Armenia

Health system review

Erica Richardson

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Preface

The Health Systems in Transition (HiT) series consists of country-based reviews that provide a detailed description of a health system and of reform and policy initiatives in progress or under development in a specific country. Each review is produced by country experts in collaboration with the Observatory's staff. In order to facilitate comparisons between countries, reviews are based on a template, which is revised periodically. The template provides detailed guidelines and specific questions, definitions and examples needed to compile a report.

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

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

Compiling the reviews poses a number of methodological problems. In many countries, there is relatively little information available on the health system and the impact of reforms. Due to the lack of a uniform data source, quantitative data on health services are based on a number of different sources,

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

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

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

HiTs and HiT summaries are available on the Observatory's web site (http://www.healthobservatory.eu).

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List of abbreviations

Abbreviations	
AIDS	Acquired immunodeficiency syndrome
Armstat	National Statistical Service of the Republic of Armenia
BBP	Basic Benefits Package
CHSC	Child Health State Certificate
CIS	Commonwealth of Independent States
FAP	*Feldsher*/midwife health post
GDP	Gross domestic product
GMP	Good Manufacturing Practice
HIV	Human immunodeficiency virus
IMF	International Monetary Fund
NGO	Nongovernmental organization
NHIAC	National Health Information Analytical Centre
OCSC	Obstetric Care State Certificate
OECD	Organisation for Economic Co-operation and Development
OOP	Out-of-pocket (payments)
SCDMTE	Scientific Centre of Drug and Medical Technology Expertise
SHA	State Health Agency
SHAEI	State Hygiene and Anti-Epidemic Inspectorate
VAT	Value added tax
VHI	Voluntary health insurance
WHO	World Health Organization

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Abstract

This analysis of the Armenian health system reviews the developments in organization and governance, health financing, healthcare provision, health reforms and health system performance since 2006.

Armenia inherited a Semashko-style health system on independence from the Soviet Union in 1991. Initial severe economic and sociopolitical difficulties during the 1990s affected the population health, though strong economic growth from 2000 benefited the population's health. Nevertheless, the Armenian health system remains unduly tilted towards inpatient care concentrated in the capital city despite overall reductions in hospital beds and concerted efforts to reform primary care provision. Changes in health system financing since independence have been more profound, as out-of-pocket (OOP) payments now account for over half of total health expenditure. This reduces access to essential services for the poorest households – particularly for inpatient care and pharmaceuticals – and many households face catastrophic health expenditure. Improving health system performance and financial equity are therefore the key challenges for health system reform. The scaling up of some successful recent programmes for maternal and child health may offer solutions, but require sustained financial resources that will be challenging in the context of financial austerity and the low base of public financing.

Executive summary

Introduction

Armenia is located in the South Caucasus (bordered by Turkey to the west, Georgia to the north, Azerbaijan to the east and the Islamic Republic of Iran to the south) and gained independence from the Soviet Union in 1991. Initial severe economic and sociopolitical difficulties during the 1990s affected population health, with life expectancy in 2009 relatively low at 70.6 years for men and 76.9 years for women. Reduced public budgets for health care fuelled widespread 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.

Growth resumed from 2000 until the global financial crisis reduced demand for Armenia's key exports (metals, chemicals, diamonds and foodstuffs) and reduced capital flows into the country, particularly of remittances. The official population of Armenia was estimated to be 3.27 million in 2012, but it has been estimated that between 1990 and 2005 between 700 000 and 1.3 million people (22–40% of Armenia's nominal population) emigrated. While the changing global economic climate encouraged some return migration and reduced remittances from Armenians abroad, remittances still accounted for 19.5% of gross domestic product (GDP) in 2011.

Organization and governance

Following independence, operation and ownership of health services have been devolved to provincial/regional and local governments (with the exception of the State Hygiene and Anti-Epidemic Inspectorate (SHAEI) and some tertiary care hospitals). Devolution of financial responsibility means that individual providers now have financial autonomy and are increasingly responsible for

their own budgets and management, including the ability to retain and reinvest any profits. The eleven regional governments (ten '*marzes*' plus the capital city of Yerevan), however, continue to monitor the care provided while the Ministry of Health formally retains regulatory functions, though effective coordination and planning of this decentralized system is still developing. Almost all pharmacies, the majority of dental services and medical equipment support have been privatized, as have most hospitals in Yerevan.

There are several electronic data collection systems, sometimes overlapping, to gather routine information and surveillance data. Nevertheless, there are serious data limitations and data gaps which impede the use of health information in planning and policy development, and the Ministry of Health is implementing e-health reforms in order to establish a universal electronic data management system.

Patient empowerment has not been subject to concerted reform efforts; consequently, health and health care are recognized as fundamental human rights in strategies and other policy documents, but no specific charter of patient rights has been introduced. Patient information on provider performance in Armenia is limited and difficult to access. The benefits package was initially revised annually and this caused great confusion for patients (as services which are free one year are available only for a fee the next), though the Ministry of Health has been more proactive in seeking to ensure patients are aware of their entitlements and are able to exercise choice.

Financing

By international standards, total health expenditure in Armenia is low at 4.3% of GDP in 2011 (the average for the WHO European Region was 9.1%). However, given the patchy data on funding flows from donor organizations (estimated to make up 5.9% of total health expenditure in 2011, down from 17.3% in 2007) as well as flows from different Armenian Diaspora groups, it is likely that these figures are underestimates. Since independence, publicly funded health expenditure has not exceeded 2% of GDP, also low by international standards. The Armenian Government currently has limited scope for expanding health spending given the fiscal challenges the country faces, particularly since the global economic downturn; for 2012, only 1.2% of GDP was allocated by the government to the health sector. Health care financing is therefore

predominantly financed (57.4% in 2011) by OOP payments; although this proportion fell substantially from 75% in 2000, it has been steadily increasing since 2008.

Entitlements are defined in the 'Basic Benefits Package' (BBP), which is a publicly funded package that specifies services that are either fully funded (for certain socially vulnerable groups, such as those living in poverty) or partly covered; these services include primary care, maternity services, sanitary-epidemiological services and treatment for around 200 socially significant diseases. Emergency services are also covered, but with some co-payments for all but the socially vulnerable groups.

OOP payments are made up of formal co-payments for services under the BBP, direct payments for services not covered by the BBP (most notably hospital care and outpatient pharmaceuticals) and informal payments including gratuities. Through the 1990s weaknesses in raising tax meant the gap widened between what was nominally covered by the state and what was actually funded, and informal payments expanded to fill the gap. Voluntary health insurance (VHI) plays a very minor role (0.3% of total health expenditure in 2011).

Physical and human resources

At independence, Armenia inherited an oversized health care system with a focus on specialized care. Since then, there has been a rapid contraction in the number of hospital beds (from 909 beds per 100 000 population in 1990 to 395 in 2011) as financing incentives shifted from input to output measures, though occupancy rates remain relatively low at 57.3% in 2010. The number of primary care facilities also fell following independence from 1686 in 1991 to 997 in 2004, largely due to the closure of many local health facilities in remote rural areas, many of which lacked the most basic facilities. However, the emphasis on developing primary care has reversed this trend somewhat, supported by substantial investment by donor agencies, and in 2009 there were 1056 primary care units nationwide.

Since 1991, the overall Armenian health workforce has contracted. The number of specialist doctors and dentists has increased, but the number of nurses per capita has fallen substantially. However, while the supply of physicians in the health system has remained relatively stable in per capita terms, the balance of specialists has not shifted away from hospital services. There is a shortage of doctors serving rural areas while there is a surplus in Yerevan. Although

they are not recognized within the EU, Armenian medical qualifications are recognized across the former Soviet Union, and formal salaries for nurses and doctors are considerably higher outside the country; this has led to high levels of outmigration of health workers.

Provision of services

The public health system in Armenia is focused primarily on the control of communicable diseases under the SHAEI. Health promotion around lifestyle issues such as tobacco and alcohol consumption is piecemeal, but since reorganization in 2012, the SHAEI is also responsible for the control of noncommunicable diseases. The majority of preventive services (including immunization) and health promotion activities are integrated with primary care services. The Ministry of Health recommends that Armenian citizens have a preventive health examination at least once a year, and 19% of men and 25% of women did so in the last three years.

The decentralization process of the mid-1990s led to functional disintegration of the primary health care system. Utilization of primary care services in Armenia has declined more than for hospital care, and outpatient contacts per person per year are among the lowest in the WHO European Region. Central to recent reforms in primary care 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. Implementation remains difficult, though, particularly in urban areas where the old polyclinic system prevails. The traditional focus on specialist care has posed a particular challenge; given the possibility of going directly to a specialist and the prevalence of OOP payments in the system, the gate keeping function of primary care is weak.

Rehabilitation, long-term and palliative care are not well developed as other parts of the health system which affects the system's overall efficiency. Most long-term care is provided within the family and there are few resources available for informal carers. Mental health services are sorely lacking, and what is available is poorly integrated into the primary care system; 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 a community setting.

There are 17 licensed pharmaceutical manufacturers in Armenia all of which specialize in manufacturing generics, and all are working towards compliance with standards of Good Manufacturing Practice (GMP). Community pharmacies are predominantly private, profit-making enterprises. Geographical access to pharmacies in Yerevan and other urban areas is good, but it can be problematic in rural areas. Very few outpatient pharmaceuticals are provided through the BBP and pharmaceuticals are a major item of household expenditure in Armenia (4% of total household expenditure in 2010).

Principal health reforms

In 2006, the BBP was broadened to provide a package of primary care services for the whole population that was formally free at the point of use, and funding for primary care services was subsequently increased. However, salaries remain low; doctors working in primary care and relying solely on their salary after taxes would be living close to or even below the poverty line.

In 2008, the Armenian Government introduced the Obstetric Care State Certificate (OCSC) to ensure that all women had access to high-quality maternity services which were free at the point of use. Pregnant women started to receive their OCSCs from July 2008; these are used to pay for care at their chosen maternity hospital, with the provider then paid a fixed fee (set by the Ministry of Health and reflecting market rates) depending on the complexity of the delivery. There was initial opposition from hospital managers and obstetricians, but the Programme is now considered a success, particularly as OOP costs for deliveries have fallen substantially. The Child Health State Certificate (CHSC) Programme was introduced on a similar basis, as the insufficient funding of inpatient paediatric services through the BBP meant high costs for patients that acted as a significant barrier to care. The introduction of the CHSC in 2011 has also been successful in reducing informal payments, improving affordability and access to services and boosting patient satisfaction. The key factor in the success of the state certificate programmes has been their clear political commitment (with the associated financial commitment) to covering the full cost of maternity and paediatric services. Their future success relies on consistent and transparent funding for service providers which ensures them a good salary.

In February 2011 and in the context of financial austerity, the Armenian Government introduced formal co-payments for many adult emergency care services. The aim is for these co-payments to increase government revenues by 'formalizing' informal payments for services and for prices to better reflect true costs.

From January 2012, some public sector employees have been eligible to receive a voucher to purchase a private health insurance package and other cover, which has increased VHI revenues in Armenia by more than four times. The stated purpose was to make government employment attractive and to address employees' social needs given their relatively low wages. The introduction of the Social Package has raised a fundamental challenge to equity in the health system.

In 2011, the Ministry of Health launched a process to define the National Health Strategy for Armenia. This was intended to be in place by 2013, and to provide a plan for establishing common ground between stakeholders where improving the health of the population is given priority, and to establish an intersectoral strategy to achieve this end.

Assessment of the health system

OOP payments as a proportion of total health expenditure are comparatively high in Armenia and this, in combination with quite high rates of poverty, is associated with high rates of catastrophic and impoverishing household health expenditure. Even those eligible for the BBP face considerable OOP costs when accessing services; limits to the BBP mean that many expensive aspects of health care are not covered.

By their very nature, OOP payments are highly regressive as poorer households pay a greater proportion of their income for health services than richer households. The high share of OOP payments in total health expenditure (57.4% in 2011) is therefore the greatest challenge to equity in health system financing in Armenia, and means that for many Armenians, seeking health care is considered unaffordable. The state certificate programmes have been successful in strengthening financial protection, with OOP payments for paediatric and maternal health services falling sharply, but other sectors are still chronically underfunded. In this context, the new scheme for purchasing

private health insurance cover for civil servants and certain other state-sector workers is not something which will improve equity in financing; indeed it may well have the opposite effect.

Hospital care continues to dominate the national health system, despite the reductions in capacity since independence. However, the reductions were almost exclusively limited to hospitals outside the capital city, and the estimated savings were largely achieved through closure or repurposing of small rural hospitals and the reduction of bed numbers in regional and urban hospitals through changed financing mechanisms. The inpatient system in Armenia remains poorly balanced, with an oversupply of capacity and staff in the capital often providing services to patients who would be more appropriately treated in day-care or outpatient settings.

The key challenge to greater transparency in the health system is the pervasiveness of informal payments. The greater clarity around priorities in the health system afforded by the planned National Health Strategy would facilitate greater health system performance monitoring and monitoring progress towards these goals would build even greater capacity for performance monitoring and accountability strengthening in the health system.

1. Introduction

Armenia is located in the South Caucasus and gained independence from the Soviet Union in 1991, when the country embarked on a rapid "shock therapy" strategy for economic reform. Armenia is a presidential republic with a highly stable political elite. Through the early 1990s, Armenia experienced severe economic difficulties but strong economic growth from 2000 was accompanied by low levels of national debt, reduced poverty rates, low inflation and a stable currency. However, the global financial crisis reduced demand for Armenia's key exports (metals, chemicals, diamonds and foodstuffs) and reduced capital flows into the country, particularly of remittances.

The *de jure* population of Armenia was estimated to be 3.27 million in 2012, but it has been estimated that in the period from 1990 to 2005 between 700 000 and 1.3 million people (22–40% of Armenia's nominal population) emigrated. Outmigration has added to a large Armenian Diaspora of over 5 million people, but much has also been temporary labour migration (particularly to the Russian Federation). While the changing global economic climate encouraged some return migration, remittances still accounted for 19.5% of GDP in 2011.

Transition has had a serious and long-term impact on the income and well-being of the Armenian population. Life expectancy was relatively low, at 70.6 years for men and 76.9 years for women in 2009. In 2012, only 3% of Armenian women were current smokers while 56% of men were. Noncommunicable diseases (particularly cardiovascular diseases) predominate as the cause of death in Armenia, but the resurgence of tuberculosis and the steady increase in human immunodeficiency virus (HIV) infection and the acquired immunodeficiency syndrome (AIDS) are also serious health issues.

1.1 Geography and sociodemography

The Republic of Armenia is located in the South Caucasus, occupying a territory of 29 800 km². Armenia is bordered by Georgia to the north, Azerbaijan to the east, Turkey to the west and the Islamic Republic of Iran to the south (Fig. 1.1). It is a mountainous country and has a markedly continental climate with hot summers and cold winters. 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 (Payaslian, 2007). The territory that is now Armenia represents part of what was historically eastern Armenia. 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.

Fig. 1.1

Map of Armenia

Source: United Nations, 2013.

In the late 1980s, tensions surfaced over Nagorno-Karabakh, which had been created as an autonomous territory within neighbouring Azerbaijan in 1923. In 1991, as the dissolution of the Soviet Union was taking place, the people of Nagorno-Karabakh sought to become an independent republic and 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. However, the conflict remains unresolved and the status of Nagorno-Karabakh is not settled. Armenia's borders with Azerbaijan and Turkey are currently closed.

Armenia is an ethnically homogeneous country; approximately 98% of the population are Armenian, the remainder being Yezidi (1.3%), Russians (0.5%) and Assyrians, Kurds and Greeks (0.1% or less). The official language is Armenian, with a unique alphabet. The predominant religion is the Armenian Apostolic Church; religious minorities include other Christian denominations, Yezidi and others. Approximately 65% of the population live in urban areas with approximately one-third, or 1.1 million, living in the capital city of Yerevan (Armstat, 2011b, 2012c). Table 1.1 shows some key demographic indicators characterizing population dynamics in Armenia.

Table 1.1

Trends in population/demographic indicators, 1990–2011 (selected years)

	1990	1995	2000	2005	2006	2007	2008	2009	2010	2011
Population, total (millions)	3.54	3.22	3.08	3.07	3.07	3.07	3.08	3.08	3.09	3.10
Population, female (% of total)	51.5	52.6	53.0	53.3	53.4	53.4	53.4	53.4	53.5	53.5
Population aged 0–14 (% of total)	30.4	29.5	25.9	21.9	21.3	20.9	20.5	20.3	20.2	20.2
Population aged 65 and above (% of total)	5.6	8.4	10.0	12.0	12.1	11.9	11.6	11.3	11.1	11.0
Population growth (annual %)	0.1	−2.1	−0.5	0.1	0.1	0.1	0.2	0.2	0.2	0.3
Population density (people/km² land area)	124	113	108	108	108	108	108	108	109	109
Fertility rate, total (births per woman)	2.5	2.1	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7
Birth rate, crude (per 1 000 people)	21.2	16.0	13.3	14.7	15.0	15.1	15.2	15.3	15.3	15.2
Death rate, crude (per 1 000 people)	7.7	8.7	8.4	8.4	8.5	8.6	8.7	8.8	8.9	9.0
Age dependency ratio [a]	56.2	60.9	55.9	51.4	50.2	48.8	47.4	46.3	45.6	45.3
Rural population (% of total population)	32.6	33.9	35.3	35.8	35.8	35.9	35.9	35.9	35.9	35.9
Literacy rate, adult total [b]	–	–	–	–	–	–	–	–	99.6	–

Source: World Bank, 2013.
Notes: [a] The age dependency ratio is the ratio of the combined child population (aged 0–14) and the elderly population (aged 65+) to the working age population (aged 15–64); [b] Percentage of people aged 15 and above.

Between 1988 and 1991, Armenia received approximately 420 000 refugees (350 000–360 000 from Azerbaijan and the rest from other parts of the former Soviet Union) and a total of about 170 000 ethnic Azerbaijanis left the country (UNDP Armenia, 2009). This added to the devastating impact of the 1988 Spitak earthquake, which was estimated to have left 25 000 people dead and some 400 000 homeless. According to estimates from the United Nations High Commission for Refugees, by the end of the 1990s there were approximately 280 000 ethnic Armenians registered as refugees, some 60 000 of whom, mostly men, were believed to have left the country (United Nations High Commission for Refugees, 2001). The *de jure* population of Armenia was estimated to be 3.27 million in 2012 (Armstat, 2011b, 2012c). It has been estimated that between 1990 and 2005 between 700 000 and 1.3 million people (22–40% of Armenia's nominal population) emigrated (UNDP Armenia, 2009). Outmigration 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 in the Islamic Republic of Iran) (UNDP Armenia, 2001). However, much of the migration is temporary labour migration (particularly to the Russian Federation), and the changing global economic climate has encouraged some return migration, which is a new development for Armenia (Armstat, 2011b).

1.2 Economic context

The Armenian economy has more or less recovered from the difficulties it faced in the immediate aftermath of the dissolution of the Soviet Union. From 2000, the country witnessed strong economic growth with low levels of national debt, reduced poverty rates, low inflation and a stable currency. However, the global financial crisis reduced demand for Armenia's key exports (metals, chemicals, diamonds and foodstuffs) and reduced capital flows into the country (particularly remittances). The narrow export base and business monopolies in key imports (fuel and key foodstuffs such as wheat and cooking oil) make Armenia particularly vulnerable to external shocks, and in 2009 the country experienced a deep recession, with GDP falling by 14.1% (Table 1.2). This put pressure on the budget as the need for social spending came at the same time as reduced availability of fiscal space; the sharp drop in tax revenues meant that the government had to accept large loan packages from the Russian Federation and international financial institutions. There was some recovery in 2010 and 2011, but there has not been a return to the double-digit growth experienced

previously, and poverty incidence jumped from 27.6% in 2008 to 35% in 2011, with extreme poverty reaching 3.7% (Armstat, 2011b, 2012c). Government spending on health is discussed in section 3.1.

