization and increasing health system effectiveness.

Decentralization

The decentralization process has expanded institutional autonomy and administrative rights and responsibilities. The process of decentralization has been described in detail in Section 2.2 Organizational overview**.**

In brief, it involved both devolution of responsibility for service provision (primary and secondary care) from central level to regional/local health authorities and of financial responsibility from governmental to facility level, as well as the privatization of hospitals and health care facilities in the pharmaceutical and dental care sectors. This was regulated by the Law on privatization and denationalization of state enterprises (later superseded by the 1998 Law of the Republic of Armenia on privatization of state property). Privatization of health facilities was, however, implemented arbitrarily and without a systematic approach.

The concept of privatization was based on the premise that, because of accumulated public arrears in the health care sector, health facilities were to be privatized at 25% of their value. Privatization aimed to create an environment that would facilitate individual and organizational investments in the health care system. However, the Government did not set any requirements for private investments but instead continued to provide funding to privatized institutions. Indeed, instead of providing an instrument to optimize the system – reducing excess capacity and informal payments, and improving management, efficiency and quality of services – privatization accelerated expanding capacity even further without any of the anticipated improvements. The Government has reviewed this process and recently put a halt to further privatization in the health care sector so as to evaluate the results, review the strategy and develop new models of and approaches to privatization.

Overall, the decentralization process, while increasing autonomy and shared responsibility, also brought considerable challenges as a result of the functional disintegration of the system. In particular, relations between health care institutions and health professionals are being undermined, the referral system has become dysfunctional and both internal and external quality control mechanisms are lacking. At the same time, the regulatory capacity of the Ministry of Health has fallen, negatively impacting on health system performance. The administrative autonomy granted to health care facilities did not provide sufficient stimuli to increase the cost–effectiveness and quality of services.

Health financing reforms

Health financing reforms in Armenia focused on diversifying revenues for the health care sector and linking health care financing to the quality and volume of care provided. In view of the limited resources available, financial reforms also aimed at advancing financial management and increasing financial sustainability and accountability of institutions in the health sector.

Thus, in 1997, the Government decided to earmark budgetary resources as a means of targeting the socially vulnerable population and so-called socially important diseases. In 1998, the Government introduced the BBP which comprises a publicly funded package of services specifying a list of services that are free of charge for the entire population and stipulating the population groups that are entitled to receive any type of health care service for free (see Section 2.3 "Population coverage, entitlements, benefits and patient rights"). The BBP has been periodically reviewed since, with the range of services and/or population groups covered being extended or reduced, depending on the level

of funding available. This has resulted in considerable uncertainty, creating wariness among service users and health care providers alike.

Yet, because of the widespread system of informal payments in health care facilities, even those population groups that are entitled to free health care are frequently asked to pay for services provided, a practice also seen in many other countries of the former Soviet Union. Experience with the BBP since its introduction in 1998 has shown that the allocation of public funds to almost all health care facilities does not guarantee medical care free of charge. It also shows that resources are not being used efficiently, that health care providers are not motivated to support health system development and that, ultimately, the population has no confidence in state-funded health care.

Health care facilities receive state funding based on a regular reporting mechanism on the provision of services under the BBP. This is regulated by the Ministry of Health through a system of global budgeting, administered by the SHA. Overreporting of services provided is, however, common practice. In 2003, the Ministry of Health introduced co-payments under the BBP for Yerevan hospitals. This measure aimed to assess the potential of formal co-payments as a means to increase revenue for health care facilities as well as to reduce the level of informal payments. Preliminary evaluation of this scheme suggests, however, that neither has been achieved so far. The newly introduced co-payments have not yet enabled health facilities to generate sufficient additional revenue to cover their costs and the level of informal payments has not been reduced noticeably. Thus, despite a small increase in formal payments, state funding remains at approximately 80% of overall (official) revenue in most hospitals.

Improving financial mechanisms is seen to be key to reforming the health care system in Armenia and to its continuous evolution. The Ministry of Health is currently experimenting with different models to increase efficiency, financial management, accountability and the financial sustainability of health care facilities. Determining the scope and contents of the catalogue of benefits and services provided by the publicly funded system will be central to health financing reforms, as will be the consolidation of all resources for health care. Current efforts to develop a system of National Health Accounts (NHAs) go some way towards improving the transparency of health sector financing and informing decision-making in this area. Thus, in 2002–2003 the National Statistical Service conducted surveys to estimate the volume and costs of health services. This was followed in 2003–2004 by USAID-supported training in NHA methodology of staff from the Ministry of Finance, the Ministry of Health and the SHA the establishment of a corresponding working group (World Bank 2004d). There is, however, a need to explore more specific financing mechanisms such as prepaid schemes, user charges, risk pooling and the like,

as well as a more fundamental discussion of social values and the mobilization of civil society.

Optimization and increasing health system effectiveness

Structural and functional reforms seek to rationalize performance and the operation of health care providers and the health care system in general through the reduction of excess capacity, redistribution of resources, elimination of inefficient structural units and the merger of facilities with common functional and geographical attributes. In many ways, the period before 2000 may be considered a preparatory stage for the optimization of the health care sector, characterized by data collection and exploratory projects. In 2000, the Ministry of Health proposed the "Concept of the optimization of the health care system of the Republic of Armenia", subsequently approved by the Government (Ministry of Health 2000a). It outlines the conceptual approach, methods and mechanisms for optimization. In 2001, the Ministry took the lead in developing separate optimization action plans for each region. The Government is committed to optimization even though it is well recognized that the process will be laborious.

So far, the activities following the 2001–2002 optimization plans have had some effect in terms of consolidation of excess capacity, with a reduction of 30% in hospital capacity (i.e. reducing the number of facilities from 171 to 119) and of just under 30% of the number of ambulatory-polyclinic facilities, from 374 to 266 (see also Section 6.3 "Secondary/inpatient care"). The number of inpatient beds fell from 23 119 to 16 501, or by 29%. The number of medical personnel, however, did not change significantly. Optimization efforts also involved the integration of facilities providing PHC, which was perceived as being of strategic significance for system reorganization, as it was anticipated that it would support the establishment of family medicine. Implementing the optimization plans required unwavering political support and this was demonstrated by all participants, including the Government, the Ministry of Health and marz authorities. Further optimization activities will require similar consistent support and cooperation.

