

Health Systems in Transition

Vol. 12 No. 3 2010

Azerbaijan

Health system review

Fuad Ibrahimov • Aybaniz Ibrahimova
Jenni Kehler • Erica Richardson



Erica Richardson (Editor) and Martin McKee (Series editor) were responsible for this HiT profile

Editorial Board

Editor in chief

Elias Mossialos, London School of Economics and Political Science, United Kingdom

Series editors

Reinhard Busse, Berlin Technical University, Germany

Josep Figueras, European Observatory on Health Systems and Policies

Martin McKee, London School of Hygiene and Tropical Medicine, United Kingdom

Richard Saltman, Emory University, United States

Editorial team

Sara Allin, University of Toronto, Canada

Matthew Gaskins, Berlin Technical University, Germany

Cristina Hernández-Quevedo, European Observatory on Health Systems and Policies

Anna Maresso, European Observatory on Health Systems and Policies

David McDaid, European Observatory on Health Systems and Policies

Sherry Merkur, European Observatory on Health Systems and Policies

Philipa Mladovsky, European Observatory on Health Systems and Policies

Bernd Rechel, European Observatory on Health Systems and Policies

Erica Richardson, European Observatory on Health Systems and Policies

Sarah Thomson, European Observatory on Health Systems and Policies

Ewout van Ginneken, Berlin University of Technology, Germany

International advisory board

Tit Albreht, Institute of Public Health, Slovenia

Carlos Alvarez-Dardet Díaz, University of Alicante, Spain

Rifat Atun, Global Fund, Switzerland

Johan Calltorp, Nordic School of Public Health, Sweden

Armin Fidler, The World Bank

Colleen Flood, University of Toronto, Canada

Péter Gaál, Semmelweis University, Hungary

Unto Häkkinen, Centre for Health Economics at Stakes, Finland

William Hsiao, Harvard University, United States

Alan Krasnik, University of Copenhagen, Denmark

Joseph Kutzin, World Health Organization Regional Office for Europe

Soonman Kwon, Seoul National University, Republic of Korea

John Lavis, McMaster University, Canada

Vivien Lin, La Trobe University, Australia

Greg Marchildon, University of Regina, Canada

Alan Maynard, University of York, United Kingdom

Nata Menabde, World Health Organization Regional Office for Europe

Ellen Nolte, Rand Corporation, United Kingdom

Charles Normand, University of Dublin, Ireland

Robin Osborn, The Commonwealth Fund, United States

Dominique Polton, National Health Insurance Fund for Salaried Staff (CNAMTS), France

Sophia Schlette, Health Policy Monitor, Germany

Igor Sheiman, Higher School of Economics, Russian Federation

Peter C. Smith, Imperial College, United Kingdom

Wynand P.M.M. van de Ven, Erasmus University, The Netherlands

Witold Zatonski, Marie Skłodowska-Curie Memorial Cancer Centre, Poland

Health Systems in Transition

Fuad Ibrahimov, *Abt Associates*

Aybaniz Ibrahimova, *Abt Associates*

Jenni Kehler, *WHO Regional Office for Europe*

Erica Richardson, *European Observatory on Health Systems
and Policies*

Azerbaijan:

Health System Review 2010



The European Observatory on Health Systems and Policies is a partnership between the World Health Organization Regional Office for Europe, the Governments of Belgium, Finland, Ireland, the Netherlands, Norway, Slovenia, Spain, Sweden and the Veneto Region of Italy, the European Commission, the European Investment Bank, the World Bank, UNCAM (French National Union of Health Insurance Funds), the London School of Economics and Political Science, and the London School of Hygiene & Tropical Medicine.

Keywords:

DELIVERY OF HEALTH CARE

EVALUATION STUDIES

FINANCING, HEALTH

HEALTH CARE REFORM

HEALTH SYSTEM PLANS – organization and administration

AZERBAIJAN

© World Health Organization 2010, on behalf of the
European Observatory on Health Systems and Policies

All rights reserved. The European Observatory on Health Systems and Policies welcomes requests for permission to reproduce or translate its publications, in part or in full.

Please address requests about the publication to:

**Publications,
WHO Regional Office for Europe,
Scherfigsvej 8,
DK-2100 Copenhagen Ø, Denmark**

Alternatively, complete an online request form for documentation, health information, or for permission to quote or translate, on the Regional Office web site (<http://www.euro.who.int/en/what-we-publish/publication-request-forms/request-form-for-permission-to-quote>).

The views expressed by authors or editors do not necessarily represent the decisions or the stated policies of the European Observatory on Health Systems and Policies or any of its partners.

The designations employed and the presentation of the material in this publication do not imply the expression of any opinion whatsoever on the part of the European Observatory on Health Systems and Policies or any of its partners concerning the legal status of any country, territory, city or area or of its authorities, or concerning the delimitation of its frontiers or boundaries. Where the designation “country or area” appears in the headings of tables, it covers countries, territories, cities, or areas. Dotted lines on maps represent approximate border lines for which there may not yet be full agreement.

The mention of specific companies or of certain manufacturers' products does not imply that they are endorsed or recommended by the European Observatory on Health Systems and Policies in preference to others of a similar nature that are not mentioned. Errors and omissions excepted, the names of proprietary products are distinguished by initial capital letters.

The European Observatory on Health Systems and Policies does not warrant that the information contained in this publication is complete and correct and shall not be liable for any damages incurred as a result of its use.

Printed and bound in the United Kingdom.

Suggested citation:

Ibrahimov F, Ibrahimova A, Kehler J, Richardson E. Azerbaijan: Health system review. *Health Systems in Transition*, 2010, 12(3):1–117.

Contents

Preface	v
Acknowledgements	vii
List of abbreviations	ix
List of tables and figures	xi
Abstract	xiii
Executive summary	xv
 1. Introduction	 1
1.1 Geography and sociodemography	1
1.2 Economic context	3
1.3 Political context	5
1.4 Health status	6
 2. Organizational structure	 11
2.1 Overview of the health system	11
2.2 Historical background	11
2.3 Organizational overview	13
2.4 Decentralization and centralization	16
2.5 Patient empowerment	16
 3. Financing	 19
3.1 Health expenditure	19
3.2 Population coverage and basis for entitlement	24
3.3 Revenue collection/sources of funds	27
3.4 Pooling of funds	33
3.5 Purchasing and purchaser–provider relations	36
3.6 Payment mechanisms	36
 4. Regulation and planning	 41
4.1 Regulation	41
4.2 Planning and health information management	44

5. Physical and human resources	47
5.1 Physical resources	47
5.2 Human resources	53
6. Provision of services	61
6.1 Public health	61
6.2 Patient pathways	72
6.3 Primary/ambulatory care	73
6.4 Secondary care (specialized ambulatory care/inpatient care)	76
6.5 Emergency care	78
6.6 Pharmaceutical care	79
6.7 Rehabilitation/intermediate care and long-term care	84
6.8 Palliative care	85
6.9 Mental health care	85
6.10 Dental care	87
7. Principal health care reforms	89
7.1 Analysis of recent reforms	89
7.2 Future developments	98
8. Assessment of the health system	99
8.1 The stated objectives of the health system	99
8.2 The distribution of the health system's costs and benefits across the population	99
8.3 Efficiency of resource allocation in health care (across services, across inputs)	101
8.4 Technical efficiency in the production of health care	101
8.5 Quality of care	103
8.6 The contribution of the health system to health improvement	104
9. Conclusions	105
10. Appendices	109
10.1 References	109
10.2 HiT methodology and production process	112
10.3 The review process	114
10.4 About the authors	115

Preface

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

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

- to learn in detail about different approaches to the organization, financing and delivery of health services and the role of the main actors in health systems;
- to describe the institutional framework, the process, content and implementation of health care reform programmes;
- to highlight challenges and areas that require more in-depth analysis;
- 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 profiles poses a number of methodological problems. In many countries, there is relatively little information available on the health system and the impact of reforms. Due to the lack of a uniform data source, quantitative data on health services are based on a number of different sources, including

the European Health for All database, national statistical offices, Eurostat, the Organisation for Economic Co-operation and Development (OECD) Health Data, the International Monetary Fund (IMF), the World Bank and any other relevant sources considered useful by the authors. Data collection methods and definitions sometimes vary, but typically are consistent within each separate series.

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

HiT profiles and HiT summaries are available on the Observatory's web site at www.healthobservatory.eu.

Acknowledgements

The Health Systems in Transition (HiT) profile on Azerbaijan was written by Fuad Ibrahimov, Aybaniz Ibrahimova, Jenni Kehler and Erica Richardson. It was edited by Erica Richardson (European Observatory on Health Systems and Policies). The Research Director for the Azerbaijan Health system review was Martin McKee. The European Observatory on Health Systems and Policies is especially grateful to Viktor Gasimov (Ministry of Health of the Republic of Azerbaijan), and the external reviewers for reviewing the report and for their important contributions.