Table 1.2

Macroeconomic indicators, 1995–2011 (selected years)

	1995	2000	2005	2006	2007	2008	2009	2010	2011
GDP (current US$, million)	1 468	1 912	4 900	6 384	9 206	11 662	8 648	9 371	10 248
GDP, PPP (current international $, million)	4 474	6 264	12 559	14 676	17 178	18 769	16 325	16 785	17 948
GDP per capita (current US$)	456	621	1 598	2 080	2 995	3 787	2 803	3 031	3 305
GDP per capita, PPP (current international $, million)	1 388	2 036	4 096	4 781	5 588	6 096	5 292	5 428	5 789
GDP growth (annual %)	6.9	5.9	13.9	13.2	13.7	6.9	−14.1	2.1	4.6
General government final consumption expenditure (% of GDP)	11.2	11.8	10.6	10.1	10.2	10.2	13.3	13.1	11.8
Cash surplus/deficit (% of GDP)	–	–	−1.0	−0.3	−0.6	−0.5	−7.6	−4.9	−2.7
Tax revenue (% of GDP)	–	–	14.3	14.4	16.0	17.3	16.5	16.9	17.0
Industry, value added (% of GDP)	32.0	39.0	45.3	44.7	43.9	43.5	35.8	36.0	37.1
Agriculture, value added (% of GDP)	42.3	25.5	20.9	20.5	20.3	18.4	18.9	19.6	20.7
Services etc., value added (% of GDP)	25.8	35.5	33.8	34.9	35.8	38.1	45.3	44.5	42.2
Labour force, total (million)	1.50	1.47	1.44	1.43	1.41	1.40	1.42	1.44	1.45
Unemployment, total (% of total labour force)	–	–	–	–	28.4	28.6	–	–	–
Poverty headcount ratio at national poverty line (% of population)	–	–	–	–	–	27.6	34.1	35.8	–
GINI index[a]	–	–	36.2	32.8	30.2	30.9	–	31.3	–
Real interest rate (%)	−18.9	33.4	14.3	11.4	12.7	10.4	15.8	9.2	13.0
Official exchange rate (LCU per US$, period average)	406	540	458	416	342	306	363	374	373

Source: World Bank, 2013.
Notes: LCU: Local currency unit; PPP: Purchasing power parity; [a] Gini index is a measure of absolute income inequality. The coefficient is a number between 0 and 100, where 0 corresponds to perfect equality (where everyone has the same income) and 100 corresponds to perfect inequality (where one person has all the income, and everyone else has zero income).

The global financial crisis has also affected labour migration patterns in Armenia (see section 1.1). Labour migrants are nearly all men and nearly all go abroad for seasonal work: 82% went to the Russian Federation in 2010 where they worked predominantly in the construction industry (Armstat, 2011b). In 2010, 28.2% of the population were living and working abroad, and remittances accounted for an estimated 19.5% of GDP in 2011 (World Bank, 2013).

1.3 Political context

Armenia formally declared its independence from the Soviet Union 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 Serzh Sargsyan, who has been in post since February 2008 after serving as Minister of Defence under the previous President, Robert Kocharian. The current government is led by Prime Minister Tigran Sargsyan (no relation of the President), who was appointed in April 2008.

The legislative branch comprises the unicameral National Assembly (*Azgayin Zhoghov*) whose 131 members (41 elected by direct vote and 90 by party list) serve five-year terms. The last parliamentary elections were held in May 2012 when the Republican Party (HHK) headed by Serzh Sargsyan won 69 seats, followed by Prosperous Armenia with 37 seats, the Armenian National Congress with 7, Rule of Law Party (Orinats Yerkir) with 6, the Armenian Revolutionary Federation ("Dashnak" or ARF) with 5 and the Heritage Party with 5. The remaining two seats are held by independent candidates. 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 (*marzes*) including the capital city of Yerevan. The regions are further divided into rural and urban communities (*hamaynqner*) and Yerevan into 12 districts. The communities are administered by local self-government that is elected for a term of four years: this is the council of elders (*Avagani*)*,* 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.

The unresolved conflict over Nagorno Karabakh overshadows politics in Armenia. Political decision-making is shaped by the very high priority afforded to national defence spending. There is also an overlap between certain political

and commercial interests as many industrial leaders are also members of the ruling elite, but there is no explicit role for formal lobby groups in the decision-making process (de Waal, 2010).

Armenia joined the Commonwealth of Independent States (CIS) in December 1991. It is a member of the World Bank Group, the International Bank for Reconstruction and Development, the IMF, the European Bank for Reconstruction and Development and the World Trade Organization (since February 2003). Armenia became a 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) 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, the President appointed Armenia's first Human Rights Defender (Ombudsman) in April 2004. In addition, Armenia acceded to the WHO Framework Convention on Tobacco Control in November 2004 and implementing International Health Regulations since June 2007. In 2011, Armenia scored 2.6 on the Corruption Perception Index, which has a range of 0 (highly corrupt) to 10 (highly clean); the country's score was 3.0 in 2007.

1.4 Health status

Official population estimates are based on the 2001 census data, but they are likely to be overestimates as the *de jure* population figures do not take into account the very high levels of undocumented emigration (WHO Regional Office for Europe, 2009). The most recent census was conducted in 2011, but the data were still being analysed at the time of writing. The overestimating of population size is a source of error for mortality and morbidity indicators. It was estimated that 68% of adult deaths were registered in 2003, so there has also been a problem with the completeness of mortality data (WHO Regional Office for Europe, 2009). The accuracy of cause-of-death certification has also been highlighted as problematic, particularly outside the capital, and currently only 229 causes of death are coded electronically, which means many cases are "coded up" to a more general category and the finer detail is lost (WHO Regional Office for Europe, 2009).

Average life expectancy at birth was 73.9 years in 2009, 70.6 for men and 76.9 for women (Table 1.3). National statistics showed that average life expectancy at birth in 2011 was 70.7 years for men and 77.5 years for women (Armstat, 2012b); however, WHO estimates for average life expectancy are considerably lower, at 66 years for men and 73 years for women (WHO Regional Office for Europe, 2013). The difference can be explained by differences between official and estimated infant mortality rates (see Table 1.5, below), because WHO incorporates survey date to address under-registration of births and infant deaths. Life expectancy at birth in Armenia is considerably higher than the average for countries of the CIS (64.7 for men and 74.7 for women in 2010); however, while Armenians are living longer, they do so in poor health (WHO Regional Office for Europe, 2013). Disability-adjusted life expectancy in Armenia was 63.1 years for men and just 59.1 years for women in 2007 (WHO Regional Office for Europe, 2013).

Table 1.3

Mortality and health indicators, 1990–2009 (selected years)

	1990	1995	2000	2003	2008	2009
Life expectancy at birth (years)	72.1	71.2	73.2	73.1	73.7	73.9
Life expectancy at birth, male (years)	68.6	67.3	70.4	70.0	70.4	70.6
Life expectancy at birth, female (years)	75.4	74.9	75.8	75.9	76.8	76.9
SDR all causes, all ages, male (per 100 000)	1288.4	1422.4	1151.4	1349.0	1321.6	1318.2
SDR all causes, all ages, female (per 100 000)	815.8	906.9	831.9	891.1	847.6	847.9

Source: WHO Regional Office for Europe, 2013.
Notes: SDR: Standardized death rate; Data unavailable for 2004–2007.

Broad trends in disease categories show that the leading causes of mortality are noncommunicable diseases, particularly cardiovascular diseases and cancer (Table 1.4). The leading causes of mortality are the same for men and women, but the overall level of mortality is much higher for men than for women. Around a quarter of all male deaths in Armenia are smoking related (Perrin, Merrill & Lindsay, 2006) and male smoking rates are among the highest in Europe (Movsisyan, Thompson & Petrosyan, 2012 ; Movsisyan et al., 2010). A recent lifestyles survey conducted in 2010 found a female smoking rate of 1.9% and a male smoking rate of 58.9% (Roberts et al., 2012a), and official prevalence data for 2012 showed that 55.7% of men and 2.9% of women are current smokers (Bazarchyan, 2012). Drinking patterns are similarly gendered. In 2005, 56% of women and 16% of men abstained from alcohol in the past

12 months (WHO, 2011). Noncommunicable diseases, therefore, predominate as the cause of death in Armenia, but the resurgence of tuberculosis and the steady increase in HIV infection rates are also serious health issues (Table 1.4).

Table 1.4

Main causes of death, 1990–2009 (selected years)

Causes of death (standardized death rate per 100 000 population)	1990	1995	2000	2003	2009
Infectious and parasitic diseases	12.4	12.7	10.7	8.6	9.2
Tuberculosis	4.0	5.6	5.7	5.6	4.7
AIDS/HIV (as recorded by routine mortality statistics system)	–	0.0	0.0	0.0	0.4
Diseases of the circulatory system	567.4	654.0	553.3	626.7	532.2
Ischaemic heart disease	374.3	427.1	370.7	387.3	317.5
Cerebrovascular disease	157.2	169.9	149.1	176.8	121.5
Malignant neoplasms	155.8	141.0	153.2	159.2	160.7
Malignant neoplasm of colon, rectum and anus	12.4	10.9	12.3	13.3	13.6
Malignant neoplasm of larynx, trachea, bronchus and lung	38.5	34.0	37.2	35.6	46.1
Malignant neoplasm of breast	14.2	13.4	17.8	16.9	17.9
Malignant neoplasm of cervix uterus, females	7.1	5.7	5.6	6.7	3.6
Diabetes mellitus	23.9	40.5	48.5	61.4	46.5
Mental and behavioural disorders	1.9	5.6	2.3	0.8	0.2
Diseases of the respiratory system	76.1	70.6	57.2	63.4	73.4
Diseases of the digestive system	33.6	38.4	30.4	38.6	59.4
Transport accidents	22.3	8.8	7.0	6.5	5.3
Suicide and intentional self-harm	3.3	4.6	2.2	2.1	1.7

Source: WHO Regional Office for Europe, 2013.

According to immunization rates derived from information in the health system, coverage for the key vaccine-preventable diseases is high, although often short of rates that would achieve herd immunity; in 2009, 93% of infants were vaccinated with against diphtheria, tetanus and pertussis (combined vaccine) and hepatitis B, 94% against poliomyelitis, 96% against measles and rubella, and nearly 99% against tuberculosis (WHO Regional Office for Europe, 2013). Survey-based estimates of immunization rates were lower than those given officially. Data from Demographic and Health Survey 2005 estimates showed much lower coverage for measles vaccine, by 10 or 20 percentage points (Thompson & Harutyunyan, 2009; WHO Regional Office for Europe, 2013). However, the findings of the 2010 Survey indicate that coverage has improved; these data show that at age 18 months 87.1% of children had received all the basic WHO-recommended vaccinations and 92.6% had received their measles, mumps, rubella vaccination (Armstat et al., 2012). After concerted efforts, Armenia was declared polio free in 2002 and malaria free in 2011. Table 1.5 outlines the main maternal, child and adolescent health indicators.

Table 1.5

Maternal, child and adolescent health indicators, 1990–2009 (selected years)

	1990	1995	2000	2003	2008	2009
% of all live births to mothers aged under 20 years	12.5	18.3	14.4	13.0	9.5	9.1
Abortions per 1 000 live births	326.7	627.6	343.4	299.8	302.8	310.7
Perinatal deaths per 1 000 births	17.5	15.6	16.3	14.9	14.8	12.7
Neonatal deaths per 1 000 live births	–	7.5	9.5	8.1	–	–
Postneonatal deaths per 1 000 live births	–	6.7	6.3	3.7	–	–
Infant deaths per 1 000 live births	18.3	14.2	15.8	11.8	10.7	10.2
Estimated infant mortality per 1 000 live births	46.0	37.0	29.0	–	–	–
Probability of dying before age 5 years per 1 000 live births	24.2	18.7	19.1	13.4	12.2	12.1
Maternal deaths per 100 000 live births	40.1	34.7	72.9	22.4	38.9	33.8
Syphilis incidence per 100 000	3.7	13.7	8.1	3.9	4.6	4.3
Gonorrhoa incidence per 100 000	31.4	13.7	28.2	23.3	17.6	18.2

Source: WHO Regional Office for Europe, 2013.

2. Organization and governance

Throughout the 1990s, 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. The general economic downturn following independence also had an impact on state budgetary resources available for health care, thereby fuelling widespread 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.

The health system today comprises a network of independent, self-financing (or mixed financing) health services that provide both statutory and private services. Previously, 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, reporting only utilization data to the SHA. Regional government, however, continues to monitor the care provided while the Ministry of Health formally retains regulatory functions. Almost all pharmacies, the majority of dental services and medical equipment support have been privatized, as have most hospitals in Yerevan.

Intersectorality in planning and policy development is recognized as essential for improving population health, but as is the case elsewhere, it is challenging to put in place. There are several electronic data collection systems, sometimes overlapping, to gather routine information and surveillance data. Nevertheless, there are serious data limitations and data gaps that impede the use of health information in planning and policy development. Planning in the health system has been oriented away from inputs and capacity indicators

and towards a system that takes account of population size, service utilization and available funds. The Ministry of Health initiated the development of the National Health Strategy in 2011.

The Ministry of Health is nominally the key regulator of the health system, but its regulatory capacity remains quite weak at the facility level. It is the role of the Ministry and its subordinated institutions to define and apply national health standards and norms, to ensure quality control and to develop as well as oversee state-funded programmes.

Patient empowerment has not been subject to concerted reform efforts; consequently, health and health care are recognized as a fundamental human right in strategies and other policy documents but no specific charter of patient rights has been introduced. Similarly, the public are not formally represented in decision-making and policy-making bodies. However, the Ministry of Health has been proactive in seeking to ensure patients are aware of their entitlements and are able to exercise choice.

2.1 Overview of the health system

Following the decentralization and reconfiguration of public services after independence (see section 2.4), with the exception of State Hygiene and Anti-Epidemic Inspectorate (SHAEI) services and several tertiary care hospitals, operation and ownership of primary care services and hospitals have been devolved to regional and local governments (Fig. 2.1). Hospitals now have financial autonomy and are responsible for their own budgets and management. Regional government formally continues to monitor the volume of care provided while the Ministry of Health retains regulatory functions. The State Health Agency (SHA) acts as the third-party payer, purchasing services covered under the Basic Benefits Package (BBP) on behalf of the state (see section 3.3.1). Almost all pharmacies, the majority of dental services and medical equipment support are privately owned and provided, as are many hospitals in Yerevan.

Fig. 2.1

Overview of the health system

Government of Armenia

Ministry of Health

Various departments

Health facilities (state-owned joint-stock companies)

Drug and Technical Scientific Expertise Centre

National Institute of Health (NHI)

Licensing agency

State Hygiene and Anti-Epidemic Inspectorate (SHAEI)

State Health Agency (SHA)

Regional/municipal government

Regional (district) centres

Regional (district) centres

Regional/municipal hospitals

Regional/municipal primary care facilities

Communities

Rural ambulatories, FAPs, rural health centres

Private sector

Hospitals

Diagnostic centres

Dental clinics

Pharmacies

Medical universities

Source: Author's own compilation.
Note: FAP, *feldsher*/midwife health post.

2.2 Historical background

At independence, Armenia inherited a Semashko model health system where the health facilities were in poor condition, medical equipment and supplies were outdated, there was an oversupply and distorted allocation of health care workers, primary care was underutilized relative to specialist and hospital services and there were substantial inequalities between urban and rural infrastructure and resources. Poor financial and management skills of those responsible added to inefficient use of limited resources (Hakobyan et al., 2006).

The period of devastating economic and sociopolitical transition in the 1990s, with the almost complete collapse of prepaid revenue collection and the accompanying decline in population health, put overwhelming strain on the health care system. The general economic downturn had an impact on resources for health care and fuelled the development of a system of informal payments for health services. This led to political and economic pressure to reform the health system and move away from the centralized Semashko system. However, the most compelling force behind health sector reform was the 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 (Hakobyan et al., 2006).

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 of the Republic of Armenia, 2000). It outlined the conceptual approach, methods and mechanisms for optimization. In 2001, the Ministry took the lead in developing separate optimization action plans for each region. Activities following the 2001–2002 optimization plans had some effect in terms of consolidation of excess capacity, with a reduction in hospital capacity and in the number of ambulatory-polyclinic facilities (see section 4.1). 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 and 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, 2004). The Yerevan hospital sector was not affected by any of the optimization activities (Hakobyan et al., 2006).

Early 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. Therefore, in 1997, the government decided to earmark budgetary resources as a means of targeting the socially vulnerable population and the so-called socially important diseases. The government introduced the BBP, which comprises a publicly funded package of services specifying a list of services that are free of charge and stipulating the population groups that are entitled to receive any type of health care service for free (see section 3.3.1). 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 resulted in considerable uncertainty, creating wariness among service users and health care providers alike. 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 because of the occurrence of OOP payments for care (see section 3.4).

2.3 Organization

The health care system is divided into three administrative layers: national (republican), regional and municipal or community. Following the decentralization and reconfiguration of public services after independence, with the exception of the SHAEI and several tertiary care hospitals, operation and ownership of health services have been devolved to provincial/regional and local governments.

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 have been privatized, as have most hospitals in Yerevan.

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 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. 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 tuberculosis, diabetes, immunization and disease prevention, blood banking, forensic medicine and others);
- developing draft legislation and health regulation papers, standards and by-laws;
- 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. HIV prevention and control, drug use control, health promotion campaigns, health programmes in schools) in cooperation with other state ministries, agencies, governmental and nongovernmental organizations (NGOs) and entities; and
- licensing health care-related organizations and private entities, pharmaceutical entities and other relevant providers.

In addition, the Ministry of Health is responsible for directly financing and managing a number of health care facilities that remained subordinate to the Ministry of Health following decentralization (see section 2.4). 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 SHAEI under the Ministry of Health (see section 5.1).

SHA

The SHA was established in 1998 as a purchaser of publicly financed health care services as a part of reforms intended to lay the foundations for the introduction of 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 region of the country. Although it was initially created as an independent semi-governmental organization, in 2002 the SHA was transferred to the jurisdiction of the Ministry of Health. The SHA has 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 (see section 3.3.4). However, it remains a payer rather than an active purchaser.

SHAEI

The SHAEI is responsible for protecting public health and is the successor to the sanitary-epidemiological system inherited from the Soviet era (see section 5.1 for more details).

Other ministries

Important stakeholders include the following.

Ministry of Finance. This 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.

Ministry of Education. Responsibility for graduate and postgraduate medical education including nursing education and continuous medical education is shared between this Ministry and the Ministry of Health.

Ministry of Labour and Social Affairs. This 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.

Ministry of Emergency Situations. This Ministry was founded in 2008 and collaborates closely with the Ministry of Health to implement International Health Regulations and disaster risk reduction.

Regional/local government

Following the restructuring of Armenian local government, there are now 11 regional governments (10 regions and the city of Yerevan) that have taken over 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.

Regional and local governments do not have to report to the central government; however, they should comply with 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. Therefore, local government activities in the health care sector remain visible to the Ministry of Health, although lines of accountability are opaque and there are few direct monitoring and evaluation activities. 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.

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 the Nurses Association, founded in 1996. There is often a duplication of associations whereby several organizations cover identical areas of expertise; for example, there are both the Armenian Public Health Association and the Armenian Public Health Alliance. However, with the possible exception of some medical specialist associations, these associations have not played a noticeable role in decision-making. 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. 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 organizations, NGOs, international donors and multilateral organizations
There are numerous 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. 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.

2.4 Decentralization and centralization

The health sector reforms that have been introduced since independence have led to a marked decentralization of the health care system although 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.

Devolution
In 1996, responsibility for the provision of primary and secondary care was transferred to regional and local governments. While the Ministry of Health remained responsible for tertiary-level institutions, most hospitals and polyclinics became the responsibility of governments at the regional level. In 1998, the responsibility for some rural outpatient clinics was transferred to governments at the community level. There has been some concern that rural areas were given too much authority and the government has sought to partially reverse this decentralization process. 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 with the state or local government acting as the single owner of facilities. Overall, the relationship between state-owned health care facilities and their governmental owners remains poorly defined, as does the legal status of health care facilities. There is a lack of basic agreements and coordination mechanisms between local health authorities and service providers.

Hospital and polyclinics are 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 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 BBP 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; although there were subsequent mergers of Yerevan-based polyclinics and hospitals into medical centres. The decentralization process has expanded institutional autonomy and administrative rights and responsibilities. Initially, administrators and health care providers lacked many of the necessary skills for the execution of delegated functions. However, all hospitals now follow international accounting standards and hospital administrators have undergone extensive management training as part of international aid programmes. The main challenge for such a devolved system is ensuring that adequate accountability and performance-monitoring mechanisms are in place.

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 individuals or groups and through changes to the legislative framework that allowed entrepreneurs to establish private practices 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 the *Concept of the Strategy of Privatization of Health Care Facilities* (Ministry of Health of the Republic of Armenia, 2002). 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 service and provider that would not be open to full privatization. These include the majority of urban and rural primary care facilities, the SHAEI 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 complete. Nearly all of the hospitals in Yerevan have now also been privatized, but it was carried out without strategic vision with regard to rationalizing inpatient service configuration and commitment for investment and it has created significant impediments to hospital consolidation in the capital while contributing to fragmentation and inefficiency (see section 4.1). 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, 2004).

2.5 Planning

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 the 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 activities (Hakobyan et al., 2006).

With the establishment of the SHA, planning in the health system has been oriented away from inputs and capacity indicators and towards a system that takes account of population size, service utilization and available funds (see Chapter 3). However, there is no specific national health policy or planning agency to use health information and evidence to provide advice and support to the Ministry of Health leadership. There are a number of strategies for priority

areas such as maternal and child health, but the targets set in these strategies have historically often been so vague that, for example, target percentage reductions are given but no baseline data are provided (WHO Regional Office for Europe, 2009).

Human resources planning is incidental and largely left to health facilities; at the national level, the Ministry of Health has sought to control the oversupply of clinical staff by restricting the number of state-funded places in the Yerevan State Medical University in coordination with the Ministry of Education, but beyond this, strategic planning to ensure the right mix and balance of primary care practitioners and various specialists has not yet been introduced (see section 4.2). The approach to infrastructure planning has focused on trying to rationalize the health system and reduce the oversupply of facilities in urban areas (see section 4.1).