However, the first phase of optimization met with some challenges. The plan was not comprehensive and limited to separate activities within marzer. Also, it did not address the substantial capacity gap between urban and rural areas, which is in excessive oversupply in urban areas only. Thus, capacity reduction was almost exclusively limited to hospitals outside the capital and the estimated savings were largely achieved through the closure of small rural hospitals and the reduction of bed numbers in regional and urban hospitals

(World Bank 2004d). The Yerevan hospital sector was not affected by any of the optimization activities up to 2003. This is now changing, with recent efforts concentrating on the Yerevan area. Corresponding policies have, however, created some concern, particularly within the Ministry of Health. Thus, in 2003, the Government issued a decree which designated 37 republican and municipal health institutions in Yerevan to be merged and integrated into 10 health care centres (see also Section 6.3 "Secondary/inpatient care"). By that time, Yerevan had approximately 40 secondary and tertiary care hospitals operating at 30% of their capacity as well as 24 polyclinics. While the proposed merger was seen as economically as well as clinically sound, since it was expected to lead to more effective use of resources and capacity, the merger meant a massive reduction of hospitals which was considered a serious political issue and required the support of all actors concerned. At the same time the actual feasibility of the proposed mergers was brought into question. First, the plans required the merger of polyclinics with hospitals; this meant that responsibility for the provision of primary care services would be placed under the control of the hospital management. Previously, specialists working in outpatient settings were affordable for most of the population. However, merging outpatient and inpatient settings would almost certainly mean that prices for specialist services would be aligned with the higher rates common in secondary and tertiary care, thus potentially jeopardizing access to outpatient specialist care. Second, there was some concern within the Ministry of Health that the mergers would not be accompanied by a reduction of staff; any cuts in the number of staff would largely materialize through natural attrition due to retirement or migration, currently estimated at approximately 5% per year. While perceptive with regard to the human impact of optimization, the current strategy seriously limits the efficiency of changes. However, the Yerevan health system optimization programme, supported as part of the World Bank "Armenia health system modernization project" (World Bank 2004d) is still at an early stage and will continue to be monitored and evaluated.

More generally, there is concern among the general public and in the professional media about the rationale, strength and sustainability of the conceptual basis of ongoing optimization, as related activities did not define an objective (research) basis against which to evaluate the effects of these changes on key indicators such as quality, safety and standards of care, access to and appropriate utilization of services, as well as efficiency outcomes such as cost-containment and the cost–effectiveness of health care services.

Medical education

It is noteworthy that ongoing reforms of Armenia's health care system have barely touched on the area of medical education and there have been no major changes in this field, except perhaps for the establishment of chairs in family medicine at Yerevan SMU and the NIH and related training programmes (see Section 5.2 "Human resources"). Progress in medical science and advancements in new technologies promoted super-specialization and the number of medical specialties has risen. At present, there are over 80 officially registered medical specialties. Thus far, the Ministry of Health has not been successful in rationalizing the main specialties and improving educational programmes. Transition to a market economy – liberalization of the economy and the promotion of entrepreneurship – has led to the establishment of private institutes offering medical education. These have contributed to the oversupply of specialists, but often with dubious qualifications. The Ministry of Health is now reviewing its policies in this area, with the coming years being critical for the formulation and implementation of respective strategies.

7.2   Future developments

Armenia began reforming the health care sector with the adoption of three basic laws, the 1992 Law on sanitary-epidemic safety for the population, the 1996 health care Law and the 1998 Law on pharmaceuticals (see Section 2.2 "Organizational overview"), accompanied and/or followed by a set of relevant legislative acts and regulations necessary for the functional sustainability and regulation of the system. However, by 2000, it became clear that the legislative framework required further improvement to accommodate system dynamics as the reforms progressed. In particular, the structural reforms brought about the need to clarify state regulatory mechanisms and a clear definition of the rights and obligations of health authorities at national, regional and local levels. Also, in terms of evaluating the state programmes, it became necessary to revise the normative base inherited from the Soviet period.

Given the current realities of the health and pharmaceutical sectors it also became clear that instead of amending existing legislation, it would be more appropriate to develop new draft laws for submission to the National Assembly. Recently, the Ministry of Health drafted a new Law on health care that aims to regulate all aspects of the system's operation, regulation and patients' rights. An accompanying national health policy document is currently in its second draft but has not yet been formally approved.

The reform process initiated in the mid-1990s has resulted in both successes and failures. Approaches so far have not been consistent or comprehensive, with little involvement of key actors, negatively impacting on health care providers and the health care system as a whole. Yet, despite the difficulties with the nature of the system rooted in Soviet tradition and the considerable challenges posed by the socioeconomic and political disruption, Armenia's health care system has maintained a certain constructive potential and was protected from radical changes. Much of the reform activities that have taken place so far have been less interventionist and more the result of a continuous evolutionary process. Armenia has entered the new millennium subscribing to the main values and principles as set out in WHO Regional Office for Europe's Health for All in the 21st Century policy. The Ministry of Health and other government agencies remain committed to reforms based on the achievements so far and lessons learned.

Reforms envisaged for the future include strengthening primary care and institutionalizing family medicine. A district health system model, with family medicine and family group practices, health and first-level referral centres and hospitals is under discussion. Health planners now recognize that health begins at individual, family and community levels. Objectives shaping the district health system model in Armenia emphasize PHC, the provision of "one-stop" comprehensive integrated care (e.g. multispecialty group practices) and a stepwise referral system from the community to district, regional and national levels. As for the pharmaceutical sector, the main directions for reform foresee the reinstatement of appropriate prescribing behaviour for prescription medicines, the provision of essential drugs at the levels of ambulatory and inpatient care, and improving quality control and strategies to control the prices of medicines.

This requires the development of appropriate organizational, management and legal frameworks to support the implementation of general practice. It also requires adequate funding and the Government has, in the framework of the PRSP, committed itself to increasing the share of state financing allocated to primary care to approximately 50% during the next decade (Government of the Republic of Armenia 2003d) (see also Section 4.4 "Health care expenditure"). Health financing mechanisms have to enable the reduction of informal payments and enhance transparency in the activities of health care providers. One step in this direction is the recent announcement by the Government to expand the range of health services provided to the population free of charge by abolishing all fees levied for disease prevention and prophylactic activities in all public polyclinics from 2006 (Atshemian 2005). This pledge is being made possible by a projected increase in government spending on health care in 2006 by 21%, as set out in the PRSP and the 2004–2006 MTEF (Government of the Republic of

Armenia 2003d; Government of the Republic of Armenia 2003e). Whether this policy will indeed curb the level of informal payments in Armenia remains to be seen. At institutional level, the Ministry of Health is expected to support the creation of horizontal structures for decision-making and management. It will also maintain international cooperation and coordination as a major source of supplementary resources for pooling and for use to improve population health. The coming decade will require persistency and political will from all actors to stabilize the system and to continue implementing positive changes.