The authors would like to thank the many individuals who have helped in the preparation of this report including Tahmina Taghi-Zada and the rest of the team at WHO Country Office in Baku. The authors also greatly benefited from the detailed comments, suggestions and information provided by Oktay Akhundov (Health Information and Statistics Department, Ministry of Health); Khagani Rzayev (Social Sector Financing Department, Ministry of Finance); Alakbar Tagiyev, Sultan Aliyev and Adil Karimov (Department of Organization of Health Care, Ministry of Health); Jeyhun Mammadov (Public Health and Reforms Centre); Abulfaz Abdullazadeh (Analytical Expertise Centre for the Quality of Medicines); as well as from support by the Ministry of Health Human Resource, Education and Science Department. However, none of these individuals or organizations is responsible for the authors' interpretation or any remaining errors.

The current series of HiT profiles has been prepared by the research directors and staff of the European Observatory on Health Systems and Policies. The European Observatory on Health Systems and Policies is a partnership between the WHO Regional Office for Europe, the Governments of Belgium, Finland, Ireland, the Netherlands, Norway, Slovenia, Spain, Sweden and the Veneto

Region of Italy, the European Commission, the European Investment Bank, the World Bank, UNCAM, the London School of Economics and Political Science, and the London School of Hygiene & Tropical Medicine.

The Observatory team is led by Josep Figueras, Director, and Elias Mossialos, Co-director, and by Martin McKee, Richard Saltman and Reinhard Busse, heads of the research hubs.

The production and copy-editing process was coordinated by Jonathan North, with the support of Jane Ward (copy-editor), Steve Still (design and layout) and Aki Hedigan (proofreader). Administrative and production support for preparing the HiT on Azerbaijan was provided by Caroline White.

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

The HiT reflects data available in October 2009.

List of abbreviations

AECM	Analytical Expertise Centre for Medicines
AZN	Azerbaijani new manat
CARK	Central Asian republics and Kazakhstan
CIS	Commonwealth of Independent States
DHCP	Department of Health Communication and Public Relations
DOTS	Directly observed treatment, short-course
DTP	Diphtheria-tetanus-pertussis
EU	European Union
FAP	<i>Feldsher-midwife</i> point
GDP	Gross domestic product
HBS	Household budget survey
HIV/AIDS	Human immunodeficiency virus/acquired immunodeficiency syndrome
ICD-10	International Statistical Classification of Diseases and Related Health Problems, tenth revision
IDP	Internally displaced persons
IMF	International Monetary Fund
MDR-TB	Multidrug-resistant <i>tuberculosis</i>
OECD	Organisation for Economic Co-operation and Development
OOP	Out of pocket (payment)
PHRC	Public Health and Reform Centre of the Ministry of Health
SOCAR	State Oil Company of Azerbaijan
SUB	Small village hospital
SVA	Village doctor clinic
TB	Tuberculosis
UNDP	United Nations Development Programme
UNFPA	United Nations Population Fund
UNICEF	United Nations Children's Fund
USAID	United States Agency for International Development
WHO	World Health Organization

List of tables and figures

Tables

Tables		page
Table 1.1	Population/demographic indicators, 1970 to latest available year	2
Table 1.2	Macroeconomic indicators, 1998–2007	4
Table 1.3	Mortality and health indicators, 1990–2007 (selected years)	7
Table 1.4	Main causes of death, all ages, 1990–2007 (selected years)	8
Table 3.1	Trends in health expenditure in Azerbaijan, 2000–2007	22
Table 3.2	Structure of the state budget for health care, 2006–2008	23
Table 3.3	State health programmes, 2007–2009	23
Table 3.4	Government health expenditures by service input, 2006–2009	24
Table 3.5	Unified tariff scale for public sector employees (as of 1 September 2008)	38
Table 5.1	Health personnel employed in the Ministry of Health system by selected categories, 2007	54
Table 5.2	Health care personnel, 1995–2007 (selected years)	56
Table 5.3	Annual enrolment in Azerbaijan Medical University by departments	58
Table 5.4	Annual enrolment in nursing schools by specialties in 2008	60
Table 6.1	National immunization schedule as of January 2009	65
Table 6.2	Summary of specialized and tertiary hospitals in 2007	77
Table 7.1	Major laws and other legislation in the field of population health, 1999–2008	90
Table 7.2	Objectives and activities of the Health Sector Reform Project by health system functions	92

Figures

Figures		page
Fig. 1.1	Map of Azerbaijan	2
Fig. 1.2	Levels of immunization for measles in the WHO European Region, 2008 or latest available year	10
Fig. 2.1	Overview chart on the state health system	12
Fig. 3.1	Financial flows	20
Fig. 5.1	Mix between beds in acute care hospitals, psychiatric hospitals and long-term care institutions per 1000 population, 1995–2007	48
Fig. 5.2	Inpatient care admissions per 100 population, 1990–2007	49

Fig. 5.3	Average length of stay (days), all hospitals, 1990–2007	50
Fig. 5.4	Bed occupancy rate (%) in acute care hospitals, 1990–2007	50
Fig. 5.5	Physicians per 100 000 in Azerbaijan and selected countries, 1990–2007	54
Fig. 5.6	Nurses (physical persons) per 100 000 population in Azerbaijan and selected countries, 1990–2007	55
Fig. 5.7	Distribution of staff across economic regions, per 1000 population, 2007	56
Fig. 6.1	Schematic presentation of drug registration process	81

Abstract

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

Azerbaijan gained independence from the Soviet Union in 1991. Reform of the health care system in Azerbaijan has been incremental so that organizationally it still has many of the key hallmarks of the Soviet model of health care, the Semashko system. However, relatively low levels of government expenditure on health as a proportion of gross domestic product since independence has meant that out of pocket (OOP) payments accounted for almost 62% of total health expenditure in 2007. This has serious implications for access to care and financial risk protection for vulnerable households. The private provision of services is an increasingly important part of the health system, and services provided in parallel by other ministries and state enterprises continue to account for a certain amount of health expenditure.

Revenues from the recent oil boom have been used to fund large capital investment projects such as the building of new hospitals with the latest technology and the import of modern equipment. However, future plans include the strengthening of primary care and the introduction of mandatory health insurance as part of major reforms to the health financing system.

Executive summary

Introduction

Azerbaijan is located in the south Caucasus on the western coast of the Caspian Sea. The country is divided into two parts, the main territory of Azerbaijan and the exclave autonomous republic of Nakhichevan, which are separated by Armenian territory. The country has considerable mineral wealth, including oil and gas reserves. At the beginning of the 20th century, Azerbaijan supplied almost half of the world's oil, and oil has remained central to the country's economy into the 21st century. In 2007, the oil sector accounted for more than 50% of gross domestic product (GDP) and 80% of exports. Azerbaijan has a very stable political environment. President Ilham Aliyev has been in power since 2003 when his father (Heydar Aliyev) stepped down because of ill health after 10 years in power since independence.

The main causes of adult mortality are essentially noncommunicable, with circulatory diseases predominating. Nevertheless, the prevention of communicable diseases, particularly tuberculosis (TB), remains a significant health issue. Reducing the burden of infant and maternal mortality has also been recognized as a key health priority in the country.

Organization and regulation

Azerbaijan inherited an extensive and highly centralized Semashko system at independence, and many of its key features have been retained. The formal structure of the health system is highly centralized and hierarchical and most decisions about key health policy initiatives are made at the national level. The Ministry of Health formally has ultimate responsibility for the management of the health system, but it has limited means to influence health care providers at the local level as they are financially dependent on the local district health authorities or the village authorities for smaller rural services. The district

authorities and the administration of the central district hospital have direct managerial responsibilities for health providers in their area. There is also considerable parallel health service provision outside the influence of the Ministry of Health, as providers are subordinated to and financed through other line ministries or state enterprises. The private sector is licensed by the Ministry of Health but is otherwise completely independent, and private service provision is a growing feature of the system.

Financing

Despite significant increases in public health expenditure in recent years, Azerbaijan is still characterized by relatively low levels of public health expenditure both in absolute terms and as a share of GDP. The burden of financing health care is on the health care users, with OOP expenditure reaching almost 62% of total health spending in 2007 (World Health Organization, 2009). Public health funding comes primarily from general government revenues, which includes money from the State Oil Fund. Formal user charges were allowed in public facilities until early 2008 when this practice was outlawed.

Much of the public funding for health is under the control of district authorities, which finance the network of primary and secondary health facilities in their jurisdictions. The central budget is implemented by the Ministry of Health, which funds republican tertiary health facilities, vertical state health programmes (mainly covering the centralized purchase of drugs and equipment for certain health conditions such as diabetes, hereditary blood diseases, cancer and others), as well as the Sanitary-Epidemiological Service. Since 2007, all Baku city health facilities are also funded through the Ministry of Health.