After International Health Regulations were brought into force in 2007, collaboration between the Ministry of Health and structures dealing with emergency situations (particularly the Ministry of Emergency Situations) has increased dramatically. In addition to taking over the role of National Focal Point for International Health Regulations, a special department within the Ministry of Health was established to be responsible for coordination of activities with the Ministry of Emergency Situations in the area of disaster risk reduction. The Ministry of Health is also represented in the National Disaster Risk Reduction Platform, which was established in 2011 and is leading the thematic technical group on health, although the lines of responsibility are not always clearly delineated between different actors.

2.6 Intersectorality

Health impact assessments are not a routine feature of policy-making in other ministries and the barriers to such collaboration, particularly with regard to data sharing, are considerable (WHO Regional Office for Europe, 2009). However, there are pockets of good practice in some areas that demand significant intersectoral collaboration, such as pandemic influenza preparedness. The Food Safety and Veterinary State Inspection under the Ministry of Agriculture works closely with the SHAEI under the Ministry of Health for the control of zoonoses, and these ministries have collaborated well for a number of years (World Bank, 2010).

2.7 Health information management

The main institutions involved in data collection and management in Armenia are the National Health Information Analytical Centre (NHIAC), which collects and collates routine data from public and private health facilities; the SHA, which is responsible for collecting information from contracted health care facilities about their activities and finances; the National Statistical Service (Armstat), which has a Department of Demography and Census that is responsible for the decennial census and the classification of deaths according to the WHO *International Statistical Classification of Diseases and Related Health Problems* 10th revision (ICD-10), a Department of Household Surveys and the Department of Civil Status Registry manages the vital registration system. Health information management systems are in place to measure the key demographic and health trends. The vital registration system and decennial census are used to track population shifts. Regular population-based surveys are used to monitor household health expenditure and health risk factors, and a routine data collection system tracks dynamics in health service provision and access (WHO Regional Office for Europe, 2009).

There are several electronic data collection systems, sometimes overlapping, to gather routine information and survey data (Armenian et al., 2009). Nevertheless, there are serious data limitations and data gaps that impede the use of health information in planning and policy development. Vital registration, previous census data and cause-of-death certification are all problematic (see section 1.4). Routine reporting from health facilities is also in need of improvement, for example the NHIAC facility database does not include all private facilities (WHO Regional Office for Europe, 2009). Annual reporting forms for facilities are numerous and burdensome; for example, the SHA and NHIAC collect some of the same information from hospitals on different reporting forms. Consequently, the information being reported needs to be updated, streamlined and reported more frequently to support planning and policy-making. There are also no current mechanisms for the verification of data quality by an independent entity. Routine hospital financial data are fragmented and incomplete, and they are not systematically collected from non-contracted hospitals (WHO Regional Office for Europe, 2009). Household surveys are numerous, but there are substantial differences in sample and questionnaire designs that limit the comparability of estimates derived from the survey findings.

Finally, data access has been highlighted as problematic: although access to microdata is possible in principle, in practice it is difficult. Metadata and microdata are not documented and archived according to international standards, nor are they readily shared among institutions or with researchers (WHO Regional Office for Europe, 2009). For this reason, the Ministry of Health is implementing e-health reforms as part of overall e-governance reforms in the country in order to establish a universal electronic data management system.

2.8 Regulation

The Ministry of Health is formally the key regulator of the health system, but its regulatory capacity remains quite weak at the facility level. It is the role of the Ministry and its subordinated institutions to define and apply national health standards and norms, to ensure quality control and to develop as well as oversee state-funded programmes (Hakobyan et al., 2006). The Ministry of Health initiated the development of the National Health Strategy in 2011 with WHO support; it is hoped that the National Health Strategy will be in place in 2013, but it has not yet been finalized.

2.8.1 Regulation and governance of third-party payers

The regulation of third-party payers is centralized under the Ministry of Health because the SHA performs the role of a third-party payer, pooling and allocating public funds, and allocates more than 80% of public health care resources (Hakobyan et al., 2006). The SHA has been under the direct control of the Ministry of Health since 2002 and the limited decision-making authority of the SHA to use selective contracting or to reallocate funds means that they are bound to follow the defined statutory benefit packages and the purchasing plans provided. The regulation of voluntary health insurers is the responsibility of the Ministry of Finance, which regulates all financial activities, including all types of insurance.

2.8.2 Regulation and governance of providers

The Licensing Agency under the Ministry of Health is the sole body responsible for licensing all health care facilities in both the public and private sector. Physicians are not licensed. The licensing procedure for facilities is formally the same regardless of ownership and the requirements vary depending on the services to be provided according to standards set by the Ministry of Health, many of which are unchanged since Soviet times. There have been moves to

improve the transparency of the licensing process; for example, the standards and list of required documents and so on are now made freely available online. Previously, it was much more difficult for potential private providers to find out what was needed in order to obtain a licence, which gave more scope for the soliciting of informal payments. Licensing and inspection functions have also now been separated as an anticorruption measure.

Formally, if the SHAEI finds facilities to be in breach of their licence they are able to approach the Licensing Agency and request the facility has its licence removed, although it is not clear if any facilities have ever lost their licence.

2.8.3 Registration and planning of human resources

There is no formal system of registration of qualified medical practitioners, except for the annual registration of all graduates from medical schools and/or colleges. The mandatory five-year relicensing term for all medical specialists has been suspended for some time. Armenia's training programmes in health care do not conform to EU standards, thus making it difficult to support mutual recognition of qualifications. However, the Ministry of Health initiated the development of a National Strategy for Human Resources for Health in 2012 and the strategy should become an integral part of the overall National Health Strategy (see section 2.5). The registration, planning and distribution of human resources for health will all be addressed in the document.

2.8.4 Regulation and governance of pharmaceuticals

The body responsible for the regulation of pharmaceutical products is the Scientific Centre of Drug and Medical Technology Expertise (SCDMTE) under the Ministry of Health. The SCDMTE is self-financing and raises revenues from fees for services provided, mainly applications for the registration (market authorization) of pharmaceutical products. The SCDMTE has four inspectors to cover all the pharmaceutical retailers, wholesalers and manufacturers in Armenia. An inspection is a prerequisite for the compulsory licensing of pharmacies and wholesalers, and the requirements are the same for private and state entities. There is a laboratory for quality control testing and government inspectors undertake postmarketing surveillance testing, although from 2008 to 2010 only 18 samples were taken for testing and of these seven failed to meet quality standards (Ministry of Health of the Republic of Armenia, 2010). Pharmacovigilance is also the responsibility of the SCDMTE, which formally

monitors adverse drug reactions. From 2008 to 2010, 143 adverse drug reactions were reported out of a total of 519 reports included in the database held by the SCDMTE (Ministry of Health of the Republic of Armenia, 2010).

As Armenia is a member of the World Trade Organization (see section 1.3), patent laws and other national legislation have been adapted to fit with the TRIPS Agreement, once the transitional period ends in 2016. There is legal provision for compliance with Good Manufacturing Practice (GMP), and local GMP is being harmonized with EU GMP requirements. In 2008, three domestic manufacturers were GMP audited and certified under the International Organization for Standardization, but GMP compliance was expected of all pharmaceutical manufacturers in Armenia by January 2013.

There are no legal or regulatory provisions affecting the pricing of medicines and the government does not run an active national medicines price-monitoring system for retail prices; medicinal products are subject to 20% value added tax (VAT). Prices in private pharmacies (which predominate) are high by international comparison and unaffordable to most households (Ministry of Health of the Republic of Armenia, 2010). Very few pharmaceuticals are provided through the BBP (see section 5.6). The cost of pharmaceuticals is a significant factor in the irregular treatment of long term conditions such as hypertension (Roberts et al., 2012b).

National Standard Treatment Guidelines for the most common conditions were updated in 2006 and cover primary, secondary and paediatric care. The national Essential Medicines List was updated in 2007 and includes 293 medicines, which were selected according to established procedures. There is no national programme or committee to monitor or promote the rational use of medicines, and there is no written national strategy on antimicrobial resistance. Generic substitution at the point of dispensing is allowed, but prescribing by the international nonproprietary name is not obligatory in the private or public sector. Rational prescribing practices do not have a significant impact because, although officially against the law, both antibiotics and injectable medicines are sold over the counter without a prescription.

2.8.5 Regulation of medical devices and aids

There is no standard mechanism for purchasing medical devices and aids or controls on acquisition. Purchasing for medical devices and aids is not centralized and is the responsibility of individual facilities.

2.9 Patient empowerment

2.9.1 Patient information

Patient information on provider performance in Armenia is limited and difficult to access. The lack of an integrated quality assurance system also means that information on the quality of health services is not generally available. The government has been much more proactive in trying to ensure patients have a clear sense of the benefits to which they are entitled. In response to severe fiscal constraints, the Armenian Government limited the benefit package to the general population (restricting it to primary care and public health services) and allowing access to key outpatient and inpatient services for particularly vulnerable groups either free of charge or at a reduced rate (see section 3.3.1). The BBP used to be revised annually and this caused great confusion for patients (as services that were free one year would only be available for a fee the next). The Ministry of Health distributes posters and leaflets targeting particular vulnerable groups to inform them of their entitlements and the Ministry requires such posters to be displayed at the entrance to health facilities, but facilities still charged informal fees for services that should be free of charge (see section 3.4.3). To combat this, state certificate programmes have been developed in key areas such as maternity care and child health (see section 6.1). Since 2000, there has also been a "hotline" service where members of the public can raise concerns or make request direct to the Minister and the Ministry has sought to collaborate with mass media to raise awareness.

2.9.2 Patient choice

Formally, patients have had the right to choose their health care provider since the introduction of the Health Care Law in 1996; in practice 90% of Armenians are still assigned to their local primary care provider according to residence (Armstat et al., 2012). A survey conducted in 2010 found that 58% of women and 38% of men were registered with a primary care physician (Armstat et al., 2012). Given that patients generally choose to avoid the primary care level altogether and self-refer to a specialist directly, low enrolment rates are unsurprising (see section 5.3). However, there is variation by age and place of residence – rural residents are much more likely to be registered with a primary care physician than urban respondents and the likelihood also increased with age.

2.9.3 Patient rights

Health and health care are recognized as a fundamental human right in strategies and other policy documents, although no specific charter of patient rights has been introduced.

2.9.4 Public participation

The public are not formally represented in decision-making and policy-making bodies. Patient satisfaction surveys have been conducted and show high levels of satisfaction. One survey of primary care in two regions found that 78% of respondents considered the care they received to be "excellent" or "good" with less educated respondents and those living in rural areas reporting the highest satisfaction (Harutyunyan et al., 2010b). However, this has been taken as evidence that different tools are needed to guide quality improvement strategies for primary care in Armenia, because these high levels of patient satisfaction actually reflected lower expectations rather than higher quality (Harutyunyan et al., 2010a).

According to data from the Health in Times of Transition survey, undertaken in 2010 in nine countries of the former Soviet Union, approximately 53.8% of respondents reported being rather or definitely satisfied with the health system in Armenia, which is high compared with other countries of the former Soviet Union and much improved since the previous survey in 2001 which found that just 29.5% were satisfied (Footman et al., 2013).

3. Financing

In international comparison, total health expenditure in Armenia is low, at 4.3% of GDP in 2011. Since independence, public health expenditure as a percentage of GDP has not exceeded 2%, which is also very low in international comparison. The Armenian Government currently has limited scope for expanding health spending given the fiscal challenges the country faces, particularly since the global economic downturn; for 2012, only 1.2% of GDP was allocated by the government to the health sector. The share of public sector expenditure in total health expenditure reached its lowest point at 18.1% in 2000, but it increased rapidly from that time, peaking at 44.5% in 2008 (Table 3.1). Since independence, health care financing has, therefore, been dominated by OOP payments; although the proportion fell substantially after 2000, it has been steadily increasing since 2008. The role of external funding for health has fluctuated since independence. One of the challenges faced by the Ministry of Health has been to coordinate funding flows from various donor organizations as well as flows from different Armenian Diaspora groups. Given these challenges, it is unlikely that the full impact of these flows has been captured in the data.

Entitlements are defined in the BBP, which is a publicly funded package that specifies the services that are either fully or partially subsidized (primary care, maternity services, sanitary-epidemiological services and treatment for around 200 socially significant diseases). Emergency services are also covered, but with co-payments for all but specific "vulnerable groups". Extensive coverage is provided through the BBP, which is available to specific segments of the population such as households living in poverty, pensioners and children (although the ages covered can vary). The SHA is the third-party payer that pools and allocates public funds by contracting with health care providers for the delivery of the BBP. Resources from OOP payments are by their nature not pooled, and they are made up of formal co-payments for services under the BBP,

direct payments for services not covered by the BBP (most notably outpatient pharmaceuticals) and informal payments, including gratuities. Voluntary health insurance (VHI) played a very minor role, but this could change from 2012 because of a government programme that offers state-funded private health insurance cover for certain state employees.

3.1 Health expenditure

The exact level of total health expenditure in Armenia is difficult to determine. Legislation does not require the systematic collection of comparable data, and existing data collection systems are fragmented (see section 2.7). According to WHO estimates, public health expenditure as a percentage of GDP has not exceeded 2% since independence (Table 3.1). The Armenian Government currently has limited scope for expanding health spending given the fiscal challenges the country faces (see sections 1.2 and 3.3.2), so any increases in health spending would need a substantial increase in the priority accorded to health in public spending. By 2006, the Armenian Government had devoted more than twice its budget to health compared with the year 2000 (Kutzin & Jakab, 2010), but the global economic downturn has had an impact and for 2012, only 1.2% of GDP was allocated by the government to the health sector.

Total health expenditure as a share of GDP has steadily increased in countries of the EU and it has remained relatively stable in countries of the CIS; however, it fell in Armenia from 2000 to 2008, which is indicative of the relatively low political priority it is afforded (Fig. 3.1). In international comparison, whichever estimates are used, total health expenditure in Armenia is low (Fig. 3.2). This trend is also reflected in total health expenditure per capita (purchasing power parity) (Fig. 3.3).

Table 3.1

Trends in health expenditure in Armenia, 1995–2011 (selected years)

	1995	2000	2005	2006	2007	2008	2009	2010	2011
THE per capita ($), WHO estimates	90	128	199	200	217	230	242	240	250
THE (% GDP), WHO estimates	6.4	6.3	4.9	4.2	3.9	3.8	4.6	4.5	4.3
Public sector health expenditure (% THE), WHO estimates	31.0	18.1	30.4	38.0	41.6	44.5	43.5	40.5	35.8
Private sector expenditure on health (% THE), WHO estimates	69.0	81.9	69.6	62.0	58.4	55.5	56.5	59.5	64.2
Public sector expenditure on health (% total government expenditure), WHO estimates	8.3	4.6	6.8	7.4	6.8	7.2	6.6	6.4	5.8
Public sector expenditure on health (% GDP), WHO estimates	2.0	1.1	1.5	1.6	1.6	1.7	2.0	1.8	1.5
Private household OOP payment on health (% THE)	65.9	77.1	66.6	66.6	54.8	51.8	52.5	55.2	57.4
Private household OOP payment on health (% private sector health expenditure)	95.5	94.2	95.7	93.1	93.9	93.4	92.9	92.7	89.4
VHI (% THE)	0.0	0.0	0.0	0.1	0.1	0.2	0.3	0.3	0.3
VHI (% private expenditure on health)	0.0	0.0	0.1	0.2	0.2	0.4	0.5	0.5	0.5

Source: WHO, 2013.
Notes: PPP, Purchasing power parity; THE: Total health expenditure; VHI: Voluntary health insurance.

Fig. 3.1

Trends in total health expenditure as a share (%) of GDP in Armenia and selected other countries, 1995–2010
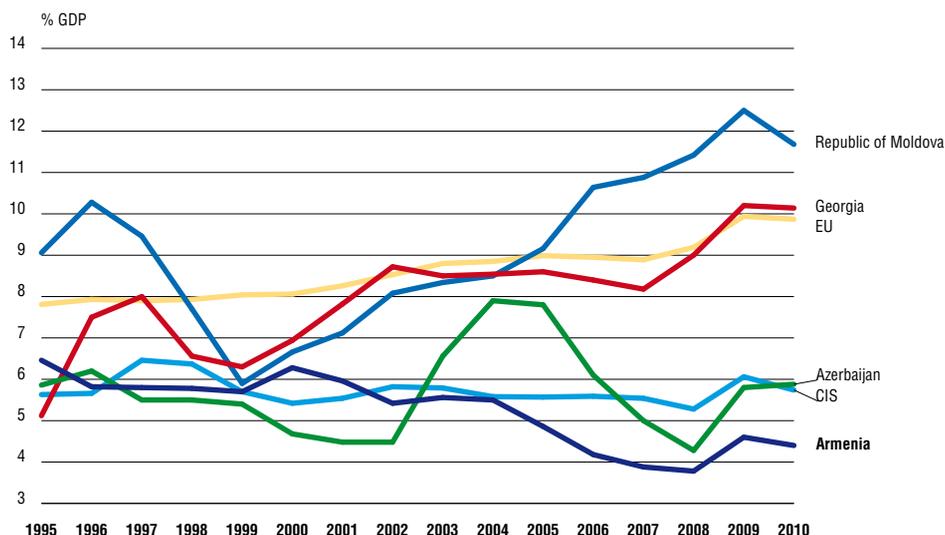
Source: WHO Regional Office for Europe, 2013.

Fig. 3.2

Total health expenditure per capita (US$ PPP) in the WHO European Region,
WHO estimates, 2010

Western Europe
Netherlands	11.9
France	11.9
Germany	11.6
Switzerland	11.5
Denmark	11.4
Portugal	11.0
Austria	11.0
Belgium	10.7
Greece	10.3
Sweden	9.6
United Kingdom	9.6
Italy	9.5
Spain	9.5
Norway	9.5
Iceland	9.4
Ireland	9.2
Finland	9.0
Malta	8.7
Luxembourg	7.8
Israel	7.6
Andorra	7.5
San Marino	7.1
Turkey	6.7
Cyprus	6.0
Monaco	4.3

Central and south-eastern Europe
Bosnia and Herzegovina	11.1
Serbia	10.4
Slovenia	9.4
Montenegro	9.1
Slovakia	8.8
Czech Republic	7.9
Croatia	7.8
Poland	7.5
Hungary	7.3
TFYR Macedonia	7.1
Lithuania	7.0
Bulgaria	6.9
Latvia	6.7
Albania	6.6
Estonia	6.0
Romania	5.6

CIS
Republic of Moldova	11.7
Georgia	10.1
Ukraine	7.7
Kyrgyzstan	6.2
Tajikistan	6.0
Azerbaijan	5.9
Uzbekistan	5.8
Belarus	5.6
Russian Federation	5.1
Armenia	**4.4**
Kazakhstan	4.3
Turkmenistan	2.5

Averages
EU members before May 2004	10.6
EU members since 2004 or 2007	7.1
CIS	5.7

Share (%) of GDP

Source: WHO Regional Office for Europe, 2013.
Note: TFYR Macedonia: The former Yugoslav Republic of Macedonia.

Fig. 3.3

Total health expenditure as a share (%) of GDP in the WHO European Region,
WHO estimates, 2010

Western Europe
Luxembourg	6743
Monaco	5949
Norway	5426
Switzerland	5394
Netherlands	5037
Denmark	4537
Austria	4387
Germany	4332
Belgium	4025
France	4020
Sweden	3756
Ireland	3703
United Kingdom	3479
Finland	3280
Iceland	3278
Andorra	3254
Spain	3027
Italy	3021
Greece	2853
San Marino	2853
Portugal	2818
Malta	2261
Israel	2186
Cyprus	1841
Turkey	1029

Central and south-eastern Europe
Slovenia	2551
Slovakia	2060
Czech Republic	2050
Croatia	1513
Poland	1476
Hungary	1468
Lithuania	1299
Estonia	1226
Serbia	1169
Montenegro	1155
Latvia	1092
Bosnia and Herzegovina	972
Bulgaria	947
Romania	811
TFYR Macedonia	790
Albania	577

CIS
Russian Federation	998
Belarus	786
Azerbaijan	579
Kazakhstan	540
Georgia	522
Ukraine	518
Republic of Moldova	360
Armenia	**238**
Turkmenistan	198
Uzbekistan	184
Kyrgyzstan	140
Tajikistan	128

Averages
EU members before May 2004	3708
EU members since 2004 or 2007	1398
CIS	712

0   1000   2000   3000   4000   5000   6000   7000   8000

PPP$ per capita

Fig. 3.4

Public sector health expenditure as a share (%) of total health expenditure in the WHO European Region, WHO estimates, 2010

Western Europe
Monaco	88.1
San Marino	85.4
Denmark	85.1
Luxembourg	84.4
Norway	83.9
United Kingdom	83.9
Sweden	81.1
Iceland	80.7
Netherlands	79.2
France	77.9
Italy	77.6
Austria	77.5
Germany	77.1
Turkey	75.2
Finland	75.1
Belgium	74.7
Spain	72.8
Andorra	70.1
Ireland	69.2
Portugal	68.2
Malta	65.5
Israel	60.3
Greece	59.4
Switzerland	59.0
Cyprus	41.5

Central and south-eastern Europe
Croatia	84.9
Czech Republic	83.7
Estonia	78.7
Romania	78.1
Slovenia	73.7
Lithuania	73.5
Poland	72.6
Hungary	69.4
Montenegro	67.2
Slovakia	65.9
TFYR Macedonia	63.8
Serbia	61.9
Bosnia and Herzegovina	61.4
Latvia	61.1
Bulgaria	54.5
Albania	39.0

CIS
Belarus	77.7
Russian Federation	62.1
Kazakhstan	59.4
Turkmenistan	59.4
Ukraine	56.6
Kyrgyzstan	56.2
Uzbekistan	47.5
Republic of Moldova	45.8
Armenia	**40.6**
Tajikistan	26.7
Georgia	23.6
Azerbaijan	20.3

Averages
EU members before May 2004	77.3
EU members since 2004 or 2007	72.5
CIS	56.6

(%)

Source: WHO Regional Office for Europe, 2013.
Note: TFYR Macedonia: The former Yugoslav Republic of Macedonia.