8 Assessment of the health care system

Recent data seem to suggest that Armenia falls short of what would be expected, given the level of resources allocated to health care and non-health system determinants. Thus, according to the World Health Report 2000 Armenia ranked 104th out of 191, with an overall performance index of 0.630; though slightly higher than neighbouring Azerbaijan and Georgia, at 0.626 and 0.615 respectively, this was substantially lower than France, which, with an index of 0.994 ranked highest of all 191 countries (WHO 2000). These rankings have to be interpreted with caution, however, mainly because of the uncertain data base for the Caucasus countries at that time.

8.1 Quality assurance

Quality assurance (QA) in health care is defined as an integrated system of activities involving planning, quality control, assessment and reporting as well as quality improvement so as to ensure that a health care service meets defined standards of quality within a stated level of confidence. Armenia has yet to implement such a systematic approach to QA. Health care managers have little or no training in the organization of the process of care or in the principles and practices of QA and quality improvement. Also, few health care providers have access, and much less the capacity to effectively utilize Internet-based and other electronic resources to support decision-making. There is no medical error reporting system to assist health care providers in preventing and reducing possible adverse events and medical errors. In addition, poor quality control of laboratory tests at primary and secondary facilities, partly owing to a lack of, and/or inadequate, equipment, reagents and training, unnecessarily increases treatment costs since diagnostic tests have to be repeated at tertiary care facilities.

There have been some efforts by the Ministry of Health to regulate and link quality of care with health care reforms, allowing benchmarking across time, within Armenia and with other countries. Thus, since 1995, Armenia has been providing national data to the WHO Regional Office for Europe OBStetrical Quality Indicators and Data Collection (OBSQUID) database, creating useful insights into the structure, process and outcome of perinatal care. More recently, in 2002, the Ministry of Health drafted a proposal on national approaches and strategies to health care quality improvement, through:

- developing and implementing criteria and standards for quality assessment;
- advancing licensure of medical and pharmaceutical facilities;
- introducing accreditation of health care institutions;
- improving health information systems;
- developing training modules for health personnel in QA; and
- developing and implementing mechanisms to promote quality of care.

The conceptual framework underlying the national strategy divides QA into technical QA areas, support areas for QA, and environmental factors linked to the success or failure of the programme (data collection, specific indicators, etc.). The strategy was developed based on the following principles.

- QA activities and programmes are intended to assure the quality of care in a defined medical setting using peer or utilization review so as to identify and remedy deficiencies in quality.
- QA is not aimed at improving poor services but is to be seen as a means of continuously monitoring, analysing and improving existing systems.
- QA in the health care sector is a process that is applicable not only to medical facilities but all allied services and organizations.
- QA combines broad activities that are defined and prioritized internal to an organization.

Though based on a broad conceptual framework, the concept paper failed to address two fundamental issues, namely: how to identify situations where the quality of care falls below the expected or desired level; and how to implement performance monitoring at institutional level ("troubleshooting" and "planned reconnaissance") (Donabedian 2003). The paper also did not consider approaches such as Integrated Process Management (IPM), which integrates the customer in the production process to increase work productivity and the quality of the product by considering the customer as a producer (or "prosumer").

Performance improvement policies and continuous quality improvement programmes are generally absent from all but the most progressively managed hospitals or internationally funded projects, such as the ASTP pilot sites (see Box 8.1) (ASTP 2004).

Box 8.1   Tools for clinical care quality monitoring and assessment piloted by the Armenia Social Transition Program

Patient encounter system – Computerized database tracking each particular case and encounter of PHC services utilization both for office and home consultations. The system enables the processing of information, on items such as the reason for the consultation, main medical procedures and treatments provided, specialist referrals, diagnosis and health outcome.

Peer chart review (PCR) – A non-punitive approach to enable provider cooperation in developing patient safety systems and processes that can be reviewed against international evidence and best practice and improved against previous clinical practice. Systematic peer review of medical records acts as a means to monitor/audit medical practice and continuous training among PHC practitioners in all Armenia Social Transition Program (ASTP) pilot sites.

Patient satisfaction surveys – Biannual assessment of patients' needs and their satisfaction with PHC services in urban polyclinics, regularly shared with the polyclinic administration and health care staff.

Focused studies – Specifically designed investigations and studies that explore issues such as the theoretical knowledge of PHC practitioners, the need for continuous medical education, problems around medical records and documentation in PHC facilities, and others.

Source: ASTP 2005a.

Most facilities still operate in the traditional manner, with only a trusted few, such as the chief accountant and facility directors, having access to financial and performance information, but there is little or no monitoring, evaluation or planning. Also, most hospitals lack a governing body such as a board, thus providing little scope for external control. There appears to be increasing awareness among health care managers and clinicians in Armenia that many activities in their institutions are in essence part of a QA system. Mostly, the data are used to assess economic efficiency and patient-oriented objectives. However, its full potential to guide the management of health care institutions is often neglected. The challenge for the coming years will be to reorient managers and users of health care to consider the system in terms of assessing and improving quality of care.

8.2   Health system accountability and safety

In Armenia, the public dissemination of information on provider performance is limited. The Ministry of Health releases an annual statistics report on morbidity, mortality, the current network of health care institutions, human resources and others. However, this document is not widely distributed within the health system and typically not accessible to the general public. Similarly, annual reports by the Minister of Health to the Government are not widely circulated, thus making it difficult for the general public to be informed about details of the health care system and whether goals and objectives have been achieved during the fiscal year. Public accountability is largely understood as exposing health care organizations to external scrutiny through the publication of (individual) performance information rather than a means to creating a feeling of community ownership of the health care organization and its strategies and goals. Broadcasting and examination of provider-specific information through the local media and other public avenues is generally declarative and not informative and does not stimulate health care providers to address and improve the quality or the efficiency of care.

As a precedent, the Nork-Marash Medical Centre in Yerevan recently launched a cardiac surgery management data collection and reporting system that makes available selected performance data to the medical community and the general public. Using data on quality and the clinical data of all patients undergoing open heart surgery, the system developed a statistical model that determines which preoperative risk factors are significantly related to in-hospital adverse outcomes in order to weigh these risk factors in order to predict any given patient's risk of an adverse outcome.