The vast majority of health providers are state owned, although the private sector has been flourishing in recent years, providing a growing share of health services especially in the capital. The payment mechanisms for the state-owned providers are based on inputs (beds, staffing), which does not foster the efficient use of resources. Moreover, the government, through the treasury system, controls how the money is spent within the health facilities by applying strict limitations for spending along budget line-items, which leaves health providers with little managerial and financial autonomy. To overcome these difficulties, the Ministry of Health and the Ministry of Finance have agreed on new health financing reforms that will centralize funds and make room for greater provider autonomy and the introduction of contracting as the basis for

new payment mechanisms, such as per capita payments in primary care and case-based payments for hospitals. These reforms will underpin the proposed introduction of mandatory health insurance.

Regulation and planning

Regulation and governance by the Ministry of Health is focused on the development of norms, such as national standards for the quality and volume of health services that should be provided. There is licensing for health facilities in the private sector, but no licensing or accreditation for facilities in the state sector regardless of whether they are under the control of the Ministry of Health or parallel state structures. Norms and standards for safety and infection control are enforced by the Sanitary-Epidemiological Service under the Ministry of Health.

The Ministry of Health and the Ministry of Finance formally undertake health planning. Besides preparation of a National Master Plan for optimizing the network of health facilities, planning has been dominated by discussions about major capital developments focused on diagnostic facilities and high-technology investments.

Physical and human resources

Azerbaijan inherited an extensive network of health facilities both in the hospital and the ambulatory sector, and the excess capacity has been retained. However, Azerbaijan also has a very low admission rate, which may indicate access problems. Coupled with this and the overcapacity, there is a very low bed occupancy rate, which has fluctuated around 25–30% since the late 1990s. In recent years, the government has started to allocate increasing resources for capital investment, primarily for the renovation or building of hospitals and for new expensive diagnostic equipment. The health infrastructure in Azerbaijan suffered significantly from a very low level of capital investment through the 1990s.

The number of doctors per capita has fallen since independence – most rapidly in the late 1990s – and there has been a significant reduction in the number of nurses per capita. The Ministry of Health has found it difficult to obtain the right mix of medical specialties in the state sector and an adequate geographical distribution of staff. Recruitment and retention of medical staff in rural areas

are long-standing issues, and the flourishing private sector in Baku has also attracted many experienced health care professionals, thus draining the public sector.

Provision of services

In cities and district centres, primary care is delivered through paediatric and adult polyclinics, while antenatal and reproductive care services are provided by female consultation centres. In rural areas, primary care is provided through *feldsher-midwife* points (FAP), village doctor outpatient clinics (*selskaya vrachetnaya ambulatoriya-SVA*) and outpatient departments of small village hospitals (*selskaya uchastkovaya bolnitsa-SUB*). In primary care, reform efforts have focused on the development and institutionalization of family medicine. The family medicine model will be implemented first in rural areas after a series of pilot projects.

In urban areas, inpatient care is provided by city hospitals, which provide a wide range of specialist services. In each rural district, inpatient care is provided by the network of SUBs and a bigger central district hospital that acts as a referral centre for the entire district and provides a broad range of secondary care services. There is also a network of specialized clinics in every region, which are parts of vertically integrated national systems typically led by tertiary-level specialized scientific research institutes, all of which are located in Baku.

The Ministry of Health has developed optimization plans for each district, which envisage the closure of most SUBs, transforming them into primary care centres (doctor and medical points). Many specialized clinics will also be merged with central district hospitals to form a single multi-profile secondary inpatient facility in each district in order to achieve greater efficiency in resource allocation.

Principal health care reforms

The overall approach to reform implementation in Azerbaijan has been based on incremental change and the preservation of those features of the existing Semashko system that proved functional. The country's political environment, with an emphasis on social stability and political harmony, and the absence of strong opposition were also not favourable for radical changes. Successes thus far have been confined to specific areas, such as the establishment and

institutionalization of evidence-based medicine in the development of national clinical guidelines, the development of family medicine as a specialty, the strengthening of pharmaceutical regulation and the development of a formulary system for rational drug use.

The policy discussions about deeper systemic health reforms were renewed in 2005. Among the first steps in this area was the development of a new concept for health reforms in 2006. In 2008, the Concept on Health Financing and Introduction of Mandatory Health Insurance was drafted by the Ministry of Health and approved by the President. In 2009, the Cabinet of Ministers approved the Action Plan to Introduce Health Financing Reforms.

Assessment of the health system

The high level of OOP payment relative to prepaid government funds indicates that health revenue collection remains predominantly regressive. The lack of risk pooling in direct payments means that many households are under threat of catastrophic health care costs in the face of serious illness. Household surveys indicate that health services utilization among low-income groups was lower than among richer households, suggesting that the utilization of health services is related to socioeconomic status more than need.

Since state funding accounts for approximately a third of total health care expenditure, only part of resource allocation can be steered by the government, but the current allocation of resources for health care favours the hospital sector over primary care. International evidence suggests that this is not the most efficient allocation of resources. Similarly, the reliance on high-cost diagnostics as standard and the weak gatekeeping function of primary care providers would indicate, on the basis of international experience, that the current system does not provide good value for money.

Azerbaijan is a resource-rich country that has the real financial potential to provide its citizens with equal access to good-quality and efficient health services, while protecting them from the risk of catastrophic health expenditures. This would appear well understood by those in power, as evidenced by the recent push towards more fundamental health financing reform. While increasing the level of budget allocations to the health sector is necessary, it is insufficient by itself to resolve the situation. Concurrently, the health system needs to increase and demonstrate its capacity to use the money in a prudent and transparent manner.

1. Introduction

1.1 Geography and sociodemography

Azerbaijan is located on the western coast of the Caspian Sea to the south of the Caucasus Mountains and is bordered by Armenia, Georgia, the Russian Federation, Turkey and the Islamic Republic of Iran (Fig. 1.1). Azerbaijan is divided into two parts, the main territory of Azerbaijan and the exclave autonomous republic of Nakhichevan, which are separated by Armenian territory. Approximately half the territory of Azerbaijan is mountainous, but in the south there are flat lands, many parts of which are below sea level. The country has considerable mineral wealth, including oil and gas reserves. At the beginning of the 20th century, Azerbaijan supplied almost half of the world's oil, and oil has remained central to the country's economy into the 21st century.

The population of Azerbaijan was 8.58 million in 2007, with approximately half living in urban areas (see Table 1.1). The majority of the population is Muslim but the state is secular and other religions practised include Russian Orthodoxy and Armenian Orthodoxy. The state language is Azeri, which is linguistically very close to Turkish, and Russian is also widely spoken as a Soviet legacy. According to the last published census (held in 1999; the next was undertaken in 2009), 90.6% of the population were ethnic Azerbaijani, 2.2% were Lezgins, 1.8% were Russians, 1.5% were Armenians and the remaining 3.9% was made up of other minority groups including Avar, Talysh, Turkish, Georgian and Tatar. However, demographic estimates are somewhat imprecise because of the population displacement resulting from the war with Armenia. According to official estimates, there are nearly one million refugees and internally displaced persons (IDPs) in Azerbaijan, which constitute the most marginalized stratum in society (United Nations Development Programme, 2007).

Fig. 1.1
Map of Azerbaijan



Source: United Nations (2008).

Table 1.1
Population/demographic indicators, 1970 to latest available year

	1970	1980	1990	2000	2005	2007
Total population (millions)	5.17	6.16	7.02	8.05	8.39	8.58
Women (% of total population)	51.5	51.3	51.2	51.1	50.8	50.7
Aged 0–14 years (% of total population)	–	–	33.2	30.3	25.0	23.5
Aged ≥65 years (% of total population)	–	–	4.8	5.8	7.0	7.0
Average annual population growth rate (%) ^a	2.2	1.5	1.0	0.8	1.0	0.8
Population density (per km ²) ^a	–	–	87	97	102	104
Fertility rate, total (births per woman) ^a	4.7	3.2	2.7	2.0	2.0	2.0
Birth rate, crude (per 1000 population)	–	–	26.0	14.5	16.9	17.7
Death rate, crude (per 1000 population)	–	–	6.1	5.8	–	5.9
Age-dependency ratio	–	–	0.6	0.6	0.5	0.4
Distribution of population (% urban population)	50.1	53.0	53.8 (1989)	51.9	51.5	–
Literacy rate (% in population aged 15+ years)	–	–	97.0 (1999)	97.0 (1999)	98.8 (2006)	–

Sources: WHO Regional Office for Europe, 2009; ^aWorld Bank, 2009.
Note: Age-dependency ratio is the ratio of the population aged 0–14 and 65+ years to the population aged 15–64 years.