Public sector expenditure as a share of total health expenditure was 40.6% in 2010, which is low for countries of the WHO European Region; however, this is substantially higher than in Armenia's Caucasian neighbours Georgia and Azerbaijan (Fig. 3.4). The share of public sector expenditure in total health expenditure reached its lowest point at 18.1% in 2000, but it increased rapidly from that time, peaking at 44.5% in 2008 (WHO Regional Office for Europe, 2013). Government health expenditure by service is greatest for inpatient services, followed by outpatient services (Table 3.2).

Table 3.2

Government health expenditure by service (in drams), 2011–2015

	2011 (actual, dram)	2012 (confirmed in budget, dram)	2013 (planned, dram)	2014 (planned, dram)	2015 (planned, dram)
Government THE (excluding administration)	61 133.3	64 067.9	68 878.4	67 234.6	68 569.0
Outpatient services (share of public THE)	22 543.6 (36.9%)	23 803.2 (37.2%)	23 885.5 (34.7%)	24 169.3 (35.9%)	27 155.6 (39.6%)
Inpatient services (share of public THE)	26 884.2 (44.0%)	27 080.9 (42.3%)	27 246.1 (39.6%)	28 265.0 (42.0%)	30 993.3 (45.2%)
Centralized procurement of pharmaceuticals	3 795.4	3 687.5	3 687.5	3 687.5	3 687.5
Public health services	2 958.0	3 069.4	3 155.8	3 293.5	3 805.9
Other health-related services and programmes	1 250.5	1 219.1	1 222.0	1 222.5	1 362.9
World Bank loan and grant programmes	3 701.6	5 207.8	9 671.5	6 596.8	1 563.8
Capital expenditure	3 386.1	4 989.9	8 541.7	6 191.7	1 563.8

Source: Ministry of Finance, 2013.
Note: THE: Total health expenditure.

3.2 Sources of revenue and financial flows

The WHO National Health Accounts Series is a validated dataset that is updated annually through a collaborative process managed by WHO and involving substantial input from individual countries and other international agencies (WHO, 2013). For the purpose of international comparison, it is the best available data because it uses a unified methodology for all countries to measure health expenditure around the world. At the same time, it has been acknowledged that private OOP expenditure, especially informal payments, are likely to be underestimated (Kutzin & Jakab, 2010).

Since independence, health care financing has been dominated by OOP payments, although the proportion has fallen substantially since the year 2000 (Table 3.3). There have been substantial increases in government allocations to the health sector (see section 3.1) but overall, budgetary revenue in the system is very low (Jowett & Danielyan, 2010). Extensive coverage is provided through the BBP, which is available to specific segments of the population such as households living in poverty, pensioners and children (although the ages covered can vary; see section 3.3.1). The SHA is the third-party payer that pools and allocates public funds by contracting with health care providers for the delivery of the BBP (see section 3.3.3). Resources from OOP payments are by their nature not pooled, and they are made up of formal co-payments for services under the BBP, direct payments for services not covered by the BBP and informal payments including gratuities (see section 3.4). VHI plays a very minor role.

Table 3.3

Percentage of total health expenditure according to sources of revenue, 1995–2011 (selected years)

Source of revenue	1995	2000	2005	2006	2007	2008	2009	2010	2011
General government expenditure	31.0	18.1	30.4	38.0	41.6	44.5	43.5	40.5	35.8
OOP payments	65.9	77.1	66.6	57.7	54.8	51.8	52.5	55.2	57.4
Non-profit-making institutions serving households	1.1	2.8	1.3	2.4	1.4	1.4	1.9	2.1	4.4
VHI	0.0	0.0	0.0	0.1	0.1	0.2	0.3	0.3	0.3
Other	2.0	2.0	1.7	1.8	2.1	2.1	1.8	1.9	2.1

Source: WHO, 2013.

The role of external funding for health has fluctuated since independence, and one of the challenges faced by the Ministry of Health has been to coordinate funding flows from various donor organizations as well as flows from different Armenian Diaspora groups. Given these challenges, it is unlikely that the full impact of these flows has been captured in the data.

3.3 Overview of the statutory financing system

3.3.1 Coverage

Coverage has three dimensions: *breadth* (the proportion of the population covered); *scope* (the range of benefits covered) and *depth* (the proportion of the benefit cost covered). The Armenian Constitution of 1995 guarantees universal entitlement to medical services which should be funded by the state, essentially continuing the extensive benefits afforded to citizens in the Soviet era. However, these guarantees proved overambitious given the severe fiscal constraints faced by the Armenian Government throughout the 1990s and funding of health services was dominated by OOP payments. From 1997, limits have been placed on entitlements through the introduction of the BBP, which is a publicly funded package that specifies a list of services that are free of charge for the entire population (largely primary care, sanitary-epidemiological services and treatment for around 200 socially significant diseases) and that stipulates those groups which should receive all services free of charge. The services and population groups covered under the BBP are reviewed annually in response to budgetary and political requirements by the government. Formal user charges were introduced in 2011 for certain services such as some emergency care (see section 3.4). The range of services included in the BBP has fluctuated year to year, causing confusion and uncertainty for both service providers and patients, so from 2004 the government has sought to standardize the BBP and its review process.

The categories of people eligible to receive all health services free of charge under the BBP include those with disabilities (which are categorized into groups I, II or III depending on severity); veterans, active servicemen and their families; children (under 18 years) living with disabilities, in single-parent households, as orphans, or in care; large families (four or more children under 18 years of age); and households defined as living in poverty. All but those identified as belonging to these socially vulnerable groups must pay user fees for hospital services not included in the BBP, while dental care and outpatient pharmaceuticals are paid for directly and in full. The three dimensions of coverage (its scope, depth and breadth are discussed in section 7.2.1).

3.3.2 Collection

According to estimates, 35.8% of total health expenditure came from general government revenues in 2011 (Fig. 3.5). Armenia's total taxation revenue in 2008 was 23% of GDP, which is low even relative to other countries of the

former Soviet Union, despite rapid economic growth from 2003 (see section 1.2); the key issue is poor tax collection rates (IMF, 2010). Most revenues come from taxes on goods and services; income taxes (income, profits and capital gains taxes) accounted for 5% of GDP in 2008 (IMF, 2010). Armenia relies heavily on indirect taxes – VAT and excise duties – and these accounted for 8.9% of GDP or 53% of total tax revenues in 2009 (IMF, 2010). However, most VAT is collected at the border and a relatively small proportion collected domestically, highlighting the country's large informal economy. Nevertheless, the share of direct taxes did increase with economic growth (from 15% in 2003 to 23% in 2008) and even held up in 2009 at 27% of total tax revenues when the global economic downturn began to bite (IMF, 2010). Significant tax breaks are given to many large enterprises and sectors, including agriculture and the tobacco industry. There are no specific taxes earmarked for health. The overall tax burden is low, but tax administration is weak and tax evasion through the underdeclaration of wages is rife. As of 1 January 2013, income tax and social taxes have been replaced by a single income tax that ranges from 24.4% to 36.0%. Increasing taxation revenues by strengthening the tax system has become a key priority for the Armenian Government.

Fig. 3.5

Percentage of total health expenditure according to sources of revenue, 2011

- **35.8%** General government expenditure
- **57.4%** OOP payments
- **4.4%** Non-profit-making institutions serving households
- **0.3%** VHI
- **2.1%** Other
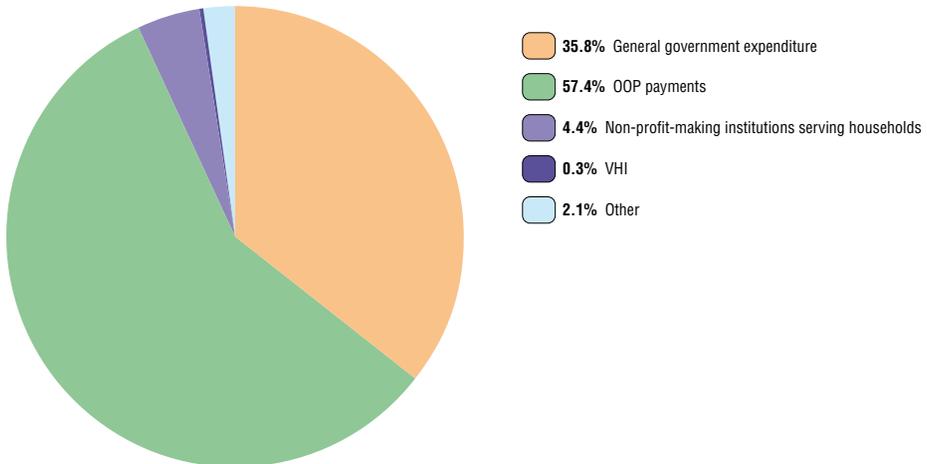
Source: WHO, 2013.

3.3.3 Pooling of funds

Pooling of funds refers to the accumulation of prepaid health care resources in order to cover financial risks of a population or populations. Overly fragmented pooling arrangements can be a significant source of inefficiency in a health system (Kutzin, 2001). The SHA is the dedicated single pooling and purchasing agency in Armenia, and budgetary resources are "centralized" in that they all flow from the national budget to the SHA (via the Ministry of Health) rather than through regional government (Fig. 3.6). However, the SHA manages general budget revenues only; formal co-payments paid for secondary and tertiary care services are retained by the facilities and direct formal and informal payments to staff and facilities are by definition not pooled.

The process of annual budget setting follows a typical annual cycle with the budget for the following fiscal year usually drafted by July by the Ministry of Health, reviewed by and agreed with the Ministry of Finance and then submitted to parliament for adoption. Since 2004, macroeconomic and fiscal policy is formulated and implemented according to a Medium-term Expenditure Framework, which follows key strategic government priorities for spending the limited fiscal resources available. The key priorities for health in the *Medium-term Expenditure Framework 2011–2013* were the development of primary care, sanitary-epidemiological security of the population, mother and child health, the prevention of diseases of special importance (e.g. diabetes), medical care for vulnerable groups and prevention of infectious diseases including HIV/AIDS (Government of Armenia, 2010). Local governments are by law allowed to allocate funds to health programmes, but this is not common practice.

3.3.4 Purchasing and purchaser–provider relations

The SHA contracts with providers for the delivery of publicly financed health services. Health care facilities then receive public 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. Although it is not formally obliged to, the SHA contracts with every licensed health facility and contracts have never been terminated, so it cannot perform selective purchasing and there is no competition between providers for contracts. Payment rates are agreed by the Ministry of Finance and the SHA but do not always reflect full costs; however, facilities rely on public funding so are in too weak a position to negotiate higher reimbursement rates. The SHA now has the ability to reallocate funds between programmes in order to ensure the whole of the health budget is spent – although all changes need to be agreed by the Ministry of Finance and the government.

Fig. 3.6
Financial flows
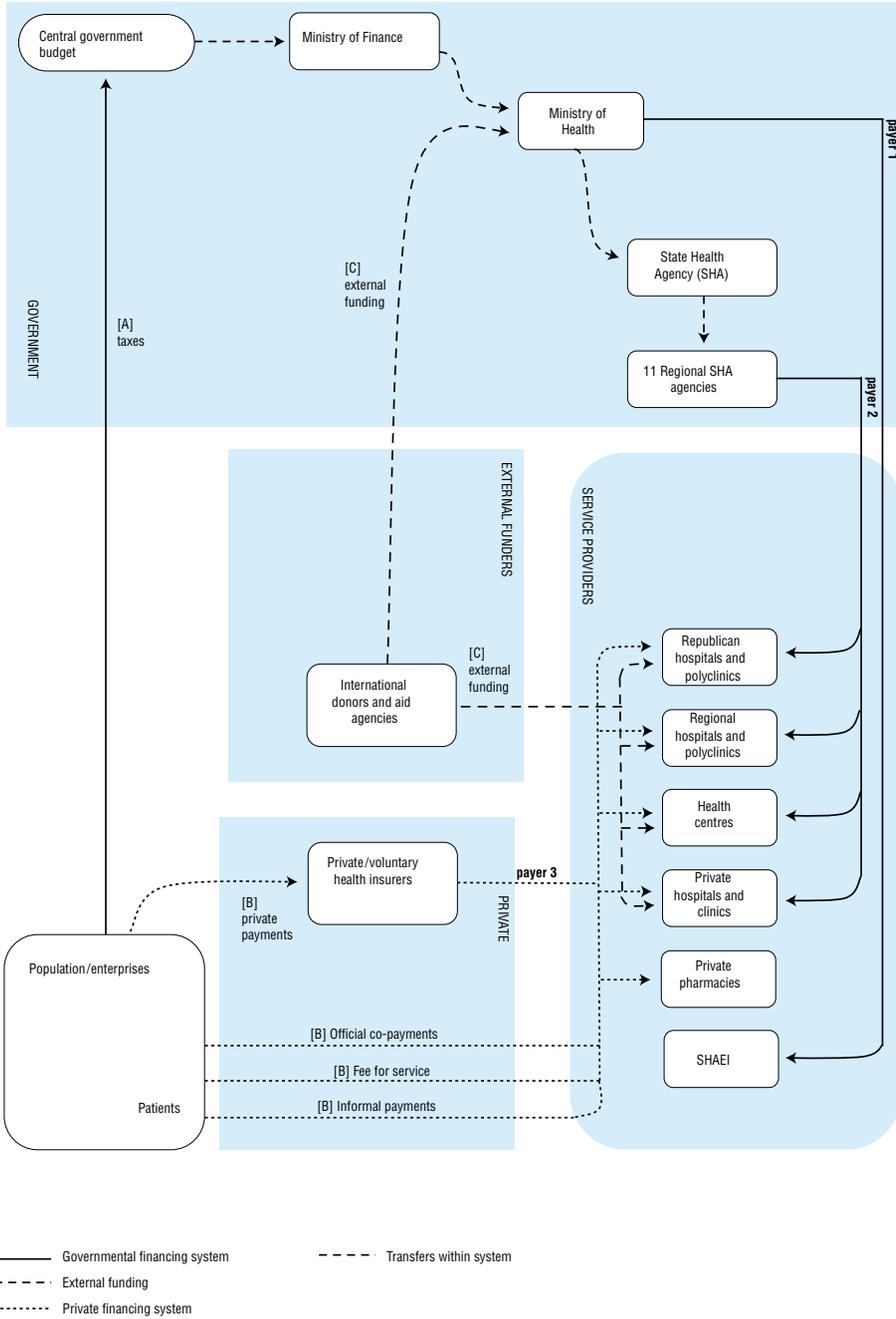
Source: Author's own compilation.

3.4 OOP payments

OOP payments constitute the main source of funding for the health sector in Armenia, accounting for 57.4% of total health expenditure in 2011 (see Fig. 3.5 and section 3.2). OOP payments consist of formal co-payments (user fees), direct payments for services not covered under the BBP and informal payments to facilities and individual staff members. The proportion of OOP payments in total health expenditure peaked in 2000 at just over 75%; so although still high, the current level actually represents some improvement, even though levels have been steadily increasing since 2008 (Table 3.3). It has not been easy to generate sufficient revenues for prepayment through the national budget because of weaknesses in the taxation system (see section 3.3.2). Through the 1990s, this meant the gap between what was nominally covered by the state and what was actually funded by the state widened and largely informal payments expanded to fill the gap. The introduction of the BBP in 1997 and its subsequent refining have served to "formalize" at least some of these payments by defining the package of benefits to be funded by the state more tightly. However, the chronic underfunding of health providers means that the direct funding of the health system remains one of the most acute problems the health system faces. The size of the informal economy in Armenia and the prevalence of informal payments in the health system are also the key barriers to generating sufficient funds for prepayment of services.

The very nature of informal payments means that estimating their relative contribution to OOP payments is challenging. It has been estimated that 45% of total health expenditure is in the form of informal payments (Torosyan et al., 2008). A survey conducted in 2011 found that 63% of all payments made for surgery were unofficial (Akkazieva & Jowett, 2013). Most OOP expenditure is for inpatient services and pharmaceuticals rather than primary care, which is consistent with the government focus on universal access to primary care. However, the implications for equity of such high OOP expenditure are serious, and reducing the risk of catastrophic health care costs has been a key aim in health financing policy (see section 7.2).

3.4.1 Cost-sharing (user charges)

Official user charges were introduced in 1997 alongside the BBP and aimed to legitimize informal payments for services. It has been estimated through survey data that around 80% of OOP spending is informal (Torosyan et al., 2008), but it is often hard for patients to distinguish formal and informal user charges. In 2003, the Ministry of Health introduced formal cost-sharing through

co-payments under the BBP for Yerevan hospitals. A flat rate fee of US$ 18 was charged to patients not considered socially vulnerable for specified inpatient treatments.

The 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. However, neither was achieved. The newly introduced co-payments did not enable health facilities to generate sufficient additional revenue to cover their costs, and the level of informal payments was not noticeably reduced. The flat-rate co-payment system was therefore abandoned. However, at the behest of the Ministry of Finance, more co-payments were introduced for a range of services nominally covered under the statutory benefits package, including emergency care (except for emergency resuscitation services) and gynaecological services in February 2011 and for oncological services and treatment for sexually transmitted diseases in October 2012. A recent study found that, following the introduction of formal charges in 2011, the incidence of OOP payments overall (both official and unofficial) fell by 5.8% (Akkazieva & Jowett, 2013).

3.4.2 Direct payments

Direct payments are most often levied for dental care, ophthalmic care, inpatient and outpatient treatments not covered under the BBP and, most significantly, outpatient pharmaceuticals (see section 2.8.4). The level of user charges outside the BBP is not regulated.

3.4.3 Informal payments

Informal payments existed in the Soviet Union largely in the form of gratuities as a means of acknowledging the low wages paid to medical staff. Informal payments in independent Armenia have now evolved into an almost formalized system of fees, including barter goods and services in rural areas, for health care providers, auxiliary personnel and administrators (Hakobyan et al., 2006). Accurate estimates of the size of informal payments patients are being charged when consulting a health professional are difficult to provide, particularly as it is necessary to distinguish between the formal co-payments for services and the additional payment and also because the amount will vary depending on the service sought, the health professional, the patient and the location (urban/rural). Limited available evidence suggests that the highest informal payments are requested for obstetrics/gynaecological services, followed by surgery and any "life-or-death" procedure (Hakobyan et al., 2006). Findings

from a 2004 qualitative study provided estimates of US$ 45 being charged for a hospital admission, and up to US$ 200 for a caesarean section, which was 2.5 times the average monthly salary (Poletti et al., 2007). However, an analysis of the Obstetric Care State Certificate (OCSC) Programme found that this intervention not only increased utilization of antenatal care services but also significantly reduced informal payments for obstetric care (Truzyan, Grigoryan & Krajewski-Siuda, 2010). Under the OCSC, 34.2% of women still paid out of pocket for obstetric care (on average around US$ 100), but this represents a substantial improvement (Crape et al., 2011). In their study, Akkazieva and Jowett (2013) found that there was an 8.2% reduction in the number of patients making unofficial payments in hospitals following the introduction of official charges, although the average amount increased significantly among those who did pay.

3.5 VHI

Private VHI does not play a significant role in the Armenian health system at present (it accounted for 0.3% of total health expenditure in 2011) although its legal status was set in 2004 with the Law on Insurance in Armenia. The emerging private health insurance industry faces numerous challenges, not only around the lack of awareness of insurance schemes in general but also in the scale of informal payments in the health system, which are hard to cover under a complementary or supplementary insurance scheme. Access to services of perceived higher quality is also easily achieved through OOP payments so the potential supplementary role for private insurance is weaker. However, expansion of private health insurance is most restricted by the cost of commercial insurance premiums, which are unaffordable for most citizens. Most private schemes are limited to the staff of international organizations and companies, and this cover does not always provide adequate protection from informal payments. A new scheme offering cover to certain state-sector employees was introduced in 2012, but it is too early to assess the impact of this programme (see section 6.1).