There is no precise information on the extent of medical errors in Armenia. Although most health care organizations experience a number of active and latent errors and adverse events, there is no system of medical error reporting. Data from the United States indicate that 1 in 25 hospital admissions in the United States results in an injured patient and 12–15% of hospital costs may be attributed to preventable medical errors (Kimmel & Sensmeier 2002); based on these estimates it may be reasonable to assume that, in Armenia (2002), approximately 8000 hospital admissions per year (out of 200 000 hospital admissions) may be associated with medical errors, translating into an estimated loss of approximately AMD 1 billion (around US$ 1.7 million) of hospital costs. While there has been some progress in terms of improving the quality of care in the Armenian health care system, as noted above, similar achievements regarding safety, both in service delivery and the general environment, are lacking. Mechanisms to improve patient safety and the quality of care, such as standardization of care in routine clinical practice, are generally nonexistent.

Given the probable magnitude of the problem, patient safety has to assume priority, requiring a system that fosters:

- increased awareness of safety issues among clinicians and nursing staff;
- safety as a priority for senior leadership;
- staff education about patient safety;
- implementation of a non-punitive reporting system;
- provision of continuous information flow between staff;
- recognition and encouragement of an active patient role in safety;
- zero tolerance of persistent refusals to confront even inadvertent clinician and hospital responsibility for quality problems; and
- zero tolerance for keeping silent about errors by failing to take corrective actions and by failing to discuss openly the true consequences of poor-quality and inappropriate care.

Creating a special organization, for instance a Commission for Patient Safety and Medical Error Management, along with the introduction of a mandatory countrywide reporting system for all types of medical errors, followed by annual official reports, would focus the country's efforts towards creating a safe and efficient health care system.

9 Conclusions

Since independence, the health care system in Armenia has undergone numerous changes that have effectively transformed a centrally run state system into a fragmented health care system that is largely financed from out-of-pocket payments. The population, especially those in need and/or with the least means, such as the elderly, unemployed and mothers and children, meet with limited access to basic and specialized health care services; this often leads them to postpone necessary consultations and/or to late referrals to health care providers. Those services which are available are often of questionable quality, as health care standards and QA systems are absent; this reinforces the tendency to postpone accessing the system. Drugs on the EDL are generally not affordable to those in need. Many health facilities, especially in rural areas, lack modern medical technology and equipment and what is available is not distributed efficiently. The existing "state order" provision of free-of-charge health care remains more declarative than factual, as informal payments are still expected or required in many cases. International and humanitarian assistance programmes and initiatives aimed at improving the health care system are often poorly coordinated, owing to the absence of a clear government policy and strategic framework combined with donor restrictions and expectations. Despite significant investments in primary care, a disproportionate share of resources has gone to secondary and tertiary care.

Yet, despite these numerous challenges, Armenia is increasingly engaged in reforming the system from one that emphasizes the treatment of disease and response to epidemics towards a system emphasizing prevention, family care and community participation. The shift towards a primary care orientation and community approach is noticeable, with gradually increased roles for health workers to influence the determinants of health. However, a gap in the distribution of human and technological resources for health remains.

As short-term priorities, it is important for the State to consider the following steps:

- increasing the role of accountability (legal, political, fiscal, and organizational);
- advancing organizational performance (developing strategies/policies that meet general standards and local needs, creating formal/informal coalitions, stipulating accountability to stakeholders, and applying the principles and practice of corporate governance in health care institutions).

The long-term priorities for the national health care system must consider the development and articulation of a clear national policy on how the main basic functions of the system would be realized over the coming 10–15 years.

In accordance with political will and in order to ensure sustainability, health care delivery in Armenia has to become more equitable and accessible, with all services prepaid, and not charged at the point of service.

10 Appendices

10.1 References

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10.2   Health care services covered under the Basic Benefits Package (2004)

1   State governance of the health sector

2   Hospital care

    2.1   Treatment of tuberculosis

    2.2   Treatment of intestinal and other infectious diseases

    2.3   Treatment of sexually transmitted infections

    2.4   Psychiatric care

    2.5   Emergency medical care

    2.6   Treatment of narcological diseases

    2.7   Provision of hemodialysis

    2.8   Obstetrician and gynaecological services

    2.9   Intensive health care

    2.10   Health care services for vulnerable and special population groups

    2.11   Health care services for children under the age of seven

    2.12   Clinical and social rehabilitation and examination of ability to work

    2.13   Medical care for reproduction

    2.14   Capital reconstruction of health facilities

    2.15   Examination and treatment of individuals of pre-conscription and conscription age

3   Primary health care (ambulatory-polyclinic)

    3.1   Primary care of patients aged 18 years and over

    3.2   Primary care of patients under the age of 18 years

    3.3   Procurement of medicine on a centralized basis

    3.4   Health care provided in dispensaries

    3.5   Obstetrician and gynaecological services

    3.6   Capital reconstruction of health facilities

    3.7   Examination and treatment of individuals of pre-conscription and conscription age

4   Hygienic and epidemiological services

5   Other health services and programmes

    5.1   Subsidy of other state non-commercial organizations

    5.2   Transportation costs of patients referred for treatment abroad

    5.3   Central procurement of modern medical equipment and supplies

    5.4   Provision of difficult and expensive diagnoses

    5.5   Other health services

    5.6   Services provided within the "Preparation of health system optimization project" supported by the United States Agency for International Development

    5.7   Services provided within the "Health system optimization project" (implemented by the World Bank)

    5.8   Programme on "Recovery of small social and economic infrastructures in the health sphere" within the framework of second health project of the Armenia Social Investment Fund, implemented with support from the World Bank

Source: Government of the Republic of Armenia, 2004.

10.3   Budget allocation rates for ambulatory-polyclinic health care

Type of medical care	Price (drams)	
	2004	2005
1. Primary health care services provided to residents aged 18 years and older (per year)		
Medical care and services provided by district or family physicians to catchment area population (population size < maximum level):	642	
care provided to the catchment area population		823
reimbursement for district/family physicians' visits to rural population		700
care provided to the population by FAP nurses		225
reimbursement of health care facilities involved in open enrolment pilot		20
Medical care and services provided by district or family physicians to catchment area population (population size > maximum level)	519	658
Outpatient treatment by district or family physicians	40	
Management of cases that do not require inpatient stay, including:		
management in polyclinic settings		51
management in hospital settings		13
Medication provision free of charge and on privileged basis	280	325
Medical care and service provided to catchment area population by narrow specialists, including:	165	
surgical	45	
ophthalmologic	20	
cardiologic	20	
neurological	20	
ENT	20	
dentist	20	
other (urologic, gastroenterological, physical therapy, speech therapy, etc.)	20	
Specialist care, including:		
care provided to urban catchment area population		250
care provided to rural catchment area population		200
visits to rural population		60
reimbursement for each visit to rural population		700
Laboratory – instrumental diagnostics of catchment area population, including:	175	
clinical examinations	89	
biochemical analyses	21	
X-ray studies	43	