After a brief period of independence, Azerbaijan became part of the Soviet Union as a member of the Transcaucasian Soviet Federated Socialist Republic in 1922 and, after its dissolution in 1936, a separate Soviet Socialist Republic. As a member of the Soviet Union, the country underwent a process of fundamental economic and political change, including intensive industrialization and the collectivization of agriculture alongside the expansion of health care and education systems. Towards the end of the Soviet Union, in the late 1980s, tensions surfaced between Armenia and Azerbaijan, centred on the territory of Nagorno-Karabakh, which had been created as an autonomous territory within Azerbaijan in 1923. In 1988, ethnic Azerbaijanis began to leave the Nagorno-Karabakh region of Azerbaijan and Armenia and many ethnic Armenians left Azerbaijan. Inter-ethnic conflict intensified rapidly alongside a growing independence movement in Azerbaijan. The republican authorities in Azerbaijan declared independence on 18 October 1991, and leaders in the Nagorno-Karabakh region of Azerbaijan declared independence in the same year, leading to further hostilities and a full-scale war in 1992. After two years of armed conflict and the mass displacement of hundreds of thousands of people, a ceasefire accord was signed between Azerbaijan and Armenia in 1994 (Holley et al., 2004). However, the conflict remains unresolved and the Nagorno-Karabakh region is not under the control of the central Azerbaijani state; 20% of the country's territory is occupied by Armenian troops (Kara, 2007; United Nations Development Programme, 2007).

1.2 Economic context

The collapse of the Soviet Union had a major impact on economic and social indicators in Azerbaijan. Intense political, military and financial turmoil in the early years of independence, along with the inefficient remains of the Soviet-era state systems, prevented the implementation of reforms in most areas and made the prospect of swift economic prosperity almost impossible. However, Azerbaijan's growth rate boomed, with substantial increases in the global price of oil at the turn of the 21st century.

Oil and gas exports are central to the Azerbaijani economy, and production and exports have increased rapidly since the end of the 1990s, primarily as a result of developing offshore fields and the opening of the new Baku–Tbilisi–Ceyhan pipeline with significant investment by multinational oil companies. The involvement of a consortium of multinational oil companies was sealed in the 'Contract of the Century', which was signed in 1994 after

over three years of negotiations. As oil accounts for approximately 80% of total exports, the increases in gross domestic product (GDP) per capita since the late 1990s (see Table 1.2) is a reflection of the increasing value of oil to the Azerbaijani economy (O’Lear, 2007). Despite considerable investment from multinational companies in Azerbaijan’s oil and gas industries, there has been much less foreign direct investment in other branches of the economy, such as agriculture or manufacturing, which are still predominantly state owned as initial privatization efforts stalled in the early 1990s owing to the prevailing socioeconomic conditions. In 2007, the oil sector accounted for more than 50% of GDP.

Table 1.2

Macroeconomic indicators, 1998–2007

	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007
GDP (current US\$, millions)	4 446	4 581	5 273	5 708	6 236	7 276	8 680	13 245	20 982	31 248
GDP, PPP (current international \$, millions)	14 370	15 620	17 732	19 952	22 459	25 507	28 916	37 731	52 347	67 172
GDP per capita (constant LCU)	560	596	657	716	786	868	948	1 186	1 578	1 956
GDP per capita, PPP (current international \$)	1 812	1 957	2 203	2 460	2 748	3 098	3 481	4 496	6 170	7 851
GDP average annual growth rate (%)	10.0	7.4	11.1	9.9	10.6	11.2	10.2	26.4	34.5	25.0
Distribution of earnings (Gini coefficient) ^a	0.46	–	0.51	0.50	0.51	–	–	–	–	–
Value added in industry (% GDP)	36	41	45	47	50	53	55	64	69	73
Value added in agriculture (% GDP)	19	19	17	16	15	13	12	10	8	6
Value added in services (% GDP)	45	40	38	37	35	34	33	27	24	21
Labour force (total, millions)	3.4	3.5	3.6	3.7	3.8	3.9	4.0	4.0	4.1	4.3
Unemployment, total (% labour force)	–	–	–	12.8	10.7	–	–	–	–	–
Official exchange rate (LCU per US\$)	0.8	0.8	0.9	0.9	1.0	1.0	1.0	0.9	0.9	0.9
Real interest rate	–	17.0	6.4	16.8	13.8	8.9	6.8	0.8	5.9	4.1

Sources: ^aUNICEF Innocenti Research Centre, 2008; World Bank, 2009.

Notes: PPP: Purchasing power parity; LCU: Local currency unit; international dollar: a hypothetical unit of currency that had the same purchasing power as that of the US\$ in the United States at that given point in time.

To help to manage the wealth created by the most recent Azerbaijani ‘oil boom’, the government established the State Oil Fund (SOFAZ) in 1999. The Fund allows for some offshore investment and cushions the national currency from external shocks; however, oil and gas revenues are seen not only as distributive instruments but also as key to the development strategies advocated by the government and the opposition parties (Kara, 2007). The distribution of these funds is important as oil wealth has not been distributed evenly across the country: wages in the oil sector and allied industries have risen rapidly (boosting inflation), while wages for those working in the social sector have remained relatively low. Increasing income inequality is reflected in the Gini coefficient of 0.51 in 2002, where 0 would represent perfect equality and 1 would represent perfect inequality (see Table 1.2). In 2007, 16% of the population was deemed to be living below the officially endorsed absolute poverty line, which is defined as the cost of a minimum consumption basket and is calculated on the basis of per capita monthly minimum consumption norms. This is a reduction of more than half from 45% in 2003, according to official figures and is low for the Caucasus region (MDG Monitor, 2008).

1.3 Political context

Azerbaijan is a Presidential Republic; its constitution was adopted by referendum on 12 November 1995. President Ilham Aliyev has headed the executive branch since 31 October 2003, succeeding his father Heydar Aliyev, who had been president since 1993. The president is elected by popular vote for a five-year term; elections were last held on 15 October 2008 and saw Ilham Aliyev re-elected for a second term. The head of the executive, currently Prime Minister Artur Rasizade, is appointed by the president and confirmed by the National Assembly (*Milli Mejlis*), as is the Cabinet of Ministers. The National Assembly has 125 members elected for a five-year term; since reforms in 2002, members are elected by a majority vote rather than by proportional representation. This change has served to consolidate the position of the larger parties, and in the most recent parliamentary elections, 200 candidates from 48 parties or blocs contended for the 125 seats; the ruling New Azerbaijan Party (YAP) retained its control of the National Assembly with a reduced majority, and the next biggest ‘group’ were the self-proclaimed independent candidates (Kara, 2007).

Health care legislation is enacted by both primary and secondary legislation, but active enforcement is not ensured. The Ministry of Health is the body with most influence over health policy-making; other interest groups have little impact. Local authorities have significant responsibilities in the delivery of health services, and some tax-raising powers with relation to local businesses, but the state health system is highly centralized and private service providers are regulated at the national level (see Section 2.3 *Organizational overview*).

Azerbaijan is a full member of several international organizations relevant for health, including the United Nations, the Council of Europe (since 2001), the Commonwealth of Independent States (CIS) and the Organization for Security and Co-operation in Europe. The country also has observer status with the World Trade Organization. Azerbaijan has ratified most major international treaties which have an impact on health, including the Convention on the Rights of the Child (United Nations General Assembly, 1989) and, in 2002, the European Human Rights Convention (Council of Europe, 1953). The government has also adopted Millennium Development Goals as their long-term poverty reduction goals. In the 2008 Global Corruption Report, Azerbaijan scored 1.9 on the Corruption Perception Index, where 10 would be a country with no perceived corruption. The score on the Index for 2007 was 2.1, indicating that corruption levels have been increasing, which is cause for serious concern as corruption can be a significant source of inefficiency and inequity in health systems (Transparency International, 2008).

1.4 Health status

As standard, the Health Systems in Transition reports use data available through the European Health for All database; this, in turn, is compiled from data supplied to the World Health Organization (WHO) by national governments using standardized reporting procedures. Where such data are available they have been included below, but there are certain caveats to using data based on official statistics in Azerbaijan, and where necessary, complementary data sources have also been used. The main source of mortality data is through the civil registration system, which records the vital statistics for the country. In theory, the International Statistical Classification of Diseases and Related Health Problems, tenth revision (ICD-10) (World Health Organization, 1992) is applied as standard in recording the cause of death, but there is some problems with the full implementation of ICD-10 nationwide as health providers and health statistics offices often lack adequate training or the relevant manuals

for classification and coding of cases (Katsaga and Kehler, 2008). There are significant discrepancies between data collected through the civil registration system (which captures 70–89% of all deaths occurring) and data collected through the Ministry of Health Department of Information and Statistics, such as the annual number of births and deaths (Katsaga and Kehler, 2008).

The Azerbaijan Demographic and Health Survey of 2006 is a nationally representative population-based survey conducted according to the internationally accepted methodology for such surveys. The findings in 2006 on infant mortality differed significantly from official rates. While discrepancies in data collected from different sources is not unusual, the size of differences between population-based survey data and those collected through routine reporting channels do call into question the reliability of routine statistical data. There is evidence to suggest that the managers of health facilities are under pressure to avoid reporting ‘negative’ statistics, particularly those relating to maternal and child health, which could account for this discrepancy; in addition, WHO criteria for defining a live birth have not been fully implemented nationwide (Katsaga and Kehler, 2008). Officially, infant mortality fell in the period from 1995 to 2007, from 24.3 to 9.8 deaths per 1000 live births (see Table 1.3), which is relatively low compared with the CIS average of 12.8 in 2006 (WHO Regional Office for Europe, 2009). However, the Azerbaijan Demographic and Health Survey 2006 found infant mortality to be 43 per 1000 births based on the international classification of live births and 23 per 1000 live births if the ‘Soviet classification’ was applied (State Statistical Committee of the Republic of Azerbaijan and Macro International, 2008).