3.6 Other financing

3.6.1 Parallel health systems

There are some parallel health systems still operating in Armenia under the Ministry of Defence, the Ministry of Internal Affairs and others. The health and preventive services are provided directly to employees and services but are sometimes open to the general public. Funding comes directly from the budgets of the ministries concerned rather than through the Ministry of Health, but it is not as significant a feature of the system as it is elsewhere in the former Soviet Union.

3.6.2 External sources of funds

External sources of funds are primarily loans and grant projects coordinated by the Ministry of Health. These projects are financed by foreign governments, multilateral organizations such as United Nations agencies, the EU and the World Bank and international NGOs such as Oxfam, Save the Children and World Vision. National Health Accounts estimates suggest that in 2011 external sources of funds accounted for 5.9% of total health expenditure, down from a peak of 17.3% in 2007 (WHO, 2013). In these estimates, external sources of funds are most often considered public funds or general government revenues for health expenditure but funds from international NGOs or Diaspora (see below) would be included under private expenditure.

3.6.3 Other sources of financing

The Armenian Diaspora remains a significant contributor of humanitarian aid for health, which is often informal in nature, building on personal links where medical supplies and equipment are donated directly to facilities, providers and households without the direct involvement or knowledge of the Ministry of Health. By their very nature, these resources are hard to track and measure and the Ministry of Health generally only manages to record the larger donations; however, the Armenian Medical International Committee (2013) has developed a database to assist the Ministry of Health in tracking Diaspora projects. However, as with external sources of funds, the global economic downturn since 2009 has had a marked impact on the flow of funds from Diaspora communities.

3.7 Payment mechanisms

3.7.1 Paying for health services

The SHA is the main purchaser of health services in Armenia through contracts with 80% of all health facilities. Funding for the SHAEI services come direct from the Ministry of Health budget and is based on historical expenditure patterns, although this may change following planned reorganization of the service (see section 5.1). Primary care services under the BBP are purchased by the SHA according to a simple capitation formula that is weighted for age: one capitation payment is made for adults over 18 years (1441 dram per person per year in 2009) and payments are doubled for patients aged 17 years and under (2882 dram per person per year in 2009). Capitation payments used to be made for a population in a given catchment area; they are now paid based on the number of patients enrolled. There is no differentiation by gender and historical spending is not a factor. Capitation rates are adjusted according to the resources available in the health budget, which has been squeezed since the global economic downturn began in 2008, but they do not reflect the full cost of services provided, which is a contributing factor in the persistence of informal payments. Rural primary care providers are allocated extra funds (an extra 7% for mountainous and 14% for extremely mountainous areas), but urban providers that offer additional services such as narrow specialists receive much more funding (Yoder & Johansen, 2010). Also, there has been a problem with allocated or even disbursed funds for *feldsher*/midwife health posts (FAPs) not actually reaching their destination in the remote rural areas as they are swallowed up en route (Poletti et al., 2007).

A more subtle approach to capitation that is 'budget-neutral' but which better reflects the higher cost of very young children and older adults, and also women of reproductive age, has been developed by the SHA with support from the United States Agency for International Development (Yoder & Johansen, 2010). The new capitation mechanisms were piloted in 2011 and were used in conjunction with bonus payments to family doctors (see section 3.7.2). The net income of primary care facilities should not increase or decrease drastically, but the funding mechanisms should better reflect the needs of the population served and remove incentives to avoid taking on older patients who cost more to treat (see also section 5.3).

Although primary care services are covered under the BBP for the whole population, hospital and specialist outpatient services are only covered for vulnerable groups and for certain diagnoses. Consequently, most specialist

outpatient and hospital care is paid on a fee-for-service basis by patients and their households. Often this involves the payment of a lump sum "up front" on admission to cover all the projected costs of inpatient care (Akkazieva & Jowett, 2013) Formal co-payments for hospital services and emergency care (excluding resuscitation) provided under the BBP were introduced in 2011 for all but certain vulnerable groups. For services under the BBP, hospital and specialist outpatient services are funded through global budgets as part of a prospective payment system based on an agreed number of hospital cases. The global budget is set as a ceiling defined by the availability of funds, historical expenditure and the number of cases. Hospital cases are differentiated according to clinical specialty or condition, type of care required (i.e. inpatient/outpatient, average length of stay, etc.). Where a hospital is "underspending", the SHA has the ability to appeal the budget and reallocate the funds to ensure the whole of the health budget is spent (see section 3.3.4). Hospitals are reimbursed monthly per eligible discharged patient or per outpatient visit. 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 but are based on the obligated budget rather than actual production costs. The rates are meant to cover both fixed and variable costs and to reflect relative differences in case-specific length of hospitals stay and clinical complexity.

The absolute majority of pharmaceuticals are purchased by patients through OOP payments (see section 5.6). Facilities receive a global budget for essential drugs and diagnostic tests. Prices for these items are fixed by the Ministry of Health and a limited range of drugs are available to all patients with a broader package available to vulnerable groups and people with certain diagnoses. Expenditure on different vulnerable groups is fixed and resources cannot be redistributed from one group to another to cover any shortfall. This means, for example, that essential drugs for older people with long-term conditions are chronically underfunded as the finance allocated is half that allocated to children but the need is much greater (Yoder & Johansen, 2010). It is common, therefore, for patients who are entitled to free drugs to have to purchase them out of pocket because the primary care facility has already exhausted the global budget.

3.7.2 Paying health workers

It is generally recognized that salaries of health care workers in Armenia have been low and the gap between what they receive and what could be considered a living wage is most often filled by informal payments. Wage arrears were common and wages were low until 2003–2004 when the government

substantially increased the budget allocated to the health sector; this resulted in the regular transfer of funds to health facilities so wages could be paid on time. The level of informal payments for different categories of health workers varies. For example, those working in psychiatry or tuberculosis care are not well placed to elicit informal payments whereas gynaecology and cardiology have the potential to be much more profitable branches of medicine. In order to try and reduce the level of informal payments to medical staff, more resources were allocated in 2010 specifically to cover the cost of wage increases for doctors primarily but potentially also for other health workers. The aim was for the average doctor's salary to rise to US$ 1000 per month, but these extra funds did not materialize (Harutyunyan, 2010).

Salaries for health care workers in primary care are the most strictly regulated; for all other health care workers, as less of their work is funded under the BBP, there is overall less regulation of salary levels and remuneration mechanisms. However, all facilities must remunerate staff at above the minimum wage level, which was set at 32 500 dram (US$ 88) per month from 1 January 2010. For those in primary care, salaries are based on capitation payments for the number of patients enrolled at their facility. In order to encourage doctors to retrain, family doctors have been paid more since 2005. Family doctors in pilot regions are also able to supplement their capitation-based salaries with bonus payments, which are designed to provide incentives for family doctors to handle, for example, the day-to-day care of patients with chronic conditions rather than referring the patient to specialist care providers. Nevertheless, it has been calculated that doctors working in primary care and relying solely on their salary after taxes would be living very close to the poverty line or even below it depending on how many dependants there were in their households (EDRC, 2011).

4. Physical and human resources

At independence, Armenia inherited an oversized health care system with a major focus on specialized care. Since then, there has been a rapid contraction in the number of acute care hospital beds as financing incentives shifted from input to output measures and some reduction in the overall number of hospitals; this was largely achieved through the closure of many rural hospitals, which were re-designated as primary care facilities. In 2011, there were 130 hospitals in Armenia, many of them in the capital city Yerevan. The number of primary care facilities also fell following independence, from 1686 in 1991 to 997 in 2004, largely through the closure of FAPs in remote rural areas. However, the emphasis on developing primary care has reversed this trend somewhat and in 2009 there were 1056 primary care units nationwide.

Since 1991, the overall Armenian health workforce has contracted. The number of specialist doctors and dentists has increased, but the number of mid-level personnel per capita and in real terms has fallen precipitously. However, while the supply of physicians in the health system has remained relatively stable in per capita terms, the balance of specialists has not shifted away from hospital services and there is a shortage of doctors serving rural areas while there is a surplus in Yerevan. Although they are not recognized within the EU, Armenian medical qualifications are recognized across the former Soviet Union, and formal salaries for nurses and doctors are considerably higher outside the country; this has led to high levels of outmigration of health workers.

4.1 Physical resources

4.1.1 Capital stock and investments

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 for a population of approximately 3.6 million. The number of hospitals

reduced sharply between 1999 and 2000 (from 174 to 146) with the closure of many rural facilities, which were re-designated as primary care facilities. In 2011, there were 130 hospitals in Armenia, most being in Yerevan. The number of primary care units was 1686 in 1991, and this fell to 997 in 2004 through the closure of many FAPs in remote rural areas, many of which lacked the most basic facilities. However, the emphasis on developing primary care has reversed this trend somewhat and in 2009 there were 1056 primary care units nationwide (WHO Regional Office for Europe, 2013).

There is no single source of information describing the age or condition of hospitals in Armenia. However, in general multiprofile hospitals were built in the 1960s and 1970s and have subsequently been remodelled and renovated several times depending on the availability of funds from the state (prior to 1990) or from donors/investments by the owners (after 1990). The bed capacity varies from 200 to 500 and the number of staff varies from around 300 to 1500. The size has been influenced by the implementation of the Hospital Optimization Programme as some larger hospitals incorporate both maternity services and polyclinics too. In recent years, many new hospitals have been built in the regions, mainly with World Bank support.

Overall, hospital optimization in the regions has proved successful. There has been a significant reduction in excess infrastructure and human resources, consolidation of services and substantial efficiency and productivity gains (see section 4.1.2). However, hospital optimization was most successful in those regions where it was followed by substantial investments in the hospital network. In Yerevan the consolidation of services has been hampered by the hospital privatization programme (see section 2.4).

4.1.2 Infrastructure

The total number of hospital beds per capita in Armenia has fallen dramatically since independence, from 909 hospital beds per 100 000 population in 1990 to 395 in 2011. This is extremely low for countries of the former Soviet Union as an extensive infrastructure was one notable feature of the Semashko health system (Fig. 4.1). However, the overall downward trend has not been the same across different categories of hospital bed; the number of acute care hospital beds has fallen continuously, but the number of psychiatric hospital beds has remained reasonably stable since 2005 and the number of long term care beds has been increasing (Fig. 4.2). The reduction in bed numbers was encouraged by changed purchasing mechanisms, which were oriented towards outputs (such as the number of patients treated) rather than inputs

Fig. 4.1

Acute care hospital beds per 100 000 population in Armenia and selected countries, 1990 to latest available year

Beds per 100 000 population
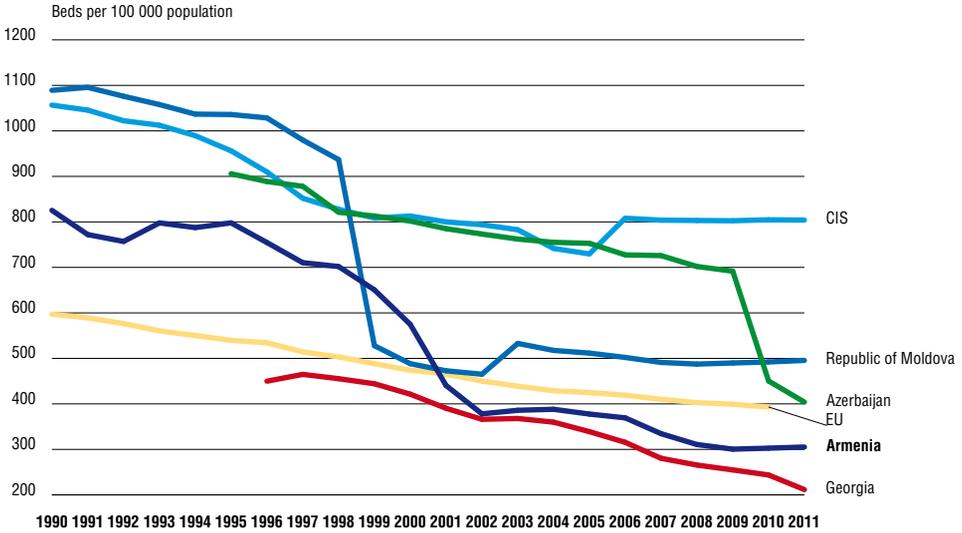
Source: WHO Regional Office for Europe, 2013.

Fig. 4.2

Mix of beds per 100 000 population in acute hospitals, psychiatric hospitals and long-term care institutions, 1990–2011

Beds per 100 000 population
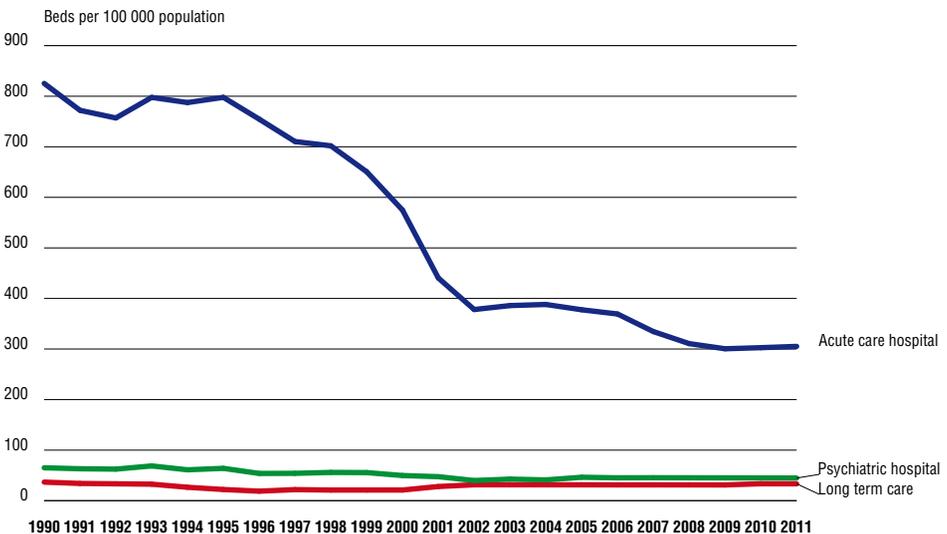
Source: WHO Regional Office for Europe, 2013.

Fig. 4.3a

Operating indicators for acute care hospitals in Armenia and selected countries, 1990 to latest available year: Bed occupancy rate

Bed occupancy (%)
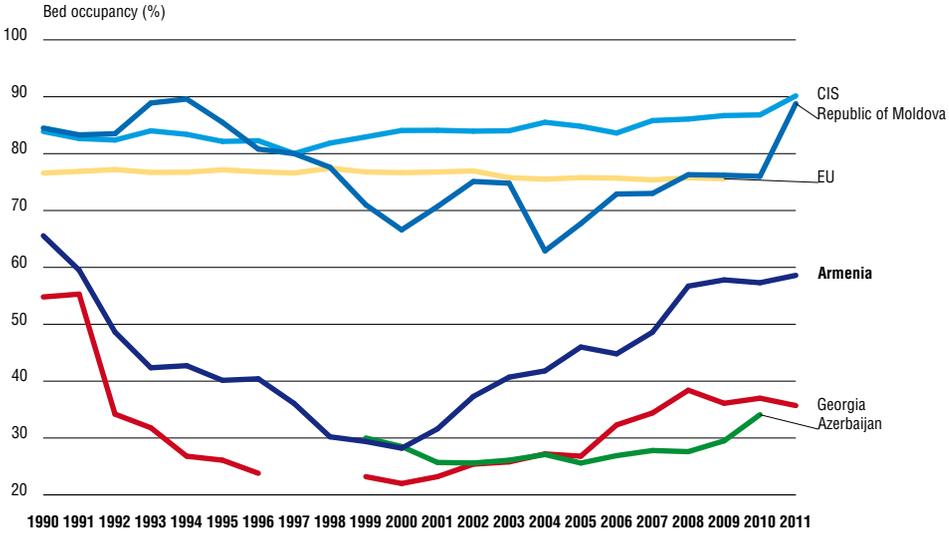
Source: WHO Regional Office for Europe, 2013.

Fig. 4.3b

Operating indicators for acute care hospitals in Armenia and selected countries, 1990 to latest available year: Average length of stay

Average stay (days)
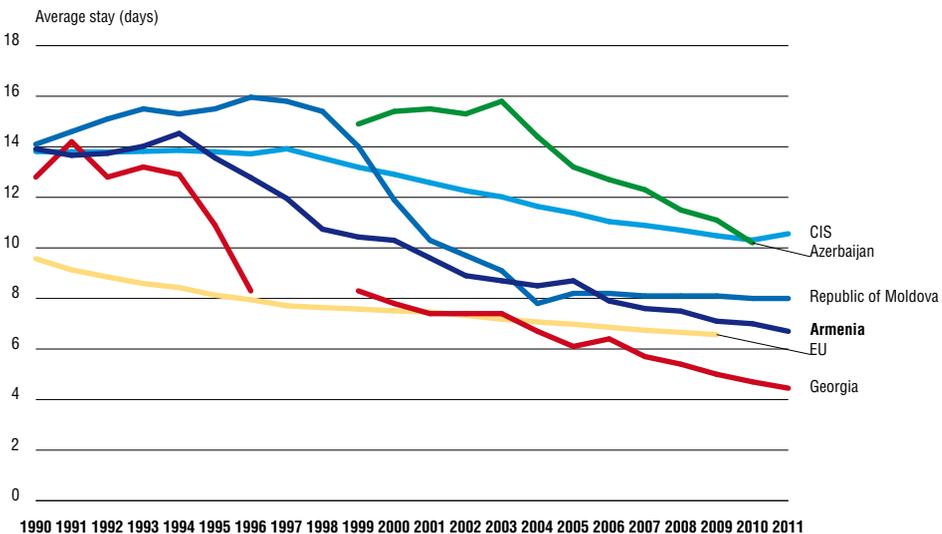
Source: WHO Regional Office for Europe, 2013.

(such as the number of beds). Nevertheless, despite the contraction in bed numbers, occupancy rates for acute care beds fell from 65.5% in 1990 to just 28.2% in 2000; although the number of acute care beds has continued to fall, occupancy rates have improved, reaching 57.3% in 2010 (Fig. 4.3a). As the average length of stay in acute care hospitals has halved since 1994, it is likely that the improvements in operating indicators reflect greater efficiency in hospital care (Fig. 4.3b), but it is possible that the improved occupancy rate reflects some improvements in access to care (see section 7.3.2).

4.1.3 Medical equipment

Although increasing provider autonomy has permitted health care facilities to procure equipment independently, the Ministry of Health has retained the right to license the use of all high-technology equipment with a view to maintaining standards. High technologies (such as magnetic resonance imaging and computed tomography scanners) are available mostly in Yerevan, although some regions also have such equipment. As the big hospitals are mostly privatized, the equipment has been bought by the hospital owners using their own funds or, in some cases, equipment or funding for such equipment was provided by donors.

4.1.4 Information technology

The current use of information technology in the health system is mostly limited to vertical programmes and there is little coordination of information technology systems in the health sector. Computers are not an integrated part of primary care and while there is a system in place, electronic medical records and electronic booking systems are not widely used. In order to establish a universal electronic data management system, the Ministry of Health is implementing e-health reforms as part of the overall e-governance programme (see section 2.7). There are no available data on patients accessing the Internet for health information, but overall access to the Internet is low by European standards: only 32% of Armenians were Internet users in 2011 (World Bank, 2013).

4.2 Human resources

4.2.1 Health workforce trends

Since 1991, the overall Armenian health workforce has contracted. The number
of specialist doctors and dentists has increased, but the number of mid-level
personnel per capita and in real terms has fallen precipitously (Table 4.1).
The falling number of general medical practitioners may be connected to the
programme of retraining generalists working in primary care as family doctors
(see section 5.3). In the longer term, the aim is for narrow specialists working
at the primary care level to be moved to hospitals while family doctors take
over many of their roles.

Table 4.1

Health workers in Armenia (physical persons) per 100 000 population, 2000–2011
(selected years)

	2000	2005	2006	2007	2008	2009	2010	2011
Physicians (total)	278.0	258.1	257.4	261.1	264.4	263.7	268.7	284.6
Specialist physicians	59.2	61.2	61.1	62.8	65.3	65.4	67.1	71.9
Surgeons	48.0	46.9	48.0	48.8	49.5	50.3	51.8	54.7
Obstetrician/gynaecologists	21.3	20.6	21.0	21.5	22.0	22.5	23.2	24.9
Paediatricians	43.1	34.9	33.1	31.2	30.0	27.2	25.9	26.0
General practitioners	45.7	41.7	41.9	45.0	46.2	47.9	48.5	51.0
Dentists	23.0	29.8	29.3	31.3	37.0	38.4	38.6	41.9
Pharmacists	3.3	3.0	3.2	3.4	3.3	3.4	3.8	3.9
Nurses	562.1	462.2	468.2	467.4	467.3	461.2	463.0	491.9

Source: WHO Regional Office for Europe, 2013.

However, the breakdown of specialties shown in Table 4.1 reveal that
although the supply of physicians in the health system has remained relatively
stable in per capita terms, as they have in many other countries of the former
Soviet Union (Fig. 4.4), the balance of specialists has not shifted away from
hospital services, as demonstrated by the consistent rise in the number of
surgeons per capita. The geographical distribution of health care workers is
also challenging as most doctors work in Yerevan, while there is a shortage of
doctors willing to work in rural areas.