Type of medical care	Price (drams)	
	2004	2005
functional investigations	17	
bacteriologic examination	5	
Laboratory – instrumental diagnostic investigations of catchment area population, including:		
vulnerable patients and special population groups		188
patients on follow-up (dispensary) care and patients at risk, including:		242
patients with diabetes	95	
patients with tuberculosis	35	
patients with oncologic problems	54	
patients with cardiologic problems	58	
laboratory – instrumental diagnostic investigations at specialized diagnostic centres		13
2. Primary health care services provided to residents aged under 18 years (per year)		
Medical care and services provided by district paediatricians or family physicians to catchment area population (population size < maximum level)	1 358	
care provided to the catchment area population		1 690
reimbursement for district/family physicians' visits to rural population		700
care provided to the population by FAP nurses		430
reimbursement of health care facilities involved in open enrolment pilot		20
Medical care and services provided by district paediatricians or family physicians to catchment area population (population size > maximum level)	1 029	1 350
Medical care and services provided at schools per pupil	400	726
Outpatient treatment performed by district paediatricians or family physicians	80	
Management of cases that do not require inpatient stay, including:		
management in polyclinic settings		46
management in hospital settings		19
Medication provision free of charge and on privileged basis	445	473
Medical care and service provided to catchment area population by narrow specialists, including:	266	
surgical	71	
ophthalmologic	39	
cardiologic	39	
neurological	39	
ENT	39	
other (urologic, gastroenterological, physical therapy, speech therapy, etc.)	39	

Type of medical care	Price (drams)	
	2004	2005
Specialist care, including:		
care provided to urban catchment area population		330
care provided to rural catchment area population		254
visits to rural population		95
reimbursement for each visit to rural population		700
oral cavity hygiene programme for children		110
care provided in specialized centres		34
Laboratory – instrumental diagnostics of catchment area population, including:	242	
clinical examinations	163	
biochemical analyses	48	
X-ray studies	17	
functional investigations	8	
bacteriologic examination	6	
Laboratory – instrumental diagnostics of catchment area population, including:		
children under 7 and children aged 7–18 considered vulnerable/special population group		352
laboratory – instrumental diagnostic investigations at specialized diagnostic centres		58
3. **Obstetric-gynaecological care (per woman per year)**		
follow-up care provided by obstetrician-gynaecologists, including health assessments for girls aged 15	3 362	222
laboratory – instrumental investigations, including health assessments for girls aged 15	6 565	343
outpatient treatment performed by obstetrician-gynaecologists per patient per year	6	13

10.4   Payment rates: ambulatory physician services

Type of health care service	Price (drams)	
	2003	2004
Treatment performed by district physicians, paediatricians and family physicians in ambulatory conditions (for every completed case)	None	10 000
Treatment of individuals of pre-conscript and conscript age in ambulatory conditions (for every completed case)	None	10 000
Narrow specialist counselling (one visit), including counselling performed by:		
(a) surgeon	500	1 000
(b) other specialists	450	900
Home visit	500	1 000
Radiotherapy of patients with malignancies in oncological dispensaries and centres (one procedure)	700	1 000
Dentist care, including:		
1. Dental care provided to members of vulnerable and special groups (adults and children) and to children under 7 years of age (for every completed case)	1 700	2 000
2. Orthodontic care provided to members of vulnerable and special groups and to children under 7 (under 8 in 2003) years of age (for every visit)	800	1 000
3. Tooth replacement performed for members of vulnerable groups, including:		
removable dental prosthesis (up to 5 teeth, the price is based on the number of teeth, the price of one tooth)	540	650
more than 5 teeth and complete dental prosthesis	7 600	9 000
tooth crowns	2 700	3 200
tooth crowns with plastic coating	3 100	3 700
facet	3 200	3 800
dental filling	3 000	3 600
clamps	540	650
whole piece dental prosthesis	13 400	15 000
repair of dental prosthesis	940	1 100
individual impression	1 000	1 200
additional bridgework	1 000	1 200
other services (excision and removal of metal crowns, fixing of metal crowns, re-basing of removable dental prosthesis, preparation and fixing of soldered tooth posts, etc.)	260	600
metalloceramics	26 400	31 000

Source: Armenian Ministry of Health.

10.5 State-guaranteed free-of-charge hospital care and services rates

2004 (average price per day: 8300 drams); 2005 (average price per day: 8700 drams)

Types of hospital care (according to departments)	Normative of average treatment duration per patient (days)				Treatment complication calculation coefficient				Average cost of treatment per patient (drams)			
	Adults		Children		Adults		Children		Adults		Children	
	2004	2005	2004	2005	2004	2005	2004	2005	2004	2005	2004	2005
I. General medicine[a] (rural health centres)	5.5	5.5	5.5	5.5	0.75	0.75	0.75	0.75	34 100	35 800	34 100	35 800
II. Specialized departments												
1. General therapy	9	9			0.84	0.84			62 500	65 500		
2. General surgery	8	8	8	8	0.94	0.94	0.94	0.94	62 500	65 500	62 500	65 500
3. Infectious diseases	9	9	9	9	0.87	0.87	0.87	0.87	65 000	68 200	65 000	68 200
4. General paediatrics	0	0	9	9			0.84	0.84			62 500	65 500
5. General obstetrics[a] including:	5	5			1.01	1.01			42 000	44 000		
5.1 Caesarean section	8	8			1.02	1.03			68 000	71 400		
5.2 Pathology of pregnancy	10	10			0.58	0.58			48 000	50 400		
6. General gynaecology	9	9	9	9	0.84	0.84	0.84	0.84	62 500	65 500	62 500	65 500
– induced abortion	1	1			0.96	0.97			8 000	8 400		
7. Resuscitation	4	4	4	4	1.88	1.88	1.88	1.88	62 500	65 500	62 500	65 500
III. Departments of narrow specialization												
1. Thoracic surgery	11.5	11.5	9	9	1.08	1.09	1.07	1.07	103 500	108 600	80 000	84 000
2. Cardiosurgery	11	11	10	10	3.29	3.29	3.61	5.75	300 000	315 000	300 000	500 000
– inpatient examination	1	1			1.30	1.30			10 800	11 300	10 800	11 300

Note: [a] 25 000 drams is the envisaged amount for women who were taken to obstetrics departments after home deliveries.