Table 1.3

Mortality and health indicators, 1990–2007 (selected years)

	1990	1995	2000	2004	2007
Life expectancy at birth, female (years)	75.3	73.4	74.4	75.1	76.3
Life expectancy at birth, male (years)	67.1	65.4	68.7	69.9	71.3
Life expectancy at birth, total (years)	71.4	69.5	71.6	72.5	73.8
Mortality rate, female (per 1000 female population)	7.6	8.6	8.8	8.6	8.0
Mortality rate, female < 65 years (per 1000 females < 65)	3.2	3.5	2.9	2.7	2.3
Mortality rate, male (per 100 male population)	12.9	14.4	12.7	12.0	11.0
Mortality rate, male < 65 years (per 1000 males < 65)	6.3	7.1	5.5	5.0	4.4
Infant deaths (per 1000 live births)	22.9	24.3	12.8	12.0	9.8
Probability of dying before 5 years of age (per 1000 live births)	41.1	39.6	24.4	19.6	14.5

Source: WHO Regional Office for Europe, 2009.

Improving the reliability of health data has been widely recognized as central to the development of priority health programmes (such as those targeting mother and child health). Consequently, the Ministry of Health has been focusing on a number of efforts to improve vital statistics and mortality data, and ongoing efforts to improve the situation will be combined with other plans in a National Integrated Health Information System Concept, which was under development at the time of writing. Data included in the Health for All database show that the three main causes of mortality in Azerbaijan in 2007 were circulatory diseases (551.6 per 100 000 population), cancer (87.4) and digestive diseases (60.4); unlike other countries of the CIS, deaths from external causes were not shown to be a major cause of mortality (see Table 1.4). However, it is not clear how the unprecedented reduction in deaths from transport accidents, to 1.1 per 100 000 population in 2007, the lowest in the WHO European Region in that year, was achieved. Hence it raises questions on the quality of mortality data.

Table 1.4

Main causes of death, all ages, 1990–2007 (selected years)

Main causes (ICD-10 classification)	Deaths, all ages (per 100 000)				
	1990	1995	2000	2004	2007
I Communicable diseases					
Infectious and parasitic diseases (A00–B99)	25.0	34.2	23.3	16.4	–
TB (A17–A19)	11.7	21.4	17.9	11.8	–
II Non communicable diseases					
Circulatory diseases (I00–I99)	565.6	646.5	656.3	633.8	551.6
Malignant neoplasms (C00–C97)	120.7	106.9	105.4	115.5	87.4
Trachea/bronchus/lung cancer (C33–C34)	19.1	15.5	15.7	17.5	9.8
Respiratory diseases (J00–J99)	88.5	106.0	79.4	61.0	–
Digestive diseases (K00–K93)	49.4	60.5	59.8	60.8	60.4
III External causes (V01–Y89)					
Transport accidents (V01–V99)	16.1 (1991)	10.5	6.7	4.6	1.1
All external causes, injury and poisoning	52.5	52.8	29.7	26.1	28.6
IV Symptoms, signs and ill-defined conditions	17.7	29.2	32.5	36.8	70.8

Sources: World Health Organization, 1992; WHO Regional Office for Europe, 2009.

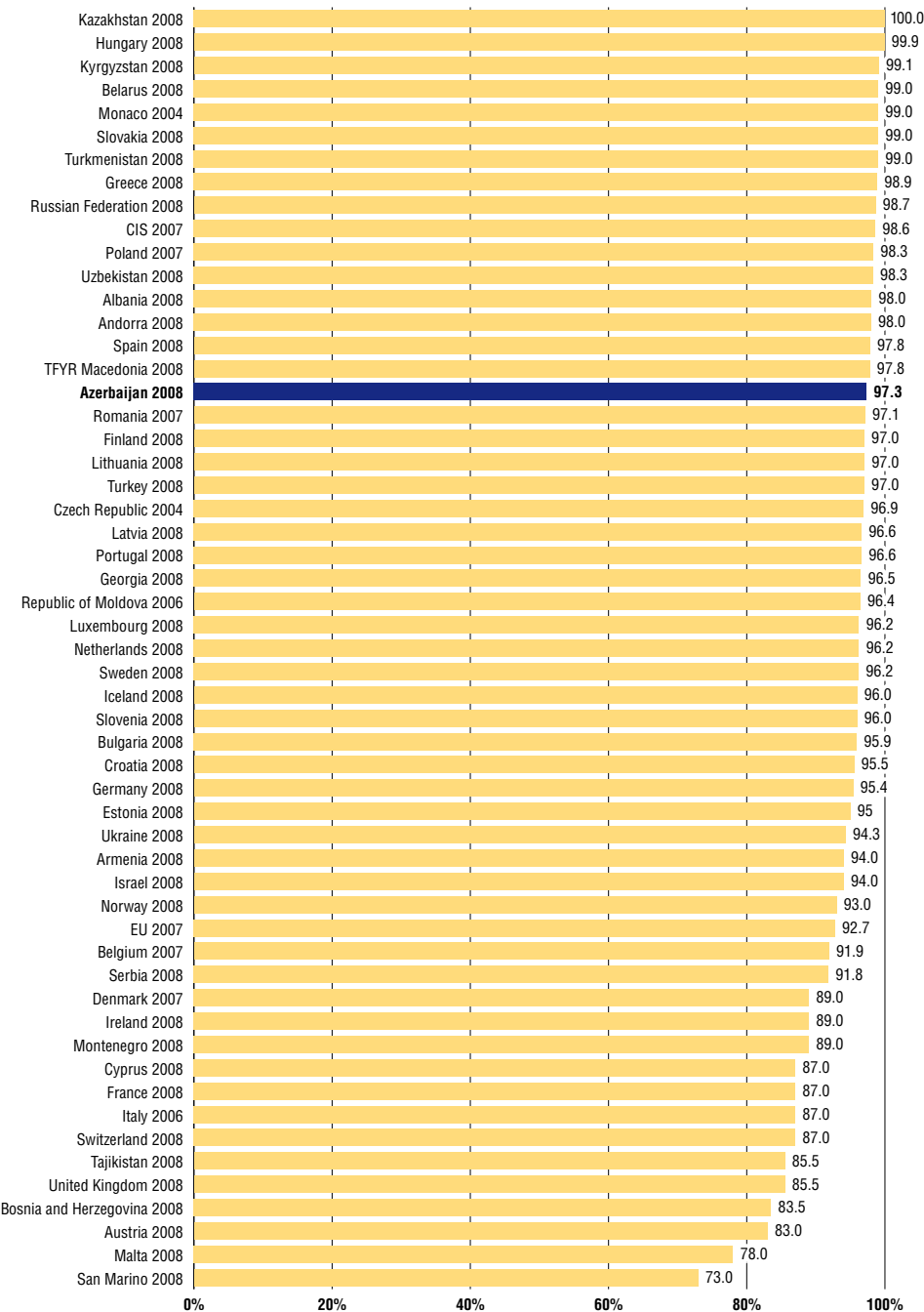
The Azerbaijan Demographic and Health Survey of 2006 included blood pressure readings for the representative study sample and found 16% of women aged 15–49 and 17% of men aged 15–49 were hypertensive. Nearly one-third of men and women over 40 years of age were found to be hypertensive, which would indicate that it is a serious health issue in Azerbaijan, although most respondents with high blood pressure were unaware that they were

hypertensive (State Statistical Committee of the Republic of Azerbaijan and Macro International, 2008). The same survey found that almost half of the men aged 15–59 years were smokers; women were not asked about their tobacco consumption.

Officially, Azerbaijan has comparatively high vaccination coverage rates for measles, with 97.3% coverage in 2008 (Fig. 1.2). In 2008, the rates were similarly high for tuberculosis (TB; 98.2%), Diphtheria-tetanus-pertussis vaccine (DTP; 95%) and polio (97.5%) (WHO Regional Office for Europe, 2009); however, such high rates may reflect that the number of neonates in the denominator is underestimated. The 2006 Azerbaijan Demographic and Health Survey found that just 60% of children aged 18–29 months had received all the basic WHO-recommended vaccinations at the date of interview, while 13% had not received any vaccinations (State Statistical Committee of the Republic of Azerbaijan and Macro International, 2008). A dropout rate of 10% between the first and third doses was found for both DTP and polio vaccination (State Statistical Committee of the Republic of Azerbaijan and Macro International, 2008). Full details of the immunization programme are given in Section 6.1.

Although the main causes of mortality in Azerbaijan are essentially noncommunicable, prevention of communicable diseases is a significant health issue, particularly in relation to TB as rates of multiple drug resistant TB (MDR-TB) are among the highest in Europe (see Section 6.1 *Public health*). Azerbaijan was also one of the countries affected by the virulent H5N1 strain of avian influenza in 2006, which was introduced via migrating wild birds. The outbreak was successfully contained, but there were eight confirmed cases and five of these were fatal (World Health Organization, 2006).