The shortage of nurses in the health workforce has continued in Armenia,
and although the situation is not as severe as in neighbouring Georgia, it is
still well below the average number of nurses per capita in the CIS or the EU
(Fig. 4.5). Again, while it is not as severe as in neighbouring Georgia, the nurse-
to-doctor ratio does limit the capacity for the Ministry of Health to broaden the
role of nurses in the system relative to doctors (Fig. 4.6).

Fig. 4.4

Number of physicians per 100 000 population in Armenia and selected other countries, 1990 to latest available year

Physicians per 100 000 population

Georgia
CIS
Azerbaijan
EU
Republic of Moldova
Armenia

450

400

350

300

250

200

1990 1991 1992 1993 1994 1995 1996 1997 1998 1999 2000 2001 2002 2003 2004 2005 2006 2007 2008 2009 2010 2011

Source: WHO Regional Office for Europe, 2013.

Fig. 4.5

Number of nurses per 100 000 population in Armenia and selected other countries, 1990 to latest available year

Nurses per 100 000 population

1200

1100

1000

900

800

700

600

500

400

EU
CIS
Azerbaijan
Republic of Moldova
Armenia
Georgia

1990 1991 1992 1993 1994 1995 1996 1997 1998 1999 2000 2001 2002 2003 2004 2005 2006 2007 2008 2009 2010 2011
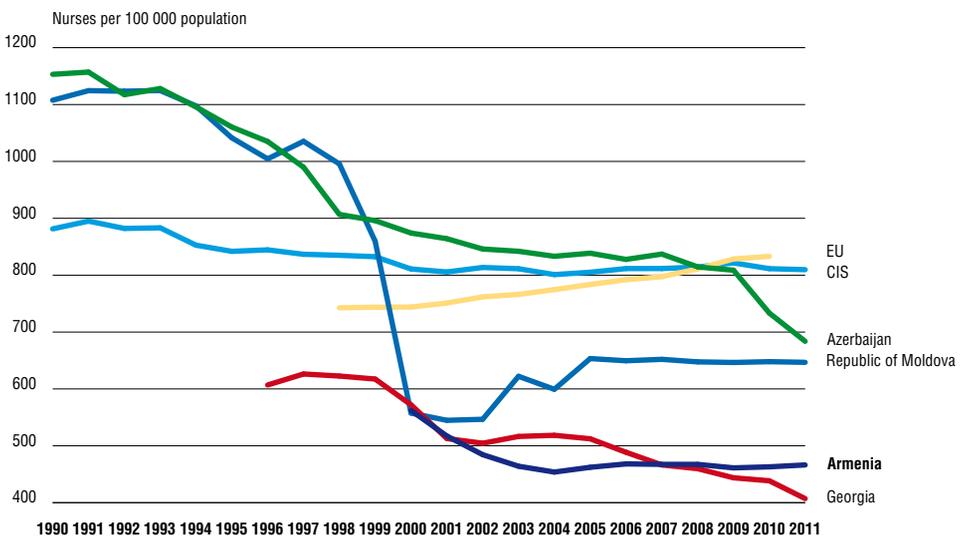
Source: WHO Regional Office for Europe, 2013.

Fig. 4.6

Number of physicians and nurses per 100 000 population in the WHO European Region, latest available year

Western Europe

Country	Physicians	Nurses
Monaco (2011)	662	1614
Switzerland (2010)	381	1631
Luxembourg (2011)	277	1702
Denmark (2009)	348	1573
Norway (2010)	407	1490
Iceland (2011, 2010)	351	1533
Belgium (2010)	297	1585
Ireland (2011, 2010)	324	1312
Sweden* (2009)	380	1174
Germany (2010)	373	1151
San Marino (2011)	484	824
Finland (2008, 2009)	272	997
Austria (2010)	478	783
France (2011)	315	930
United Kingdom (2011)	276	947
Netherlands (2009, 2008)	292	855
Malta (2011)	324	710
Italy (2009, 2010)	368	659
Portugal (2010)	385	590
Greece (2010, 2009)	613	354
Spain (2011, 2010)	397	504
Israel (2011)	303	506
Cyprus (2010)	289	467
Andorra (2009)	316	355
Turkey (2010)	167	228

Central and south-eastern Europe

Country	Physicians	Nurses
Czech Republic (2010)	358	848
Lithuania (2010)	372	722
Slovenia (2010)	243	823
Estonia (2010)	324	641
Serbia (2011)	309	632
Slovakia (2010)	300	637
Hungary (2010)	287	639
Croatia (2010)	279	566
Bulgaria (2010)	371	465
Poland (2010)	216	580
Latvia (2010)	291	488
Romania (2010)	237	542
Montenegro (2010)	205	558
Bosnia and Herzegovina (2010)	173	529
TFYR Macedonia (2010)	270	422
Albania (2011, 1994)	111	506

CIS

Country	Physicians	Nurses
Belarus (2011)	379	1062
Uzbekistan (2010)	251	1057
Russian Federation (2006)	431	806
Kazakhstan (2009)	381	711
Azerbaijan (2011)	338	684
Ukraine (2011)	349	636
Republic of Moldova (2011)	283	647
Georgia (2011)	410	407
Kyrgyzstan (2007)	238	543
Armenia (2011)	**270**	**466**
Turkmenistan (2011)	232	458
Tajikistan (2011)	190	447

Averages

	Physicians	Nurses
EU members before May 2004	355	894
CIS (2011)	380	810
EU members since 2004 or 2007	269	618

per 100 000 population

■ Physicians
■ Nurses

Sources: WHO Regional Office for Europe, 2013; * European Commission, 2013 (data for nurses in Sweden).
Notes: Where two different years are mentioned, the first one indicates the number of physicians and the second one indicates the number of nurses (PP); PP: Physical persons.

Although the official data supplied to the Health for All database do indicate that the supply of pharmacists in the Armenian health system is extremely low and well below the average for countries of the EU or CIS (Fig. 4.7), this is because pharmacists working in the private sector (where most pharmaceutical services are provided) are not necessarily covered by the national data. Although pharmacies all need to be licensed (see section 2.8.4), pharmacists do not have to be registered or licensed (Ministry of Health of the Republic of Armenia, 2010).

Fig. 4.7

Number of pharmacists per 100 000 population in Armenia and selected other countries, 1990 to latest available year
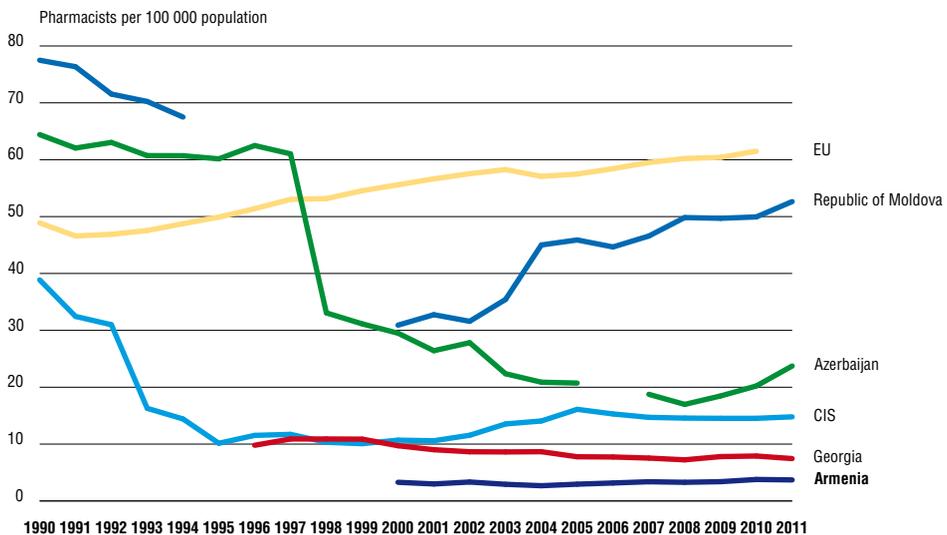
Source: WHO Regional Office for Europe, 2013.

4.2.2 Professional mobility of health workers

The high levels of outmigration in Armenia also apply to health workers. Armenian qualifications are recognized across the former Soviet Union and formal salaries for nurses and doctors are considerably higher outside the country (see section 3.7.2). Recruitment of health workers from abroad is not a significant feature of the system. The issues of "brain drain" and "brain waste" are, however, significant for the country, but clear policies to mitigate the effects of this have not yet been formulated.

4.2.3 Training of health workers

In 2011, there were six private and one state institution providing undergraduate medical training. From September 2006, medical education at the Yerevan State Medical University has been arranged to reflect the Bologna process, with the undergraduate medical training level taking five years, followed by two years of specialization (formally at Master's level) after which doctors receive their diplomas and can go and work in primary care or enter residency training, the length of which depends on the specialty chosen. Armenian medical qualifications are recognized in Nepal, Sri Lanka and India but in the EU or the United States graduates are required to take further examinations in order to practise medicine. From 2012, entry examinations for the Yerevan State Medical University were reintroduced. The appropriateness of the Bologna process for medical education has been questioned and medical education is likely to be reorganized as a one-step undergraduate programme once more. The Ministry of Education is responsible for setting educational standards for undergraduate training of health care personnel, but the curriculum is developed in close cooperation with the Ministry of Health.

After undergraduate training, doctors then need to complete their specialist training in order to practise independently. Training requires 2 to 10 years depending on specialization and is provided by specialized clinical centres and the university hospital (which is attached to the Yerevan State Medical University) that are specifically accredited to provide such training. In theory, the specialist training centres could be in either the private or public sector, but in practice they are almost all attached to publicly owned facilities. There is no limit on the number of students recruited to different specializations provided they have passed the entry test. Training for doctors and nurses, including refresher training, is provided chiefly by the National Institute of Health, with a small part of the training occurring at the Yerevan State Medical University on a paid basis. Training may be paid for by the government, a health care facility or personal funds. Since the National Institute of Health appears to have sufficient capacity to train the required number of doctors and nurses, the gap in training may be because of lack of funds. Existing regulations require that Armenian doctors and nurses take continuous education courses every five years. As of 2006, this standard had been met by 56.7% of the medical doctors and 32.5% of the nurses. Estimates for 2008 showed an improvement for these indicators, with the percentage of doctors and nurses receiving such training within the previous five years being 62.6% and 40.0%, respectively.

Historically, generalists (i.e. those doctors who finished medical school but who did not enter specialist training) worked in primary care, but "family medicine" is not considered a specialization, and many generalists have now trained as family doctors. Linked to this, paediatrics is now recognized as a postgraduate specialty and the undergraduate paediatrics stream has been discontinued. The training and retraining programme for family medicine is now considered to be in line with international standards. Continuous professional development and mandatory relicensing procedures are detailed in section 2.8.3.

Nurses, midwives dental nurses and physiotherapists are trained at one of seven state nursing colleges or 10 private nursing colleges and their education lasts for three or four years. The specialist training of nurses for different disciplines is not well developed and generally consists of short courses and projects delivered as part of development assistance work through international partners, such as projects to consolidate family medicine for primary care providers. The scope of practice for nurses remains relatively narrow and the low status of nursing as a career is reflected in the low number of nurses relative to doctors per capita (see Fig. 4.6).

4.2.4 Doctors' career paths

Once doctors have completed their undergraduate and specialist training, they are expected to undertake continuous professional development in order to work their way up through the professional categories (higher, first and second – as in the Soviet era) and thereby gain grounds for promotion. Recruitment and promotion decisions are taken locally within the hospital, and promotion is largely at the discretion of hospital management. Overall, in practice, there is a certain lack of transparency around both recruitment and promotion procedures in the health sector.

5. Provision of services

The public health system in Armenia is focused primarily on the control of communicable disease, although noncommunicable disease control and monitoring is increasingly being integrated into public health services. Environmental and communicable disease control functions, among others, are the responsibility of the SHAEI as are the mechanisms for the notification and surveillance of disease outbreaks. The majority of preventive services (including immunization) and health promotion activities are integrated with primary care services. The Ministry of Health recommends that Armenian citizens undergo a preventive health examination at least once a year, and 19% of men and 25% of women do. Health promotion around lifestyle issues such as tobacco and alcohol consumption is piecemeal, but since reorganization in 2012, the SHAEI is also responsible for the control of noncommunicable diseases.

Utilization of primary care services in Armenia has declined more than for hospital care, and outpatient contacts per person per year are among the lowest in the WHO European Region. Central to reforms in primary care 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, but implementation has been, and continues to be, difficult, particularly in urban areas where the old polyclinic system prevails. The traditional focus on specialist care has posed a particular challenge and the prevalence of OOP payments in the system hampers gatekeeping at the primary care level.

Hospitals in Armenia enjoy a high level of autonomy with regard to determining objectives and specific functions, strategic management, administration, financial management, as well as human resource management. Efforts to optimize the hospital network have only had a limited impact on efficiency, quality of care and public accountability thus far.

Palliative, long-term and rehabilitation care are not well developed as parts of the health system that affect the system's overall efficiency. Most long-term care is provided in the family and there are few resources available for informal carers.

There are 17 licensed pharmaceutical manufacturers in Armenia all of which specialize in manufacturing generics, and all are working towards GMP compliance. Community pharmacies are predominantly private, profit-making enterprises. Geographical access to pharmacies in Yerevan and other urban areas is good, but it can be problematic in rural areas. Very few outpatient pharmaceuticals are provided through the BBP and pharmaceuticals are a major household expenditure in Armenia.

5.1 Public health

Environmental and communicable disease control functions are the responsibility of the SHAEI as are the mechanisms for the notification and surveillance of disease outbreaks. Following extensive reorganization in 2012, their functions have been broadened to include noncommunicable disease control. The SHAEI consists of a headquarters office and seven operations offices in Yerevan as well as 10 regional offices and several additional facilities. There are also 14 non-profit-making "testing centres", which were established in 2002 to provide the necessary laboratory testing services. The SHAEI is under the Ministry of Health and has 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 by-laws;
- protecting the public's health and coordinating prevention activities for communicable and noncommunicable diseases;
- ensuring healthy living conditions;
- transfer of knowledge and educating the public;
- identifying and preventing hazards affecting population safety; and
- notification of especially dangerous diseases.

All physicians are required to notify local SHAEI offices about all instances of diagnosed communicable disease. This is expected to facilitate timely data collection, analysis and assessment in support of disease control and outbreak response.

The majority of preventive services (including immunization) and health promotion activities are integrated with primary care services, although they are coordinated by the Department of Public Health in the Ministry of Health. The Ministry of Health recommends that Armenian citizens undergo a preventive health examination at least once a year. Currently, a preventive health examination includes a routine check-up to detect high blood pressure, diabetes and lung diseases, plus a breast examination and the Pap smear test for women and a prostate gland examination for men (Armstat et al., 2012). The Demographic and Health Survey in 2010 found that 25% of women and 19% of men in Armenia had visited a health facility for a routine checkup in the three years preceding the survey (Armstat et al., 2012).

Health education
The Ministry of Health has launched a series of national awareness and information campaigns on specific health problems such as tobacco, alcohol and HIV/AIDS. It has also come to an agreement with the Ministry of Education to introduce health education programmes into the school curriculum. The Ministry of Health is, however, no longer the only agency active in health education: other ministries and organizations are now publishing materials and promoting behaviour change, such as the Ministry of Education, departments of health and social security at municipal and regional levels, NGOs and others. Public and private mass media also prepare, publish and broadcast reports, interviews and round-table discussions on healthy lifestyle issues such as smoke-free workplaces, personal behaviour, diet and nutritional habits. The Demographic and Health Survey 2010 found that more than 80% of women and more than 50% of men have seen or heard a health message on the radio or television or in a newspaper or magazine in the few months preceding the survey, with exposure to television messages being by far the most common (Armstat et al., 2012). Nevertheless, respondents residing in rural areas, those with lower levels of education and those living in poorer households were less likely to have seen or heard health messages through any media source than respondents from urban areas, those with higher levels of education and those living in more economically advantaged households (Armstat et al., 2012). The potential for social marketing is, therefore, great but more needs to be done to meet the needs of rural populations and the most vulnerable.

5.2 Patient pathways

Box 5.1 illustrates a pathway in Armenia that a woman in need of a hip replacement because of arthritis would take.

Box 5.1

A typical patient pathway in Armenia

A woman in need of a hip replacement because of arthritis would take the following pathway through the health care system.

- During a free visit to the district physician or family doctor with whom she is registered, she is referred either for an additional consultation with a specialist in the polyclinic where there is one or direct to a hospital orthopaedics department. These steps do not involve significant charges or fees.

- The patient has access to any public or private secondary or tertiary care hospital and the doctors at the primary care level advise her on which hospital to select based on where the patient lives, any special needs she may have and the expected quality of specialist care within the chosen hospital, etc.

- Referral does not usually involve any waiting time as inpatient utilization rates are so low; in many cases, patients bypass referral through the primary care level altogether and simply self-refer to hospital.

- If she chooses to go to a public hospital she must pay formal charges *ex ante* which apply to selected services including an admission fee and "hotel" charges; also she or her family will have to make additional informal payments to the surgeon as well as other personnel (e.g. the anaesthetist, nurses, auxiliary staff, etc.). Formal user charges will be waived if she is considered a member of a vulnerable group, as the surgery will be covered under the BBP; however, she may still have to make informal payments.

- If the patient opts for a private hospital she has to cover all the costs of surgery and associated care to be paid in full out of pocket.

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

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

- In most cases, the patient will pass on the discharge summary to her primary care doctor. There is no formal responsibility for follow-up either through the district physician or the specialist who performed the surgery; any follow-up will be negotiated between the patient and her service provider.

- For specialist follow-up and any rehabilitation services, the patient will be referred to an orthopaedic specialist at a specialized orthopaedics facility.

5.3 Primary/ambulatory care

Primary care is typically provided by a network of first-contact outpatient facilities involving urban polyclinics, health centres, rural ambulatory facilities and FAPs, depending on the size of the population in a particular community. According to government norms, a physician at the primary care level serves a population of 1200–2000 adults and a paediatrician typically covers 700–800 children. In 2010, there were over 504 ambulatory facilities and polyclinics in the country (Armstat, 2011b). FAPs are located in small villages and are run by nurses, midwives, and/or *feldshers*, who are supervised by physicians 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 the health care system, 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 et al., 2007). Yet, FAP staff have been forced by circumstances to deliver services for which they are not appropriately trained. Rural health posts have deteriorated since independence, but they still fulfil an important advisory, triage and referral function (Poletti et al., 2007).

The decentralization process of the mid-1990s led to a functional disintegration of the primary health care system and created considerable inequity in access to services between urban and rural areas, which remains. Utilization of primary care services in Armenia has declined more than for hospital care, and outpatient contacts per person per year are among the lowest in the WHO European Region (Fig. 5.1). The continued low level of utilization may be explained by a combination of factors; for example, 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 is needed. The necessity of making informal payments was the main source of patient complaints (EDRC, 2011). The same research also found that a third of visits to primary care providers were made purely in order to receive prescription drugs at a discounted rate (EDRC, 2011).

Fig. 5.1

Outpatient contacts per person per year in the WHO European Region,
latest available year

Western Europe

Switzerland (1992)	11.0
Spain (2003)	9.5
Germany (2009)	8.2
Turkey (2010)	7.3
Austria (2010)	6.9
Belgium (2010)	6.7
Ireland (1988)	6.6
France (1996)	6.5
Netherlands (2010)	6.5
Israel (2009)	6.2
Italy (1999)	6.0
Greece (1982)	5.3
United Kingdom (2009)	5.0
Iceland (2005)	4.4
Finland (2010)	4.2
Denmark (2007)	4.1
Portugal (2009)	4.1
Norway (1991)	3.8
Malta (2010)	2.9
Sweden (2010)	2.9
Luxembourg (1998)	2.8
Cyprus (2008)	2.1

Central and South-Eastern Europe

Slovakia (2009)	13.0
Czech Republic (2010)	12.8
Hungary (2010)	11.6
Serbia (2010)	8.1
Estonia (2010)	7.1
Lithuania (2010)	6.9
Poland (2009)	6.8
Slovenia (2009)	6.6
Croatia (2010)	6.2
TFYR Macedonia (2006)	6.0
Latvia (2010)	5.6
Bulgaria (1999)	5.4
Bosnia and Herzegovina (2011)	5.3
Romania (2010)	4.7
Montenegro (2010)	4.4
Albania (2011)	2.1

CIS

Belarus (2011)	13.1
Ukraine (2011)	10.7
Russian Federation (2011)	9.4
Uzbekistan (2011)	9.1
Kazakhstan (2011)	7.1
Republic of Moldova (2011)	6.4
Azerbaijan (2010)	4.3
Tajikistan (2009)	4.2
Turkmenistan (2011)	3.6
Kyrgyzstan (2011)	3.5
Armenia (2011)	**3.4**
Georgia (2011)	2.1

Averages

CIS (2011)	8.8
EU members since 2004 or 2007	7.6
EU members before May 2004 (2007)	6.5

0   3   6   9   12   15

Annual contacts per person

Source: WHO Regional Office for Europe, 2013.