10.5 (cont.)

2004 (average price per day: 8300 drams); 2005 (average price per day: 8700 drams)

Types of hospital care (according to departments)	Normative of average treatment duration per patient (days)				Treatment complication calculation coefficient				Average cost of treatment per patient (drams)			
	Adults		Children		Adults		Children		Adults		Children	
	2004	2005	2004	2005	2004	2005	2004	2005	2004	2005	2004	2005
3. Abdominal-reconstructive	15	15	13	13	1.21	1.21	1.18	1.18	151 200	158 500	127 300	133 500
4. Angiosurgery	15	15	13	13	1.21	1.21	1.18	1.18	151 200	158 500	127 300	133 500
– blood vessel fistula formation in patients on hemodialysis		6		6		1.15		1.15		60 000		60 000
5. Neurosurgery	15	15	13	13	1.21	1.21	1.18	1.18	151 200	158 500	127 300	133 500
6. Microsurgery	15	15	13	13	1.21	1.21	1.18	1.18	151 200	158 500	127 300	133 500
7. Plastic surgery	15	15	13	13	1.21	1.21	1.18	1.18	151 200	158 500	127 300	133 500
8. Reconstructive/ urology	15	15	15	15	1.21	1.21	1.21	1.21	151 200	158 500	151 200	158 500
9. Neonatal surgery			17	17			1.42	1.42			200 000	210 000
10. Contaminated surgery	16	16	15	15	1.14	1.14	1.15	1.14	151 200	158 500	143 000	148 500
– price per day									9 600	9 900	9 600	9 900
11. Traumatologic[b]	11	11	10	10	1.05	1.04	1.05	1.06	95 500	100 000	87 500	92 000
12. Orthopaedic[b]	20	20	20	20	0.96	0.97	0.96	0.97	159 200	168 000	159 200	168 000
– price per day									8 000	8 400	8 000	8 400
13. Ophthalmologic:												
(a) inpatient	9	9	9	9	0.96	0.91	0.96	0.91	71 600	71 600	71 600	71 600
(b) day-case	6	6	6	6	0.58	0.55	0.58	0.55	28 700	28 700	28 700	28 700

Note: [b] Apply coefficient of 1.1 for Center of Traumatology, Orthopaedics and Rehabilitation Medicine CJSC.

10.5 (cont.)

2004 (average price per day: 8300 drams); 2005 (average price per day: 8700 drams)

Types of hospital care (according to departments)	Normative of average treatment duration per patient (days)				Treatment complication calculation coefficient				Average cost of treatment per patient (drams)			
	Adults		Children		Adults		Children		Adults		Children	
	2004	2005	2004	2005	2004	2005	2004	2005	2004	2005	2004	2005
14. Urologic	10	10	10	10	0.96	0.97	0.96	0.97	80 000	84 000	80 000	84 000
15. Oral	10	10	10	10	0.96	0.97	0.96	0.97	80 000	84 000	80 000	84 000
16. ENT	8	8	7	7	0.84	0.84	0.88	0.88	55 700	58 500	51 200	53 700
17. Cardiologic	13	13			0.69	0.69			74 000	77 500		
– acute myocardial infarction	15	15			1.04	1.04			130 000	136 000		
18. Gastroenterological	10	10	10	10	0.96	0.97	0.86	0.86	80 000	84 000	71 600	75 200
19. Rehabilitation, incl.:												
(a) inpatient	23	23	23	23	0.67	0.67	0.67	0.67	127 300	133 400	127 300	133 400
– price per day									5 500	5 800	5 500	5 800
(b) day-case									4 900	5 100	4 900	5 100
(c) in resorts[c]			30	30			0.66	0.67			165 000	174 000
– price per day											5 500	5 800
(d) Rehabilitation/ children with mental retardation			104	104			0.59	0.59			509 600	530 400
– price per day											4 900	5 100

Note: [c] In "Oshakan" Children's Rehabilitation Center, expenditures for food and lodging of individuals caring for disabled children are additionally reimbursed at the rate of 2800 drams per day; in "Ararat" Mother and Child Resort the expenditure for mineral water is reimbursed additionally at the rate of 650 drams per child per day.

10.5 (cont.)

Types of hospital care (according to departments)	Normative of average treatment duration per patient (days)				2004 (average price per day: 8300 drams); 2005 (average price per day: 8700 drams) Treatment complication calculation coefficient				Average cost of treatment per patient (drams)			
	Adults		Children		Adults		Children		Adults		Children	
	2004	2005	2004	2005	2004	2005	2004	2005	2004	2005	2004	2005
20. Treatment of spinal patients												
(a) inpatient	84	84			0.89	0.90			620 800	655 200		
– price per day									7 400	7 800		
(b) day-case	32	32			0.36	0.36			95 000	100 800		
– price per day									3 000	3 150		
21. Nephrologic	11	11	12	12	0.88	0.88	0.80	0.80	80 000	84 000	80 000	84 000
22. Partial reimbursement/ kidney transplantation[d]									2 500 000	2 500 000	2 500 000	2 500 000
– patient management after kidney transplantation	5	5	5	5	0.77	0.77	0.77	0.77	32 000	33 600	32 000	33 600
23. Oncological, incl.:												
23.1 Complex treatment of malignancies	17	17	17	17	1.29	1.29	1.29	1.29	181 900	191 000	181 900	191 000
23.2 Surgical treatment of malignancies	10	10	10	10	0.96	0.97	0.96	0.97	80 000	84 000	80 000	84 000
23.3 Radiotherapy of malignancies	12	12	12	12	0.57	0.57	0.57	0.57	56 800	59 500	56 800	59 500

Note: [d] Only by the order of the Armenian Minister of Health.

10.5 (cont.)