Fig. 1.2
Levels of immunization for measles in the WHO European Region, 2008 or latest available year



Source: WHO Regional Office for Europe, 2009.

2. Organizational structure

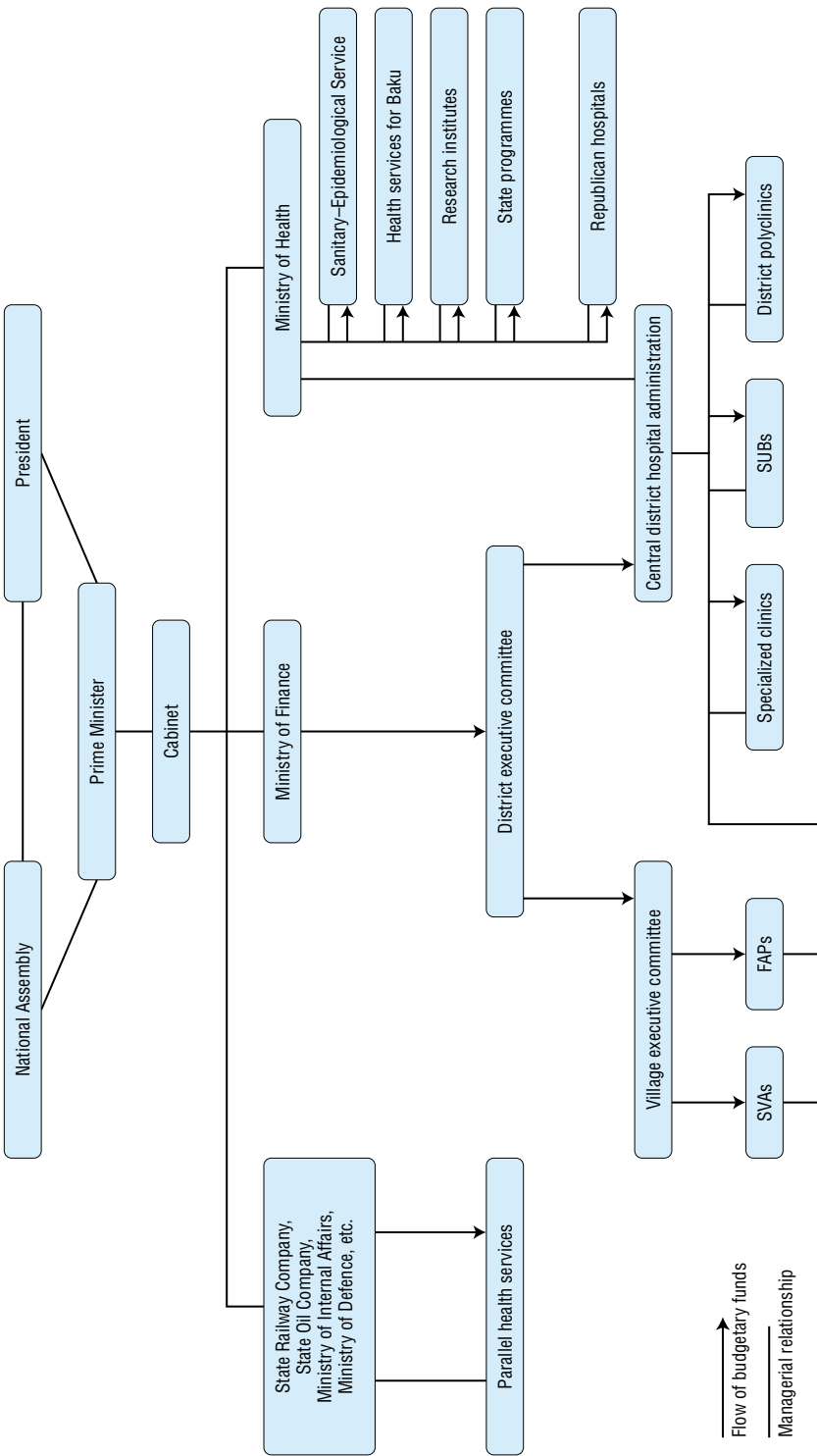
2.1 Overview of the health system

The formal structure of the health system in Azerbaijan is highly centralized and hierarchical, and most decisions about key health policy initiatives are made at the national level. The Ministry of Health formally has ultimate responsibility for the management of the health system, but it has limited means to influence health care providers at the local level as they are financially dependent on the local district health authorities or the village authorities. The district authorities and the administration of the central district hospital have direct managerial responsibilities for health providers in their area. The considerable parallel health service provision is also outside the influence of the Ministry of Health, as providers are subordinated to and financed through the relevant line ministry. The private sector is licensed by the Ministry of Health but is otherwise completely independent; it is not included in Fig. 2.1 which represents just the state health system.

2.2 Historical background

The Soviet Semashko system sets the context for the health system in Azerbaijan as the country inherited this model health system from its membership of the Soviet Union. The Semashko system was organized around the guiding principle of universal access to health care free at the point of use. It was a tax-based system with highly centralized planning of resources and personnel based on a hierarchy of facilities at the district, regional, republican and all-union levels. All health care workers were employed by the state, and private practice was not allowed. Care was focused on inpatient treatment and, consequently, primary care was very weak. There was an emphasis on the continuous expansion of staff and facilities and an extensive system of parallel health services, which

Fig. 2.1
Overview chart on the state health system



Notes: FAP: Feldsher-midwife point; SUBs: Small village hospitals; SVA: Village doctor outpatient clinic.

were attached to large industrial enterprises and certain ministries. The extensive coverage and universal access to free care meant that the Semashko system was equitable, despite qualitative differences in provision between geographical regions and mainstream and parallel health services. However, it was also inefficient and resource intensive – particularly in the reliance on inpatient care. Moreover, while the Semashko system proved reasonably effective in the control of communicable diseases, with the epidemiological shift towards a noncommunicable disease burden, the system was insufficiently flexible and primary health care and health promotion too weak to enable the control of such diseases, which predominated towards the end of the Soviet era (Figueras et al., 2004).

Until independence in 1991, the Ministry of Health in Azerbaijan simply administered policies that had been initiated in Moscow, as part of a centrally planned system managed through a hierarchical structure. Following independence in 1991, the health system faced increasingly serious economic challenges in financing the inherited extensive services. Quality and access to services deteriorated and the combination of inherited rigidities and limited managerial capacity made change difficult. The current organizational structure of the health system retains many of the key features of a Semashko system and faces many of the same key challenges. The focus on hospital provision has persisted despite intentions to reorientate the system in favour of primary care. While universal access to the health system was a key feature of the Semashko model, severe lack of funding and the resultant out of pocket (OOP) payments by patients have effectively reduced access to health care for large sections of the population. The situation has been exacerbated by the disruptions to inherited systems of pharmaceutical and equipment supply following the breakdown of trading relations after independence. The government has tried to address some of these issues with a number of pilot schemes as part of a substantial health reform project that focuses on developing primary care and promoting the efficient use of resources. The development of a mandatory social health insurance scheme is also being discussed (see Chapter 7).

2.3 Organizational overview

The overall structure of the health system in Azerbaijan reflects the inherited Soviet Semashko system, but as in other smaller former Soviet republics, there is no *oblast* (region/province) tier between the national (Republican) level and

the district (*rayon*) level. Most services are still provided by state structures, but there is a growing private sector and a considerable amount of services are provided in parallel via line ministries.

Ministry of Health

The Ministry of Health owns the central institutions and the tertiary level (Republican) hospitals, research institutes and the Sanitary-Epidemiological Service; funding for these facilities comes through the Ministry of Health from the Ministry of Finance. The Ministry of Health is represented at the local level through the district health authorities. Since 2006, the Ministry of Health has also been responsible for the direct management and financing of services provided in the capital, Baku. Within the Ministry, each head of department develops policies within their own sphere on an ad hoc, often reactive, basis.

Local governments and health authorities

Local governments own the district hospitals, polyclinics and specialized clinics (*dispanser*), and state funding for these providers comes from the local government budget through the district health authority. District health authorities are subordinated to the Ministry of Health in matters of health policy, although they are financially dependent on local governments (Fig. 2.1). Each district health authority is also the administration for the central district hospital, so the chief doctor of the local hospital is in charge of all health services in the area – polyclinics, specialized clinics, village hospitals and *feldsher-midwife* points (FAP) (see Section 6.3 *Primary/ambulatory care*).

Ministry of Finance

The Ministry of Finance defines the annual health budget (in collaboration with the President and National Assembly) and then allocates funds to the Ministry of Health for services under its control and to local governments for services provided at the district level.

Parallel providers in industry and line ministries

The following ministries and enterprises run parallel health services for their current and former employees: Ministry of National Security, Ministry of Defence, Ministry of Internal Affairs, Ministry of Justice, State Customs Committee, State Oil Company (SOCAR), State Caspian Shipping Company

and State Railway Company. It is estimated that they serve approximately 5% of the population (Holley et al., 2004). Excess capacity in some of the parallel hospitals is used for private practice.