Huge investments into rural primary care from international donor agencies have meant the refurbishment and equipping of all ambulatories in rural areas, and the impact on provision of primary care services in project regions has been dramatic (Harutyunyan et al., 2010b). Nevertheless, in a survey of primary care doctors conducted in 2011, doctors most commonly cited the lack of essential equipment and poor accommodation as the main barrier to effective working (EDRC, 2011). This finding was supported by evidence from a patient satisfaction survey conducted at the same time in which half the respondents could not access necessary treatment because of the lack of equipment or specialists (EDRC, 2011). There is also a general lack of applying standardized laboratory practice to support appropriate diagnostics and evidence-based clinical decision-making.

Since 1996, residents of the Republic of Armenia have had the right to choose their health care provider, and an open enrolment policy has been in place since 2008. In practice, however, the population continue to be assigned to primary care providers according to their place of residence (see section 2.9.2). Most Armenians directly self-refer to a primary care provider or specialist, with the latter seemingly the preferred option because of the low professional status and the perceived low quality of primary care services. Primary care doctors in Armenia are consequently weak gatekeepers to higher levels of care: 43% of referrals to hospital in 2009 were patient self-referrals, 39% were from specialists working in a primary care setting and only 20% were from primary care doctors (WHO Regional Office for Europe, 2009). Also in a context where OOP payments are high, they can deter utilization and it may well be seen as cheaper to simply self-refer than to pay for a referral from the primary care level (see section 7.2).

Family medicine
Key to reforms in primary care 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. Armenia was one the first countries in the former Soviet Union to establish chairs in family medicine and in family nursing in 1997, thereby providing specialist qualifications in primary care. 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. Between 2006 and 2010, 1200 family doctors were trained, but their services have not been fully utilized (Armstat et al., 2012).

The introduction of family medicine as the principal organizational core for the provision of primary care in Armenia has been, and continues to be, difficult. The traditional focus on specialist care has posed a particular challenge, but the resistance to family medicine in Yerevan means that primary care doctors still practise in either paediatric or adult care. Limited financing under the BBP has restricted the ability of newly introduced family physicians to provide a broader range of services than with traditional primary care providers. Beyond this more specific constraint, 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. A patient satisfaction survey conducted in 2010 found that many complained that the family doctors were insufficiently well trained (EDRC, 2011). The Demographic and Health Survey 2010 found that, of those registered with a primary care physician, 15% of women and 17% of men were covered by a family doctor; 70% of women and 60% of men continued to be covered by a general internist (*terapevt*) (Armstat et al., 2012). 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.

5.4 Specialized ambulatory care/inpatient care

Inpatient and specialized ambulatory care is provided in a range of settings including free-standing 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; and specialist clinics (dispensaries) for patients with specific conditions (e.g. diabetes, cancer, psychiatric health issues). Hospitals in Armenia enjoy a 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.

Highly specialized care is usually provided through specialized single-purpose health care structures (hospitals, centres), mainly concentrated in 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. Hospital capacity in terms of the number of facilities and beds in Armenia has fallen considerably since independence, particularly since the late 1990s (see section 4.1). Despite these 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. Hospital care continues to dominate the national health system, absorbing 42.3% of the annual budget in 2012, compared with 37.2% for primary care (see section 7.5).

5.5 Emergency care

At the time of writing, the emergency care system was in the process of reforming, but in 2010, there were 104 ambulance stations across the country, which had 6.4 doctors per 100 000 population and 122 people per 100 000 population had received emergency care (Armstat, 2011b). A patient satisfaction survey conducted in 2011 found that half of respondents who had accessed emergency care services had paid out of pocket (EDRC, 2011). In February 2011, the Armenian Government introduced formal co-payments for many adult emergency care services – excluding emergency resuscitation (see section 6.1). The co-payments apply to all but "socially vulnerable" groups (see section 3.3.1).

5.6 Pharmaceutical care

There are 17 licensed pharmaceutical manufacturers in Armenia all of which specialize in manufacturing generics. The market share by value of pharmaceuticals produced by domestic manufacturers was around 10% in 2007. Recent policies have sought to ensure that all Armenian pharmaceutical providers are GMP compliant, partly to enable greater international trade but also in order to reassure the local population that generic medicines are effective and reliable alternatives to brand-name drugs.

Community pharmacies are predominantly private, profit-making enterprises. Geographical access to pharmacies in Yerevan and other urban areas is good, but while 32% of rural respondents in a household budget survey said there was a pharmacy less than a kilometre from their home, for 29% of rural inhabitants it is over 10 km (Armstat, 2011a).

Very few pharmaceuticals are provided through the BBP, and pharmaceuticals are a major household expenditure in Armenia (see section 7.2.1). There are public programmes to provide free medicines for certain diseases and conditions (e.g. tuberculosis, malaria, HIV/AIDS, some psychiatric conditions, diabetes) and children under 7 years are also covered. There is also a limited list of essential drugs that are made available to particularly vulnerable groups either free of charge or at a discounted rate. These were mainly assessed as satisfactory by the majority of physicians that took part in the survey; however, they mentioned that those drugs should be replaced by more effective ones and about one-third of participating physicians mentioned the ineffectiveness of drugs provided to population groups with benefits, and insisted on a review of the drug list and supplementing it with modern, more effective ones. The vast majority of people that took part in the survey were not satisfied with the effectiveness of drugs provided to them for free or with discount (EDRC, 2011). The same study also identified some issues with the quality of pharmaceuticals being made available as 12% of patients responding to the survey said that they had been dispensed with drugs that were beyond their expiry date and less than half of those affected returned the drugs to obtain a replacement (EDRC, 2011).

5.7 Rehabilitation/intermediate care

Rehabilitation/intermediate care in Armenia is generally organized as hospital-based clinical services for the chronically ill and/or temporarily or permanently disabled. 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 (see section 5.8).

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 donor aid, the two centres have established close links with health and social services, thus facilitating the coordination of long-term treatment and physical/occupational rehabilitation (kinesiotherapy, 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 is also a Physiotherapeutic Centre providing rehabilitation services.

5.8 Long-term care

There are virtually no dedicated facilities for long-term care as the responsibility for care falls mainly to families. There are very few nursing homes available in Armenia and home-based care services are not available to the extent necessary to allow older persons to stay in their homes (UNECE, 2011). 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, particularly with current labour migration trends.

For residential long-term care, there are four state homes for the elderly and the disabled, caring for an estimated 1000 elderly and disabled people, all of which are under the Ministry of Social Protection. 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 (in Gyumri) and the Vardenis home looks after people with neurological or psychiatric conditions and is under the Ministry of Health. Three private care homes for the elderly look after 90 residents (Armstat, 2010). In addition, there are eight orphanages, which are home to approximately 950 children, two of which specialize in the care of children with learning difficulties (Hakobyan et al., 2006). There are also three private nursing homes working on a fee-for-service basis (UNECE, 2011).

5.9 Services for informal carers

The general model for long-term care of older, sick or disabled relatives is informal care within the family. Multigenerational households are the norm and facilitate informal caregiving, despite an increasing number of younger couples seeking to live independently and an increasing number of older people living alone (UNECE, 2011). The needs of informal carers have not been considered systematically and measures such as respite care, day-care centres or financial assistance are not currently available apart from a few small projects run by international NGOs.

5.10 Palliative care

Palliative care is not widely available in Armenia; there are no hospices or specialist palliative care units. Palliative care is not recognized as a specialty and is not covered under the BBP. Given the number of cancer deaths annually, it is likely that there is significant unmet demand for palliative care services. An initiative on the promotion and development of palliative care has been supported by the Open Society Institute, so it is hoped that there will shortly be more development in this area.

5.11 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 care providers further limits the potential for providing services at ambulatory and community levels. 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 patients with chronic conditions who would be more appropriately treated in an outpatient, community setting (Hakobyan et al., 2006). It has been estimated that in 2009, 3% of total health expenditure went to mental health services, and more than 88% of all mental health expenditure goes to funding hospital care. There are four day centres in Yerevan, one in Syunik region and two in Gegharkunik region, which cover 3–5% of general need (Soghoyan & Gasparyan, 2010). Mental health care, including essential psychotropic medicines, is included in the BBP. Patients with chronic mental health problems are able to register as disabled and receive disability benefit payments.

There is no systematic approach to developing community mental health services except for some small-scale pilots, usually supported by international organizations. Following the conflict in Nagorno-Karabakh and the resulting mass population movements, international aid agencies and NGOs started many projects to diversify mental health services and provide day-care services and other alternatives to inpatient services, but these projects targeted mainly the refugee population and the services ended when the external funding ceased (Soghoyan & Gasparyan, 2010).

The future development of mental health care is centred on the further development of outpatient rather than inpatient services, the creation of community-based services and the improvement of public education about mental health issues in order to address the stigmatization of patients.

5.12 Complementary and alternative 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 retraining courses in various key areas such as acupuncture, herbal medicine, reflex therapy, manual therapy, bioresonance 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 National Institute of Health. 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, therefore, financed through direct payments (Hakobyan et al., 2006).

6. Principal health reforms

In 2006, the BBP was broadened to include a package of primary care services for the whole population that was formally free at the point of use, but this was not accompanied with increased funding for primary care services. New funding mechanisms were piloted in 2010–2011 to improve productivity in the sector and encourage doctors to take on patients and roles they had hitherto resisted.

In 2008, the Armenian Government introduced the Obstetric Care State Certificate (OCSC) to ensure all women had access to high-quality maternity services that were free at the point of use. Pregnant women started to receive their OCSCs from 1 July 2008 and they were eligible from the 22nd week of pregnancy. The women use OCSCs to pay for care at their chosen maternity hospital, with the SHA paying a fixed fee depending on the complexity of the delivery and the type of facility. The reimbursement rates were revised by the Ministry of Health to reflect market rates. There was initial opposition from hospital managers and obstetricians, but the Programme is now considered a success, particularly as OOP payments for deliveries have fallen substantially.

The Child Health State Certificate (CHSC) was introduced on a similar basis as insufficient funding of inpatient paediatric services through the BBP led to high OOP costs for patients, which acted as a significant barrier to care. The introduction of the CHSC in 2011 has also been successful in reducing informal payments, improving affordability and access to services and boosting patient satisfaction.

The key factors in the success of the state certificate programmes have been the clear political commitment with the associated financial commitment to covering the full cost of maternity and paediatric services. Their future success relies on consistent and transparent funding for service providers that grants health workers a good salary.

In February 2011, the Armenian Government introduced formal co-payments for many adult emergency care services with the exception of some "socially vulnerable" groups. The decision was taken against a backdrop of increasing financial austerity and the aim is for these co-payments to increase government revenues by "formalizing" informal payments for services and for prices to better reflect true costs.

From January 2012, some public sector employees have been eligible to receive a voucher to purchase a private health insurance package and other cover. The stated purpose was to make government employment attractive and to address employees' social needs given their relatively low wages, but it raised fundamental challenge to equity in the health system.

The Ministry of Health has launched a process to define a National Health Strategy for Armenia. It will provide a plan for establishing common ground between stakeholders where improving the health of the population is given priority and an intersectoral strategy to achieve this end; this may be considered one of the more significant recent developments in health care reform.

6.1 Analysis of recent reforms

The main directions in health system reform since Armenia gained independence from the Soviet Union have included the rapid decentralization of health care services, the privatization of many providers, the separating of purchasing and provider functions and the introduction of family medicine as the cornerstone of primary care. The history of reforms undertaken before 2006 is described in section 2.2 and in the previous edition of this report (Hakobyan et al., 2006). Major recent policies (from 2006 to 2012) and their objectives are presented in Box 6.1. In future reform, efforts are to be guided by the National Health Strategy, which was under development at the time of writing (see section 6.2).

Box 6.1
Major reforms and policy initiatives in Armenia from 2006

2006–2007	Providing universal access to primary care services
2008	Obstetric Care State Certificate Programme
2010–2011	New primary health care payment mechanisms
2011	Child Health State Certificate Programme
2011 and 2012	Co-payments under BBP
2012	Social package for civil servants

Primary care reforms

In 2006, the BBP was broadened to include a package of primary care services for the whole population that was formally free at the point of use. This was on paper a significant development, but it was not accompanied with sufficient funding for primary care services so the gap between what was only nominally funded from the budget and the funds needed to provide the service were covered through informal payments. New funding mechanisms were piloted in 2010–2011, and these sought to introduce elements of performance-related pay (see section 3.7.2), but the focus was on improving productivity in the sector and encouraging doctors to take on patients and roles they had hitherto resisted. These payments were successful in shaping the priorities and productivity of family doctors, and for this reason they will be rolled out nationwide. However, although the bonus payments did increase the salaries of family doctors, their salaries remain low. Another significant development in primary care has been the piloting of the Medical Institution Data Analysis System (MIDAS-3) for electronic patient records, which has now been rolled out nationwide (Yoder & Johansen, 2010).

The state certificate programmes

The CHSC Programme was introduced in 2011 and sought to build on the successes of the OCSC Programme in improving access to care and so improve mother and child health. Although deliveries, antenatal and postnatal care as well as paediatric services have always been covered under the BBP to be available to all Armenians with no co-payments, in reality substantial informal payments were required when accessing such services. In 2008, the Armenian Government introduced the OCSC in order to curb informal payments and ensure that all women had access to high-quality maternity services that were free at the point of use. The objectives were:

- to provide high-quality and accessible health care services
- to move services from the informal to the formal sector
- to improve doctor–patient relations
- to guarantee social equity in the provision of maternity services.

In the development phase, the Ministry of Health formed a working group that consulted widely with NGOs, specialists and the mass media. Moreover, the working group gathered baseline data on the projected birth rate; this was fed into a costed proposal that was approved and an implementation schedule was developed (Truzyan, Grigoryan & Krajewski-Siuda, 2010). The Ministry of Health gathered data on the number of births, caesarean section deliveries,

the number of deliveries at each maternity hospital, and the mothers' residences. The Minister of Health sent monitors to the Yerevan maternity hospitals to check implementation and to report results directly to the Minister. A major information campaign was also launched to raise awareness among pregnant women of their right to access free services under the OCSC Programme. Pregnant women started to receive their certificates from 1 July 2008 and they were eligible to use these from the 22nd week of pregnancy. The women use these certificates to pay for care at their chosen maternity hospital, and the SHA pays the hospitals a fixed fee depending on the complexity of the delivery. The reimbursement rates were set by the Ministry of Health but were deemed to reflect market rates; in 2010 the payment rates ranged from 70 200 dram for physiological birth at a regional hospital to 231 800 dram for a caesarean section in a Yerevan specialist hospital.

There was initial opposition from hospital managers and obstetricians, but the OCSC Programme is now considered a success, particularly as OOP payments for deliveries have fallen substantially, even though informal payments have not been eradicated. Doctor–patient relations have also improved as a direct result of medical staff no longer needing to elicit informal payments (Truzyan, Grigoryan & Krajewski-Siuda, 2010).

The key factor in the success of the OCSC has been the clear political commitment to the OCSC Programme with the associated financial commitment to covering the full cost of maternity services. The fact that the initiative has been financed from the existing health budget rather than international donors has also supported its sustainability, although budget cuts in 2011 could conceivably lead to a countervailing rise in informal payments. However, many of the increasing costs have been associated with mothers choosing to deliver in Yerevan (even if there is no clinical need and they live outside the capital) and the increase in caesarean sections as the reimbursement rates are higher under these circumstances. Policy-makers have been exploring options to restrict the flow of women from the regions close to Yerevan for normal deliveries. The increase in caesarean sections resulted from the reimbursement system creating incentives for obstetricians to perform higher-cost interventions rather than being part of broader historical trends or patient preferences (Tadevosyan, 2011).

The CHSC Programme was introduced on a similar basis, the insufficient funding of inpatient paediatric services through the BBP led to high OOP costs for patients, which acted as a significant barrier to care. The introduction of the CHSC and Child Health Passport from 1 January 2011 has been successful in reducing informal payments, improving affordability and access to services

and boosting patient satisfaction (Crape et al., 2011). Under this Programme, the SHA anticipated that the average salary for a paediatrician would increase from 40 000–50 000 dram in 2010 to 200 000–230 000 dram in 2011 (Crape et al., 2011). The CHSC covers all children under 7 years of age, vulnerable children under 18 years and all children under 18 years for emergency care. The hospital is reimbursed for care once it submits the unique certificate number along with details of services provided; the hospital keeps a copy of the certificate along with the child's medical records. As the certificates are distributed at birth, neonatal services for babies are covered. In the first year, the Programme reduced the number of households making informal payments from 63.9% to 20.6% in Yerevan and from 47.4% to 8.9% in the regions; the reported mean spending fell from 35 329 dram at baseline to 17 751 dram at midterm in regional hospitals, although the mean amount did not fall significantly in Yerevan hospitals. The reduction in, if not elimination of, informal payments still served to improve access to services for families (Crape et al., 2011).

The future success of the State Certificate Programmes relies on consistent and transparent funding for service providers that can grant them a good salary. This would appear to be a key policy that is effective at reducing informal payments in the health system and it could also be central to the improvement of accountability in the system (see section 7.6).

Co-payments for emergency care
In February 2011, the Armenian Government introduced formal co-payments for many (23 of 53) adult emergency care services excluding emergency resuscitation. The co-payments apply to all but "socially vulnerable" groups (see section 3.3.1). In October 2012, co-payments were introduced for oncology services and treatment for sexually transmitted diseases. The decisions were taken against a backdrop of increasing financial austerity and with the support of many transnational partners. The aim is for these co-payments to increase government revenues by "formalizing" informal payments for services, which would also serve to improve transparency in the system. However, experience elsewhere in the region has shown that the introduction of co-payments is more likely to increase the overall price of accessing care as they are levied in addition to informal payments (Gaál, Jakab & Shishkin, 2010). This restricts access for patients with lower income and introduces a much more regressive payment approach.

Social Package for civil servants

From January 2012, government and some public sector employees (i.e. those in the civil service, education and social care sector and some in the arts) have been eligible to receive a voucher worth 132 000 dram (US$ 334), 52 000 dram (US$ 131) of which must be used to purchase a private health insurance package and 80 000 dram (US$ 203) to be spent on buying additional cover, VHI for one family member, or vacation services or school fees. The policy has increased VHI revenues by 4.5-fold since the introduction of the Social Package. The stated purpose was to make government employment attractive and to address employees' social needs; however, it raises fundamental challenges to health system goals around equity in the system. By using considerable resources to purchase cover for these public sector employees, the resource-base for existing health commitments is reduced, and giving these funds to competing private insurers fragments financial pooling. Risk pooling will also be limited as the population covered is relatively low risk for ill health. Investing public money to boost private insurance industry also carries long-term risks as once it is well-established the industry acts as a strong interest group against universal coverage and greater regulation of private insurance (Roberts et al., 2008). This is particularly pertinent in Armenia where there is a lack of monitoring and transparency measures in place for the insurance industry, and the current regulatory framework is not health market specific.

6.2 Future developments

The Ministry of Health has launched a process to define a National Health Strategy for Armenia with the overall aim of building consensus on a vision for increasing the health system's capacity in order to improve the health status of the Armenian people. It will also provide a plan for establishing common ground between stakeholders, where improving the health of the population is given priority, and an intersectoral strategy to achieve this end; this may be considered one of the most significant developments in health care reform.

7. Assessment of the health system

OOP payments as a proportion of total health expenditure are comparatively high in Armenia and this, in combination with quite high rates of poverty, is associated with high rates of catastrophic and impoverishing household health expenditure. Patients who are not poor pay considerably more out of pocket for health services than the poor and extremely poor, but as the overall OOP cost of treatment is high, there is a real risk of catastrophic health care costs. Even those eligible for the BBP face considerable OOP costs when accessing services; limits in the BBP mean that many expensive aspects of health care are not covered – particularly hospital care and outpatient pharmaceuticals.

By their very nature, OOP payments are highly regressive as poorer households pay a greater proportion of their income for health services than richer households. The high share of OOP payments in total health expenditure (57.4% in 2011) is, therefore, the greatest challenge to equity in health system financing in Armenia. The state certificate programmes have been successful in strengthening financial protection, with OOP payments for paediatric and maternal health services falling sharply, but other sectors are still chronically underfunded. The *de facto* shallowness and narrowness of cover explain the high levels of OOP payments. The known high level of OOP payments when accessing care means that for many Armenians seeking health care is considered unaffordable. Ensuring equity in access to services, therefore, remains one of the key challenges for policy-makers in Armenia.

Hospital care continues to dominate the national health system, although hospital capacity in terms of the number of facilities and beds in Armenia has fallen considerably since independence, particularly since the late 1990s. However, the reductions were almost exclusively limited to hospitals outside the capital city and the estimated savings were largely achieved through closure or repurposing of small rural hospitals and the reduction of bed numbers in regional

and urban hospitals through changed financing mechanisms. Nevertheless, the inpatient system in Armenia remains poorly balanced, with an oversupply of capacity and staff in the capital, often providing services to patients who would be more appropriately treated in day-care or outpatient settings.