Types of hospital care (according to departments)	2004 (average price per day: 8300 drams); 2005 (average price per day: 8700 drams)											
	Normative of average treatment duration per patient (days)				Treatment complication calculation coefficient				Average cost of treatment per patient (drams)			
	Adults		Children		Adults		Children		Adults		Children	
	2004	2005	2004	2005	2004	2005	2004	2005	2004	2005	2004	2005
23.4 Chemotherapy of malignancies	12	12	12	12	1.48	1.49	1.48	1.49	147 800	155 200	147 800	155 200
23.5 Symptomatic treatment of malignancies	10	10	10	10	0.82	0.82	0.82	0.82	68 200	71 500	68 200	71 500
23.6 Surgical treatment of benign tumours	8	8	8	8	1.08	1.08	1.08	1.08	71 600	75 200	71 600	75 200
23.7 Treatment of benign tumours	10	10	10	10	0.86	0.86	0.86	0.86	71 600	75 200	71 600	75 200
23.8 Diagnostics (inpatient)	5	5	5	5	0.96	0.97	0.96	0.97	40 000	42 000	40 000	42 000
24. Hematological patients, including:												
24.1 Chemotherapy of blood malignancies	14	14	14	14	1.27	1.27	1.27	1.27	147 800	155 200	147 800	155 200
24.2 Treatment of other blood diseases	14	14	14	14	0.59	0.59	0.59	0.59	68 200	71 500	68 200	71 500
24.3 Diagnostics (inpatient)	5	5	5	5	0.96	0.97	0.96	0.97	40 000	42 000	40 000	42 000
25. Dermatologic, incl.												
– in marzer	10	10	10	10	0.83	0.83	0.83	0.83	68 700	72 000	68 700	72 000
– in Yerevan	10	10	10	10	0.90	0.90	0.90	0.90	75 000	78 500	75 000	78 500

10.5 (cont.)

2004 (average price per day: 8300 drams); 2005 (average price per day: 8700 drams)

Types of hospital care (according to departments)	Normative of average treatment duration per patient (days)				Treatment complication calculation coefficient				Average cost of treatment per patient (drams)			
	Adults		Children		Adults		Children		Adults		Children	
	2004	2005	2004	2005	2004	2005	2004	2005	2004	2005	2004	2005
26. Venereologic, incl.:												
26.1 Treatment of STIs												
– in marzer	15	15	15	15	0.60	0.60	0.60	0.60	75 000	78 500	75 000	78 500
– in Yerevan	15	15	15	15	0.70	0.70	0.70	0.70	87 500	91 500	87 500	91 500
26.2 Diagnostics, (inpatient)	5	5	5	5	0.80	0.80	0.80	0.80	33 000	35 000	33 000	35 000
27. Radiation injuries	16	16	16	16	0.96	0.96	0.96	0.96	127 300	133 500	127 300	133 500
28. Allergic	13	13	13	13	0.74	0.74	0.74	0.74	80 000	84 000	80 000	84 000
29. Cardiorheumatic	13	13	13	13	0.74	0.74	0.74	0.74	80 000	84 000	80 000	84 000
30. Infectious	10	10	10	10	1.08	1.08	1.08	1.08	90 000	94 000	90 000	94 000
– price per day									9 000	9 000	9 000	9 000
31. Tuberculosis												
31.1 Treatment, incl.:e	55	55			0.73	0.74			335 500			
(a) treatment of TB in the active stage (BK+)		60				0.74				384 000		
– price per day									6 100	6 400		
(b) treatment of TB		50				0.74				320 000		
– price per day										6 400		

Notes: e Apply coefficient of 1.1 for Republican Antituberculous Dispensary CJSC; STI: sexually transmitted diseases; TB: tuberculosis; BK: bacilloscopically positive.

10.5 (cont.)

Types of hospital care (according to departments)	2004 (average price per day: 8300 drams); 2005 (average price per day: 8700 drams)											
	Normative of average treatment duration per patient (days)				Treatment complication calculation coefficient				Average cost of treatment per patient (drams)			
	Adults		Children		Adults		Children		Adults		Children	
	2004	2005	2004	2005	2004	2005	2004	2005	2004	2005	2004	2005
31.2 Treatment of tuberculosis in patients with mental diseases[e]	55	55	55	55	0.83	0.83	0.83	0.83	380 000	398 700	380 000	398 700
– price per day									6 900	7 250	6 900	7 250
31.3 Surgical treatment of TB	4	4	4	4		1.15		1.15		40 000		40 000
31.4 Diagnostics in hospital conditions	10	10	10	10	0.58	0.57	0.58	0.57	48 000	50 000	48 000	50 000
31.5 Rehabilitation treatment in a resort	50	50	50	50	0.67	0.67	0.67	0.67	280 000	290 000	280 000	290 000
– price per day									5 600	5 800	5 600	5 800
32. Obstetrical[f]	5	5			1.18	1.18			49 000	51 500		
32.1 Caesarean section	8	8			1.27	1.27			84 000	88 200		
32.2 Pregnancy pathology	12	12			0.56	0.56			56 000	58 800		
33. Gynaecologic	9	9	9	9	0.94	0.94	0.94	0.94	70 000	73 500	70 000	73 500
– induced abortion	1	1	0	0	1.00	1.00			8 300	8 700		

Notes: [e] Apply coefficient of 1.1 for Republican Antituberculous Dispensary CJSC; TB: tuberculosis; [f] 25 000 drams is the envisaged amount for women who were taken to obstetrics departments after home deliveries.

10.5 (cont.)

Types of hospital care (according to departments)	2004 (average price per day: 8300 drams); 2005 (average price per day: 8700 drams)											
	Normative of average treatment duration per patient (days)				Treatment complication calculation coefficient				Average cost of treatment per patient (drams)			
	Adults		Children		Adults		Children		Adults		Children	
	2004	2005	2004	2005	2004	2005	2004	2005	2004	2005	2004	2005
34. Neurological	10	10	10	10	0.96	0.97	0.96	0.97	80 000	84 000	80 000	84 000
– angioneurologic	15	15	15	15	0.96	0.96	0.96	0.96	119 400	125 400	119 400	125 400
35. Psychiatric, including:												
35.1 Treatment of acute cases	24	24	24	24	0.53	0.53	0.53	0.53	105 600	110 400	105 600	110 400
– price per day									4 400	4 600	4 400	4 600
35.2 Forensic – psychiatric expertise	24	24	24	24	0.53	0.53	0.53	0.53	105 600	110 400	105 600	110 400
– price per day									4 400	4 600	4 400	4 600
35.3 Compulsory treatment (cost per bed-day)									4 400	4 600	4 400	4 600
35.4 Management of patients with chronic psychiatric diseases (cost per bed-day)									2 800	2 950	2 800	2 950
36. Psychosomatic	15	15			0.51	0.51			63 000	66 000		
– price per day									4 200	4 400		
37. Narcological, incl.:												
37.1 Treatment of narcological patients												

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10.5 (cont.)