Private sector

There has been only limited privatization in the health system. In 2003, the government privatized approximately 350 health care facilities (mainly dental practices and pharmacies). However, there has been a considerable growth in private service providers that cater for those who have profited from the recent oil boom. A wide range of services are provided in private hospitals and clinics, which are mainly located in Baku. Oncology services can only be provided in state hospitals, but otherwise private providers are entitled to include any other services and make their decisions on the basis of the relative profitability of different fields. Private providers also contract with the multinational companies operating in Azerbaijan for occupational health services and to provide services for workers with private health insurance.

International partners

International partners were particularly important in providing services to the large groups of IDPs, who otherwise had problems with accessing services. By 2008, almost all of the IDP camps had been closed and the former residents moved to new settlements. International partners have also played a significant role in assisting the Ministry of Health with developing and piloting different approaches to health care reform.

Non governmental organizations

Domestic non governmental organizations are not strong players in the health field, but they are growing in size and influence. There are a number of disease-specific support groups who lobby on behalf of their members (such as the League of Diabetics) and the Consumers Union does also cover patients as consumers of health services. There are also some professional associations for different groups of clinicians (such as pulmonologists and psychiatrists), but they do not have a significant impact on health policy and planning. The key source of domestic non-state funding for health initiatives is the Heydar Aliiev Fund, which is named after the late President and managed by his daughter-in-law, the First Lady. The Fund has backed a number of health-related projects; present work has focused on screening and treatment of thalassaemia.

2.4 Decentralization and centralization

The health system in Azerbaijan has retained the centralized Soviet structure even though local government owns and finances most service providers. The devolution of some administrative authority to the local level is a reflection of how services were organized under the Semashko system and it is not meaningful decentralization. Local governments are constrained in how they are allowed to use funds allocated to their health budgets by strict line-item budget criteria imposed by the Ministry of Finance. Local management of health providers is further constrained because the Ministry of Health controls all senior appointments at the district level. The devolution or delegation of responsibilities to the local level or to non governmental institutions has not taken place, although this will probably change with the introduction of mandatory health insurance. There has been only limited privatization in the system (mainly related to state-owned dental services and some pharmacies), which was not so much a tool for decentralization as a disengagement of the state from costly facilities of a secondary nature (Holley et al., 2004).

2.5 Patient empowerment

As in many countries that inherited the Semashko system, increasing patient empowerment is not currently high on the reform agenda and while patients may have extensive rights on paper, the exercising of these rights is severely constrained, especially when patients have conditions such as HIV/AIDS or psychiatric illnesses that are associated with strong social stigma.

Chapter Four of the Law on Protection of the Health of the Population (1997) describes the rights of citizens in the field of health care. Some of the main rights granted by this law are:

- the right to choose a physician and health facility to receive treatment;
- the right to be diagnosed and treated in safe sanitary-hygienic environment;
- the right to confidentiality of medical records;
- the right to provide written or verbal consent to treatment;
- the right to reject medical intervention;
- the right to receive the information about personal health status.

Article 57 of the Constitution of the Republic of Azerbaijan provides citizens with the right to apply in person or in writing to the state organs to register a complaint. The Law on Rules for Reviewing Appeals from Citizens (1997) describes procedures for responding to citizen's appeals and complaints. According to these rules, all appeals must be accepted, registered and responded to within a one-month period.

3. Financing

As shown in Fig. 3.1, the health system in Azerbaijan is financed through a combination of tax revenues and OOP payments. Funding for services provided at the local level are channelled through the district authorities, while the Ministry of Health is responsible for the financing of national-level providers and the Sanitary-Epidemiological Service. Parallel services provided through other line ministries cover approximately 5% of the population (see below), and private providers are an increasingly significant part of the system. Current reform projects are designed to develop a national health financing reform framework and to pilot new financing and management mechanisms. The health financing reform concept has been approved and covers pooling, new provider payment mechanisms, expanding provider autonomy, benefits for outpatient pharmaceuticals, and the defining of a basic benefits package (see Chapter 7). To support this, the process of integrating and improving health information systems is under way. However, this chapter outlines the current health financing system before these proposed reforms have been implemented.

3.1 Health expenditure

The economic collapse during the early to middle 1990s, aggravated by the military conflict with Armenia, resulted in a sharp decline in public expenditure on health. The situation started to improve in the early 2000s when the country started receiving significant revenues from oil production. In absolute terms, public health expenditure has grown rapidly from approximately US\$ 6 per capita in 2000 to over US\$ 50 projected in 2008 (authors' own calculations based on unpublished data from the Ministry of Finance and data from the State Statistical Committee of Azerbaijan, 2009). However, the country's GDP

showed the same pattern of growth during this period, so budgetary allocations for health as a share of GDP have changed little, remaining at approximately 1%. Moreover, government health spending as a percentage of total government spending has decreased from 5.4% in 2000 to 3% projected for 2008 (Ministry of Finance 2008a; State Statistical Committee of the Republic of Azerbaijan, 2009). The state budget for health is also never executed fully. For instance, only 92.3% of allocated resources were used in 2007 (Ministry of Finance, 2008b). This was understandable in the 1990s when the state budget ran huge deficits every year. In recent years, however, the reverse picture has been observed, and the reason for the continued underspending is not clear. One possible explanation could be the vacant positions in rural areas, which are budgeted for but not filled throughout the year.

In addition to health funding channelled through the Ministry of Health and local administrations, there are public health expenditures for parallel state health systems. The health care expenses of the Ministry of Defence, Ministry of Interior, Ministry of National Security, the State Railway Company and SOCAR are hard to estimate because of the scarcity of available data, but they certainly represent a significant share of all public expenses. Moreover, this share seems to have increased as a result of the expansion of the network by SOCAR, which has been spending tens of millions of dollars from its revenues on the construction of facilities, such as seven new treatment-diagnostic centres across the country. Another seven centres are planned for construction by SOCAR and these too will become part of the state health system on completion. This expenditure is difficult to track because it is not reflected in the state budget. Consequently, the State Statistical Committee figures for government spending as a percentage of health spending are considerably lower than WHO estimates, which try to capture government funding to parallel systems and extraordinary government incentives (see Table 3.1).

According to expenditure figures reported by the State Statistical Committee, public health expenditure represented 44% of total health expenditure in 2007, which is a significant increase from 23.8% in 2002 (State Statistical Committee of the Republic of Azerbaijan, 2009). Estimates by WHO show less positive trends, with the share of public expenditure in total health expenditure as 29.3% in 2007, in comparison with 17.1% in 2002 (see Table 3.1) (World Health Organization, 2009). The true level of private health expenditure is hard to estimate for several reasons. First, there is a significant share of informal payments in OOP expenses, which are inherently hard to measure and would require a more detailed household survey. Second, even the formal charges may not be captured fully because of inadequate reporting from the private sector

Table 3.1

Trends in health expenditure in Azerbaijan, 2000–2007

	2000	2001	2002	2003	2004	2005	2006	2007
Total health expenditure (% of GDP), WHO estimates	4.8	4.6	4.7	4.2	4.0	4.4	4.1	4.0
Total health expenditure (PPPS per capita), WHO estimates	104	112	127	129	139	197	254	320
Public sector health expenditure (% of total health expenditure), WHO estimates	18.1	19.0	17.1	20.5	21.9	21.7	26.1	29.3
Private household OOP payment on health (% of total health expenditure)	64.1	63.6	66.7	64.1	62.8	67.7	63.9	61.5
Mean annual growth rate in GDP (%) ^a	11.1	9.9	10.6	11.2	10.2	26.4	34.5	25.0
Government health spending (% of total government spending) ^a	5.4	5.2	4.8	4.5	4.9	5.5	4.3	4.2

Sources: ^aState Statistical Committee of the Republic of Azerbaijan, 2009; World Health Organization, 2009.

Note: PPP: Purchasing power parity.

(private health providers and pharmacies). Third, the country has not introduced a system of national health accounts to capture health expenditures in all subsystems and from all sources. Nevertheless, both WHO estimates and national statistics concur that the majority of health expenditure comes from the population as OOP payments.

The exact structure of health care expenditure in Azerbaijan is difficult to define. The classification of budget expenditure across five line-items (see Table 3.2) does not reflect the true division of spending between different types of health care, such as outpatient or inpatient. There is no clear definition of what constitutes primary, secondary and tertiary levels of care. For example, all village hospitals (SUBs) and many central district hospitals have ambulatory departments and their budgets are included in overall hospital budgets. Also, all hospital-based specialists provide outpatient services that are hard to trace because of the disrupted referral system. Moreover, from 2006, a significant share of the health care budget has been allocated for targeted state health programmes. The list of state health programmes and their corresponding budgets for 2008 are provided in Table 3.3. The majority target certain health conditions, aiming to cover the cost of providing equipment and pharmaceuticals through centralized procurement. The vertical nature of these programmes makes it difficult to determine the expenditures at different levels of care. The overall trend is that the share of inpatient and specialty care is increasing as a result of state-funded capital investment programmes (see Section 5.1, Subsection *Capital stock and investments*).