Health policy development and implementation vary in the degree to which it is transparent, but there is an increasing trend towards broad stakeholder consultation in policy development even if this does not yet truly extend down to the level of public participation in the process. The key challenge to greater transparency in the health system is the pervasiveness of informal payments.

The greater clarity around priorities in the health system afforded by the National Health Strategy should facilitate greater health system performance monitoring, and monitoring of progress towards health goals; this should build even greater capacity for performance monitoring and accountability, thus strengthening in the health system.

7.1 The stated objectives of the health system

Armenia accepts the following basic health values (Hakobyan et al., 2006):

- health and health care as a fundamental human right;
- equity in health and solidarity in action to achieve developed health standards; and
- 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.

7.2 Financial protection and equity in financing

7.2.1 Financial protection

The high level of OOP payments as a proportion of total health expenditure in Armenia plus the quite high rates of poverty can create catastrophic and impoverishing household health expenditure. Patients who are not poor pay

considerably more out of pocket for health services than the poor and extremely poor patients (on average they paid 3548, 1320 and 562 dram, respectively) but as the overall cost of treatment is high, the burden is greatest on the poor and has a real risk of catastrophic health care costs. In 2010, health expenditures accounted for 14.2% of total household expenditures on services (Armstat, 2011a); in 2009, it was 11.2% (Armstat, 2010). Even those eligible for the BBP face considerable OOP payments when accessing services: in 2010, the average OOP payment to a family doctor was found to be 172 dram, while a hospital specialist was paid on average 3418 dram and in a diagnostics centre the average OOP payment for a patient eligible for BBP was 4268 dram (Armstat, 2011a). However, the main OOP expenditure is on pharmaceuticals, which are generally purchased at full cost price. In 2010, on average, spending on pharmaceuticals accounted for 4% (up from 2.3% in 2009) of total household expenditure; average monthly per capita expenditure was 1521 dram for the non-poor, 510 dram for the poor and 190 dram for the extremely poor (Armstat, 2011a). The high level of OOP payments when accessing care means that for many Armenians, seeking health care is considered unaffordable. The Demographic and Health Survey 2010 found that 50% of women who did not seek primary care services when they needed it cited cost as the main factor, while 40% of men did (Armstat et al., 2012).

The high level of OOP payments is the result of a mixture of both formal and informal payments, and the reasons for the persistence of informal payments in the system are complex. However, it is clear that the high levels of OOP expenditure are related to the breadth, scope and depth of cover. In 2009, 18% of the Armenian population was entitled to the BBP; by poverty status this was 55% of the extremely poor, 18% of the poor and 17% of the non-poor (Armstat, 2010). This shows that the BBP does not reliably provide the breadth of cover to those most in need, while 82% of the population were excluded from the nominally universal package of benefits. It is unlikely that the scheme for public purchasing of VHI cover for certain public sector workers will significantly improve the breadth of cover for the population. The restricted scope of services available to the whole population (primary care, emergency care, sanitary-epidemiological services and treatment for 200 socially significant diseases) means that many expensive aspects of health care are not covered – particularly hospital care and outpatient pharmaceuticals. However, underfunding of the BBP as a whole means that the actual depth of cover is also a key factor in explaining the high levels of OOP payments in the system.

OOP payments in the system have remained stubbornly high, but there have been initiatives to strengthen financial protection and improve access to care in some specific areas of the system – notably mother and child health. These initiatives were successful in strengthening financial protection, with OOP payments for paediatric and maternal health services falling sharply following the introduction of the CHSC and OCSC Programmes (Truzyan, Grigoryan & Krajewski-Siuda, 2010; Crape et al., 2011).

7.2.2 Equity in financing

The high share of OOP payments in total health expenditure (57.4% in 2011) is the greatest challenge to equity in health system financing in Armenia. By their very nature, OOP payments are highly regressive as poorer households pay a greater proportion of their income for health services than richer households. State funding for health accounted for 35.8% of total health expenditure in 2011, but a relatively small share of budgetary revenues are raised through direct taxation and indirect taxes are mainly collected at the border (see section 3.3.2). Budgetary funding is, therefore, not as regressive as it would be if it relied on domestically collected final consumption taxes such as VAT, but it is not as progressive as it would be if redistributive income taxation was fully operational.

In this context, the new scheme for purchasing private health insurance cover for civil servants and certain other state-sector workers is not something that will improve equity in financing, indeed it may well have the opposite effect (see section 6.1).

7.3 User experience and equity of access to health care

7.3.1 User experience

Patient satisfaction surveys show relatively high levels of satisfaction with the health system, which has improved over time (Footman et al., 2013). One survey of primary care in two regions found that 78% of respondents considered the care they received to be "excellent" or "good"; however, these high levels of patient satisfaction actually reflect lower expectations rather than better quality (Harutyunyan et al., 2010a, 2010b) (see section 2.9.4). Similarly, women delivering in rural regions were more satisfied with the quality of maternity services they received than women delivering in Yerevan, despite the fact that services and facilities were of better quality in Yerevan (Truzyan, Grigoryan & Krajewski-Siuda, 2010). While some initiatives have improved user experience,

this has been achieved alongside the core aims of the initiative, which was to improve access to and quality of services for mother and child health (Truzyan, Grigoryan & Krajewski-Siuda, 2010; Crape et al., 2011). Waiting times are not a significant feature of the health system in Armenia, as hospitals are underutilized and so do not impact on user experience.

7.3.2 Equity of access to health care

Formally the BBP is uniform across the population with a few vulnerable groups having access to a more generous range of services. However, while self-rated health in Armenia appears to vary little by gender or economic status, since poverty has fallen in the country (Demirchyan, Petrosyan & Thompson, 2012) the utilization of health services is more frequent for non-poor than it is for the poor, which would indicate that there is persistent inequity in access to health care services. In 2010, 88.4% of the total population considered their health to be satisfactory, good or very good while 11.6% rated their health as bad or very bad, with little variation by economic status. Of the non-poor, 12.3% rated their health as bad or very bad, as did 10.1% of the poor and 11.6% of the extremely poor (Armstat, 2011a). However, of the non-poor who had experienced illness in the past 12 months, 41.6% consulted a doctor for advice or treatment, whereas only 30% of the poor did and just 24.1% of the extremely poor did (Armstat, 2011a). There are considerable barriers to accessing health services and the use of services is related to a patient's ability to pay rather than just need. For the poorest quintile, spending on health care services is 19 times lower than the average. Equity in access to services, remains one of the key remaining challenges for policy-makers in Armenia. Surveys conducted in 2001 and 2010 showed no substantial improvement in access to care in Armenia (Balabanova et al., 2004; Balabanova et al., 2012).

7.4 Health outcomes, health service outcomes and quality of care

7.4.1 Population health

Issues with the completeness and level of detail available for cause of mortality in Armenia make the use of amenable mortality as an indicator inappropriate. Overall, life expectancy in Armenia is reasonably high for countries of the former Soviet Union; however, this masks a considerable gender gap and low disability-adjusted life expectancy nationwide (see section 1.4). In 2009, life

expectancy at birth for women was 76.9 years, which was 6.3 years longer than that for men (70.6 years), and the all-cause mortality rate was 55% higher for men than for women. However, the disability-adjusted life expectancy for Armenian women was calculated in 2007 to be just 59.1 years; for men it was 63.1 years (WHO Regional Office for Europe, 2013). Noncommunicable diseases predominate as the main causes of mortality: 51% of total mortality could be attributed to diseases of the circulatory system while 18% could be attributed to cancer (see section 1.4). Lifestyle factors are, therefore, of central importance in determining population health, and tobacco consumption is the key health issue facing the Armenian population. Most Armenian men smoke and even though few Armenian women do, many women and children are exposed to tobacco smoke in the home. In 2003, 60% of total mortality in Armenia could be attributed to smoking-related causes (WHO Regional Office for Europe, 2013).

7.4.2 Health service outcomes and quality of care

Target values for the 2006–2015 National Programme for the Early Detection, Treatment and Prevention of Cervical Cancer in Armenia can be used to reflect the efficiency of both primary care (early detection) and secondary care (early treatment). The target is to halve the cervical cancer mortality rate (from 8.6 per 100 000 women in 2005 to 6.5 in 2010 and 4.3 in 2015) and reduce the proportion of advanced cancer from 47% in 2005 to 23.5% in 2010 and 14.1% in 2015. This is to be achieved in part through the introduction of a screening programme (Pap smear) to cover 50% of the target population in 2010 and 80% in 2015. So far as can be ascertained from data available in the Health for All database, there certainly has been a strong downward trend in cervical cancer deaths in Armenia since the early 2000s, while there has been a very strong growth in the number of new cases of cervical cancer being identified since 2005 (WHO Regional Office for Europe, 2013).

Improvements in infant, maternal and under-5 mortality rates are generally more closely associated with wider improvements in living conditions, but survey data have shown that there have also been demonstrable improvements in antenatal care coverage and maternity care. In 2010, 99% of women saw a health care professional at least once for antenatal care for the most recent birth, compared with 93% in 2005 (Armstat et al., 2012). Regional differences in the proportion of women in labour being attended by a skilled health professional have been less; as a result, while the improvement in the national average is just 2% (from 97% to 99%), in Gegharkunik region the rate increased from 84% to 97% and in Aragatsotn region it increased from 88% in 2005 to 100% in 2010

(Armstat et al., 2012). It is likely that improvements in antenatal care coverage can be directly attributed to the implementation of the OCSC Programme from 2008 (see section 6.1). There is a discrepancy between immunization coverage rates between information collected through the health system and survey data, but both have shown considerable improvements in immunization coverage since 2005 (see section 1.4).

However, a very detailed analysis of health service outcomes and quality of care across the health system is complicated by the weak regulation of health care providers, particularly hospitals, in Armenia. Data such as patient-reported outcome measures are not routinely collected and admission and readmission rates for specific conditions are not collated centrally as quality indicators.

7.4.3 Equity of outcomes

Data and studies on health services outcomes in Armenia cannot yet be meaningfully broken down by socioeconomic group, gender or geographical region.

7.5 Health system efficiency

7.5.1 Allocative efficiency

According to the Armenian Government Programme 2008–2012, the health sector was meant to be a priority within government expenditure policy and primary care was the priority in health spending on the understanding that this would be the most efficient use of scarce resources. However, targets for increasing government expenditure on health as a proportion of GDP were not met (see section 3.1). The *Medium-term Expenditure Framework 2013–2015* seeks to allocate 34.7% of total government health expenditure to financing primary and ambulatory care in 2013, rising to 35.9% in 2014 and 39.6% in 2015 (Government of Armenia, 2012). However, it is not clear that this level of funding will actually go to primary care given that targets for health spending are not always met and the mechanisms for setting priorities on a day-to-day basis are not explicit. It is also less ambitious than previous targets, which projected that the share of expenditure allocated to primary care would increase to 50% by 2015 (Hakobyan et al., 2006).

Hospital care, therefore, continues to dominate the national health system, absorbing 42.3% of the annual budget in 2012, although hospital capacity in terms of the number of facilities and beds in Armenia has fallen considerably since independence, particularly since the late 1990s (see section 4.1). However, the reductions were almost exclusively limited to hospitals outside the capital city. In the early stages of optimisation the estimated savings were largely achieved through closure of small rural hospitals and the reduction of bed numbers in regional and urban hospitals but a significant reduction of excess infrastructure has been achieved since then through mergers and the consolidation of services (see section 4.1). The inpatient system in Yerevan 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. The privatization of hospitals in Yerevan has greatly complicated the consolidation of services in the capital. There has been a significant improvement in productivity indicators at regional hospitals where consolidation was followed by investments in infrastructure.

There are no specific mechanisms for using evidence of effectiveness and cost–effectiveness in priority setting or policy development, although this is something that the Ministry of Health is keen to develop. Risk-adjusted resource allocation formulae are used in paying for primary care services where age is taken into account for per capita payments for enrolled patients; however, more subtle formulae are in development (see section 3.7.1).

7.5.2 Technical efficiency

It is challenging to assess the technical efficiency of the health system in Armenia as many of the data required are either not collected to a sufficient level of detail or are not widely available. Overall total health expenditure as a proportion of GDP or in terms of purchasing power parity is very low, but this does not indicate that the system overall has high levels of technical efficiency. Although the number of acute care beds has fallen consistently since independence, occupancy rates have improved since they reached their lowest point in 2000, at 57.3% in 2010 (see Fig. 4.3a). The average length of stay in acute care hospitals has also halved since 1994 so the improved occupancy rate could reflect either greater efficiency in hospital care or some improvements in access to care, or some combination of the two.

More policy efforts have focused on improving the productivity of primary care doctors through incentive payments and on attempting to build capacity for high-quality generic drug manufacturing to increase the take-up of generic

pharmaceutical products as a more efficient use of resources. However, these efforts aim to improve consumer confidence not just changing prescribing practices as both are essential for generic prescribing to contribute to greater efficiency in pharmaceutical spending (see section 5.6). Pilot projects using bonus payments for primary care doctors encouraged family doctors to provide ongoing care for patients with chronic conditions without referring them to more specialist services. However, overall wages in the health sector remain extremely low (see section 3.7.2). In order to reduce the brain drain and brain waste that contribute to waste in human resources for health, more needs to be done to attract and retain high-calibre health workers, particularly in rural areas.

7.6 Transparency and accountability

Health policy development and implementation vary in the degree to which it is transparent, but there is an increasing trend towards broad stakeholder consultation in policy development even if this does not yet truly extend down to the level of public participation in the process. The shifting nature of the BBP made it hard for patients to know what their entitlements were, but there have been consistent efforts with the development of state certificate programmes to ensure that at least in maternal and child health patients are aware of their benefits and entitlements (see section 6.1). However, the key challenge to greater transparency in the health system is the pervasiveness of informal payments.

The health system does not stand apart from its wider social context because in any country it is a significant part of the economy and a key employer. Informal activities in the Armenian health system, therefore, need to be seen in the context of the wider economy where informal economic activities accounted for 11.2% of GDP in 2008, where tax evasion is the norm and where most of the working population rely on the informal sector for their livelihoods (Armstat, 2012a). However, for health and social care sectors, labour productivity in the informal economy is 11.2 times higher than it is in the formal economy, meaning that most income is earned informally. By contrast, for example, in the construction industry, labour productivity in the formal sector is three times higher than it is in the informal economy. Tackling informality in the system is a great challenge, but experience from the state certificate programmes shows that it is possible to reduce the burden of informal payments in the system, even in Armenia's specific cultural and social context (see section 6.1).

The main focus of recent reform efforts have been around improving the transparency of the health system through tackling informal payments rather than specifically seeking to improve accountability in the system. However, the greater clarity around priorities in the health system afforded by the National Health Strategy will facilitate greater health system performance monitoring, and monitoring progress towards these goals should build even greater capacity for performance monitoring and accountability strengthening in the health system.

8. 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 OOP payments. OOP payments reduce access to essential services for the poorest households and many households face catastrophic and impoverishing household health expenditure. Although the socioeconomic challenges the country faced in the 1990s were eclipsed by strong economic growth from 2000 until the global economic crisis, poverty remains a serious social issue. Even those eligible for the BBP face considerable OOP costs when accessing services. Limits in the BBP mean that many expensive aspects of health care are not covered – particularly hospital care and outpatient pharmaceuticals. By their very nature, OOP payments are highly regressive as poorer households pay a greater proportion of their income for health services than richer households. The high share of OOP payments in total health expenditure (57.4% in 2011) is, therefore, the greatest challenge to equity in health system financing in Armenia.

The success of the state certificate programmes in strengthening financial protection, with OOP payments for paediatric and maternal health services falling sharply, has the potential to guide very real improvements in equity in financing and in access to services. These remain the key challenges for policy-makers in Armenia because, despite the achievements of the state certificate programmes, other sectors are still chronically underfunded. Underfunding of the BBP as a whole means that the *de facto* depth of cover can explain the high levels of OOP payments in the system.

The Armenian health system has also retained an emphasis on inpatient services despite concerted efforts to reform primary care provision. Hospital care continues to dominate the national health system, although hospital capacity in terms of the number of facilities and beds in Armenia has fallen

considerably since independence, particularly since the late 1990s. However, 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. The inpatient system in Yerevan, therefore, remains poorly balanced with an oversupply of capacity and staff, often providing services to patients who would be more appropriately treated elsewhere. This remains a key challenge in improving efficiency of the Armenian health system.

Nevertheless, despite the challenges ahead, the Armenian experience shows that with concerted, well-targeted efforts it has proved possible to reduce informal payments in the health system and thereby improve access to services for the poorest households. The greater clarity around priorities in the health system which will be afforded by the National Health Strategy will facilitate greater health system performance monitoring and monitoring of progress towards health goals; it also has the potential to build even greater capacity for performance monitoring and accountability strengthening in the health system.

9. Appendices

9.1 References

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9.2 Useful web sites

All the below have Armenian, English and Russian language versions:

National Statistical Service of the Republic of Armenia (Armstat)
http://www.armstat.am/

President of the Republic of Armenia official web site
http://www.president.am/

The Government of the Republic of Armenia official web site
http://www.gov.am/

9.3 HiT methodology and production process

HiTs are produced by country experts in collaboration with the Observatory's research directors and staff. They are based on a template that, revised periodically, provides detailed guidelines and specific questions, definitions, suggestions for data sources, and examples needed to compile reviews. While the template offers a comprehensive set of questions, it is intended to be used in

a flexible way to allow authors and editors to adapt it to their particular national context. The most recent template is available online at: http://www.euro.who. int/en/who-we-are/partners/observatory/health-systems-in-transition-hit-series/ hit-template-2010.

Authors draw on multiple data sources for the compilation of HiT, ranging from national statistics, national and regional policy documents, and published literature. Furthermore, international data sources may be incorporated, such as those of the OECD and the World Bank. OECD Health Data contain over 1200 indicators for the 34 OECD countries. Data are drawn from information collected by national statistical bureaux and health ministries. The World Bank provides World Development Indicators, which also rely on official sources.

In addition to the information and data provided by the country experts, the Observatory supplies quantitative data in the form of a set of standard comparative figures for each country, drawing on the European Health for All database. The Health for All database contains more than 600 indicators defined by the WHO Regional Office for Europe for the purpose of monitoring Health 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 Health for All data have been officially approved by national governments. With its summer 2007 edition, the Health for All database started to take account of the enlarged EU of 27 Member States.

HiT authors are encouraged to discuss the data in the text in detail, including the standard figures prepared by the Observatory staff, especially if there are concerns about discrepancies between the data available from different sources.

A typical HiT consists of nine chapters.

1. Introduction: outlines the broader context of the health system, including geography and sociodemography, economic and political context, and population health.
2. Organization and governance: provides an overview of how the health system in the country is organized, governed, planned and regulated, as well as the historical background of the system; outlines the main actors and their decision-making powers; and describes the level of patient empowerment in the areas of information, choice, rights, complaints procedures, public participation and cross-border health care.

3. Financing: provides information on the level of expenditure and the distribution of health spending across different service areas, sources of revenue, how resources are pooled and allocated, who is covered, what benefits are covered, the extent of user charges and other out-of-pocket payments, voluntary health insurance and how providers are paid.

4. Physical and human resources: deals with the planning and distribution of capital stock and investments, infrastructure and medical equipment; the context in which IT systems operate; and human resource input into the health system, including information on workforce trends, professional mobility, training and career paths.

5. Provision of services: concentrates on the organization and delivery of services and patient flows, addressing public health, primary care, secondary and tertiary care, day care, emergency care, pharmaceutical care, rehabilitation, long-term care, services for informal carers, palliative care, mental health care, dental care, complementary and alternative medicine, and health services for specific populations.

6. Principal health reforms: reviews reforms, policies and organizational changes; and provides an overview of future developments.

7. Assessment of the health system: provides an assessment based on the stated objectives of the health system, financial protection and equity in financing; user experience and equity of access to health care; health outcomes, health service outcomes and quality of care; health system efficiency; and transparency and accountability.

8. Conclusions: identifies key findings, highlights the lessons learned from health system changes; and summarizes remaining challenges and future prospects.

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

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

• A rigorous review process (see the following section).

• There are further efforts to ensure quality while the report is finalized that focus on copy-editing and proofreading.

- HiTs are disseminated (hard copies, electronic publication, translations and launches). The editor supports the authors throughout the production process and in close consultation with the authors ensures that all stages of the process are taken forward as effectively as possible.

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

9.4 The review process

This consists of three stages. Initially the text of the HiT is checked, reviewed and approved by the series editors of the European Observatory. It is then sent for review to two independent academic experts, and their comments and amendments are incorporated into the text, and modifications are made accordingly. The text is then submitted to the relevant ministry of health or appropriate authority, and policy-makers within those bodies are restricted to checking for factual errors within the HiT.

9.5 About the authors

Erica Richardson is a Research Officer at the European Observatory on Health Systems and Policies, specializing in health system monitoring for countries of the former Soviet Union.

The Health Systems in Transition reviews

A series of the European Observatory on Health Systems and Policies

The Health Systems in Transition (HiT) country reviews 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.

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Key

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