Types of hospital care (according to departments)	Normative of average treatment duration per patient (days)				Treatment complication calculation coefficient				Average cost of treatment per patient (drams)			
	Adults		Children		Adults		Children		Adults		Children	
	2004	2005	2004	2005	2004	2005	2004	2005	2004	2005	2004	2005
– in marzer	24	24	24	24	0.51	0.51	0.51	0.51	100 800	105 600	100800	105 600
– price per day									4 200	4 400	4 200	4 400
– in Yerevan	24	24	24	24	0.64	0.64	0.64	0.64	127 200	133 500	127 200	133 500
– price per day									5 300	5 560	5 300	5 560
37.2 Diagnostics (inpatient)	5	5	5	5	0.80	0.80	0.80	0.80	33 000	35 000	33 000	35 000
38. Proctologic	11	11	11	11	0.88	0.88	0.88	0.88	80 000	84 000	80 000	84 000
39. Rheumatologic	13	13	13	13	0.74	0.74	0.74	0.74	80 000	84 000	80 000	84 000
40. Pulmonology	13	13	11	11	0.74	0.74	0.88	0.88	80 000	84 000	80 000	84 000
41. Acute poisoning	6	10	6	10	1.61	2.30	1.61	2.30	80 000	200 000	80 000	200 000
42. Resuscitation	4	4	4	4	2.41	2.41	2.41	2.41	80 000	84 000	80 000	84 000
43. Resuscitation and intensive care of neonates and infants < 1 year			6	6			3.01	3.01			150 000	157 000
44. Burns	15	15	15	15	1.53	1.53	1.53	1.53	191 000	200 000	191 000	200 000
– price per day									12 750	13 350	12 750	13 350
45. Endocrinological	15	15	12	12	0.64	0.64	0.80	0.80	80 000	84 000	80 000	84 000
46. Hearing rehabilitation	9	9	9	9	0.96	0.96	0.96	0.96	71 600	75 200	71 600	75 200
47. Pre-term infants and neonates			11	11			1.13	1.13			103 500	108 500

2004 (average price per day: 8300 drams); 2005 (average price per day: 8700 drams)

10.5 (cont.)

Types of hospital care (according to departments)	2004 (average price per day: 8300 drams); 2005 (average price per day: 8700 drams)											
	Normative of average treatment duration per patient (days)				Treatment complication calculation coefficient				Average cost of treatment per patient (drams)			
	Adults		Children		Adults		Children		Adults		Children	
	2004	2005	2004	2005	2004	2005	2004	2005	2004	2005	2004	2005
48. Infants			12	12			1.04	1.04			103 500	108 500
49. Neuroses and other borderline conditions	11	11			0.63	0.63			57 800	60 700		
50. Sexual pathology	12	12			0.80	0.80			80 000	84 000		
51. Physical therapy, incl.:												
(a) inpatient	16	16	16	16	0.84	0.84	0.84	0.84	111 400	117 000	111 400	117 000
52. Medical care to patients with AIDS	4	4	4	4	30.12	28.74	30.12	28.74	1 000 000	1 000 000	1 000 000	1 000 000
– price per procedure									250 000	250 000	250 000	250 000
53. Testing of conscript-age patients												
(a) inpatient	6	6	6	6	0.70	0.67	0.70	0.67	35 000	35 000	35 000	35 000
(b) day-case	5	5	5	5	0.36	0.34	0.36	0.34	15 000	15 000	15 000	15 000
54. Forensic medical examination, incl.:												
(a) inpatient	6	6	6	6	0.70	0.67	0.70	0.67	35 000	35 000	35 000	35 000
(b) day-case	5	5	5	5	0.36	0.34	0.36	0.34	15 000	15 000	15 000	15 000

10.5 (cont.)

Types of hospital care (according to departments)	Normative of average treatment duration per patient (days)				Treatment complication calculation coefficient				Average cost of treatment per patient (drams)			
2004 (average price per day: 8300 drams); 2005 (average price per day: 8700 drams)	Adults		Children		Adults		Children		Adults		Children	
	2004	2005	2004	2005	2004	2005	2004	2005	2004	2005	2004	2005
55. Examination of patients on SMEC:[b]												
(a) in hospital conditions	6	6	6	6	0.70	0.67	0.70	0.67	35 000	35 000	35 000	35 000
(b) in daytime stationary	5	5	5	5	0.36	0.34	0.36	0.34	15 000	15 000	15 000	15 000
56. Treatment of conscript-age patients[f]												
57. Treatment of acute psychiatric disorders	24		24		0.58		0.58		116 000		116 000	
58. Rehabilitation of mental health												
(a) inpatient	25		25		0.67		0.67		140 000		140 000	
(b) day-case	22		22		0.30		0.30		55 000		55 000	
59. Psychotherapy of psychiatric disorders												
(a) inpatient	20		20		0.67		0.67		111 000		111 000	
(b) day-case	20		20		0.30		0.30		49 800		49 800	

Note: [b] SMEC: Socio-Medical Expertise Commission.

10.5 (cont.)

Types of hospital care (according to departments)	2004 (average price per day: 8300 drams); 2005 (average price per day: 8700 drams)											
	Normative of average treatment duration per patient (days)				Treatment complication calculation coefficient				Average cost of treatment per patient (drams)			
	Adults		Children		Adults		Children		Adults		Children	
	2004	2005	2004	2005	2004	2005	2004	2005	2004	2005	2004	2005
60. Treatment in the facilities of Armenian Ministry of Social Security^f												
61. Hospitalization up to 3 days of duration (per day)/short-term hospitalization												
61.1 In Departments of General Medicine (in rural health centres)									8 000	21 000	8 000	21 000
– price per day										8 400		8 400
61.2 In specialized departments									8 800	23 000	8 800	23 000
– price per day										9 200		9 200
61.3 In departments of narrow specialization									9 600	25 000	9 600	25 000
– price per day										10 000		10 000

Source: Ministry of Health of the Republic of Armenia.

Note: ^f The expenditures for treatment of conscript-age patients and for treatment of patients in the facilities of the Armenian Ministry of Social Security are reimbursed according to the prices adopted in a given department.

10.6   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 (HFA) 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 10 chapters:

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

2.   **Organizational structure**: provides an overview of how the health system in 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 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.

The Health Systems in Transition profiles

A series of the European Observatory on Health Systems and Policies

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

• to learn in detail about different approaches to the financing, organization and delivery of health services;

• to describe accurately the process, content and implementation of health reform programmes;

• to highlight common 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 countries of the WHO European Region.

How to obtain a HiT

All HiT country profiles are available in PDF format at *www.euro.who.int/observatory*, where you can also join our listserve for monthly updates of the activities of the European Observatory on Health Systems and Policies, including new HiTs, books in our co-published series with Open University Press, Policy briefs, the *EuroObserver* newsletter and the *Eurohealth* journal. If you would like to order a paper copy of a HiT, please write to:

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