Table 3.2

Structure of the state budget for health care, 2006–2008

	Percentage of total health care budget		
	2006	2007	2008 (projected)
Polyclinics and outpatient clinics	19.7	16.7	15.7
Hospitals	66.5	55.3	55.6
Other services in health care	7.9	2.0	2.0
Research in health care	0.8	0.8	0.8
Other services related to health care (including state health programmes)	5.2	25.1	25.9

Source: Ministry of Finance, 2009.

Note: Percentages are rounded and so may not total 100%.

Table 3.3

State health programmes, 2007–2009

Programme title	Budget allocations (million AZN)		
	2007	2008 (projected)	2009 (projected)
Programme on Chronic Renal Failure	13.0	14.4	20.0
Programme on Diabetes	12.0	13.8	17.3
Programme on Haemophilia and Thalassaemia	9.1	9.2	11.1
Programme on Provision of Cancer Patients with Main Anti-tumour Medicines	–	5.0	10.2
Immunization Programme	1.9	1.1	5.1
Programme on Maternal and Child Health	4.8	5.2	5.2
Programme on Blood Donors	0.7	0.8	3.0
Programme on Electronic Azerbaijan	–	2.1	–
Expenditures Related to Introduction of Mandatory Health Insurance	–	4.0	50.2
Programme on Development of HR in Public Health	–	1.4	0.1
Expenditures Related to Introduction of 'Electronic Health Cards' and 'Cards for Medical Examination'	0.4	1.6	–
Programme on Prevention and Control of HIV/AIDS	–	–	2.0
Total expenditure on state health programmes	42.2	58.6	124.2

Source: Unpublished data from the Ministry of Finance, 2008.

The majority of government health expenditure is taken up by staff salaries (see Table 3.4). The share of salaries increased significantly in comparison with late 1990s and early 2000s, when it was well below 50%. However, salaries in the public health care sector remain very low. According to the State Statistical Committee, the average salary was only 89.9 Azerbaijani new manat (AZN) in 2007, which is less than half the average salary in the country (State Statistical Committee of the Republic of Azerbaijan, 2009). On this basis, even if the entire health budget was spent on salaries, these would still fall below the

national average. Also, allocations for drugs and medical supplies have grown from less than 10% of the total health care budget in the late 1990s to 18% in 2008. The share of capital investment has been rising rapidly too in recent years, from approximately 3% in 1999 to more than 9% in 2007 (Holley et al., 2004; unpublished data from the Ministry of Finance, 2008). More than 100 health facilities have been constructed or fully rehabilitated since 2006 (unpublished data from the Ministry of Health, 2009).

Table 3.4

Government health expenditures by service input, 2006–2009

Service input	million AZN (%)			
	2006	2007	2008 (projected)	2009 (projected)
Salaries	102.9 (63.6)	144.3 (56.2)	253.8 (63.4)	315.5 (59.7)
Purchase of goods and services	53.1 (32.8)	86.5 (33.7)	115.2 (28.8)	158.3 (30.0)
Including utilities	6.7 (4.1)	13.7 (5.4)	17.7 (4.4)	20.4 (3.9)
Other expenses	5.3 (3.3)	7.6 (3.0)	10.8 (2.7)	32.4 (6.1)
Including capital investment	3.9 (2.4)	5.7 (2.2)	7.3 (1.8)	10.3 (2.0)
Purchase of non-financial assets	0.4 (0.2)	18.4 (7.2)	20.3 (5.1)	22.1 (4.2)

Source: Unpublished data from the Ministry of Finance, 2008.

3.2 Population coverage and basis for entitlement

Access to health care is a constitutional right of every citizen of Azerbaijan. According to Article 41 of the Constitution, everyone has the right for protection of his/her health and to receive health care services. All citizens are entitled to receive health care according to the Law on the Protection of the Health of the Population (1997). The Health Financing Concept (2008) reinforces the right of all citizens to a state-guaranteed basic benefit package, although this is not due to be fully defined until 2012. It is important to note that the arrangements detailed here describe the formal definition of state-guaranteed access. In reality, patients may often be required to pay for drugs or services that are in theory provided for free.

The Law on Protection of Population Health (1997) provides the following details on formal entitlements. Citizens have the right to receive medicosocial aid in case of sickness, disability and other cases as follows.

- Medicosocial aid will be provided by state and non-state health care systems, as well as the social protection system.

- Citizens insured through compulsory health insurance can obtain health care from state health care institutions in accordance with future legislation.
- Citizens have the right to receive additional health care services through voluntary health insurance.
- Citizens have the right to health–social examinations in specialized institutions.
- Children, students, disabled people and pensioners have the right to be examined free of charge.

According to this law, non-citizen residents also have access to health care services. The scope of these entitlements is further specified in various legislative and regulatory acts. Consequently the legislation formally covers:

- treatment of most common diseases, injuries, poisonings and other emergency conditions;
- implementation of sanitary-hygienic and antiepidemic interventions, medical prevention of diseases posing a public threat (e.g. mental disorders, drug addiction, chronic alcoholism, HIV/AIDS, TB, syphilis, gonorrhoea, leprosy);
- other interventions aimed at the protection of families, parents, children and the provision of medical-sanitary care at home;
- emergency care, including for accidents, injuries, poisonings and other conditions and medicosocial assistance to citizens with diseases posing a public threat;
- family health;
- family planning;
- medicopsychological counselling concerning family-marriage relations;
- counselling and testing for hereditary conditions;
- antenatal, delivery and postnatal care;
- paediatric care;
- diabetes care (state programme);
- TB care (Law on Tuberculosis Control);
- malaria prevention and treatment;
- care for HIV/AIDS (Law on Prevention of HIV/AIDS);
- care for thalassaemia and haemophilia (state programme);

- haemodialysis (state programme); and
- routine vaccination of children (Law on Immunoprophylaxis of Infectious Diseases).

Between 1994 and 2008, state services were entirely free of charge only for certain population groups, such as children, pensioners, students, military personnel and conscripts, women during pregnancy and postpartum, disabled patients, refugees and IDPs, those involved in national sports teams and prisoners; all others had to pay formal co-payments to receive certain services (Holley et al., 2004).

The National Concept on Health Financing Reform, signed by the President in January 2008, followed by the Cabinet of Ministers' Approval of the Action Plan to Introduce Health Financing Reforms, defined a formal state-guaranteed basic benefit package of services as part of reforms underpinning the introduction of mandatory health insurance: "the basic benefit package will include all primary, preventive and public health services such as primary health care, emergency care and the services of certain types of specialists and will be financed through the state budget and mandatory health insurance contributions. Supplementary services will be financed through the population's own resources, voluntary health insurance and different financial aids." The National Concept further calls for the clear definition of the scope of basic benefit package after initial piloting in selected districts. The state-guaranteed basic benefit package is to be fully defined and introduced by the end of 2012.

Following the adoption of the National Concept on Health Financing Reform, the Ministry of Health discontinued formal user charges in all state health facilities. Effectively, this means that all services provided at state health facilities are fully state funded, although the exemption of many specialist services does create the space for user charges and charges for pharmaceuticals, which are still not covered. In 2005, the Ministry of Health defined a list of 60 pharmaceutical items that should be available without charge in all public hospitals. In 2008, the list was expanded to include an additional 51 items. Some drugs for outpatients are also covered by the state, such as those included in various state health programmes for specific conditions (cancer, diabetes, TB, etc.). All remaining medicines both for inpatients and outpatients must be paid for at full cost out of pocket, although sometimes this is also the case for pharmaceuticals included on the Ministry of Health's defined list.

3.3 Revenue collection/sources of funds

Private health expenditures represent the major source of health care funds in Azerbaijan, as a result of the collapse of public finance system in the early 1990s and, potentially, also because private payments were an important source of health care funds during Soviet times. From around 2005, with the rapid increase in the state budget and absolute allocations to health, the situation started to change, and the share of compulsory sources of financing is gradually rising. Currently, direct OOP payments and general taxation revenues constitute the major sources of funding, and the role of voluntary health insurance and donor funding is relatively small.

Compulsory sources of finance

General government revenues are the compulsory mechanism for collecting health funds in Azerbaijan; although a legal basis for compulsory insurance contributions for health was introduced in 1999 and reinforced in 2008, mandatory health insurance has not been introduced as yet. The Government of Azerbaijan collects a number of direct and indirect taxes: the personal income tax rate is 14% for monthly income up to 2000 AZN; any income above this is taxed at 35%. For monthly income of up to 200 AZN, a minimum monthly salary (75 AZN in 2008) is tax exempt. Other taxes include a tax on the profit of legal entities (22%), value added tax (18%), excise tax, property tax levied from legal persons, land use tax levied from legal persons, road fund taxes, mineral royalty tax, and a simplified tax for small businesses (Ministry of Taxes of the Republic of Azerbaijan, 2009). In addition to taxes, Azerbaijan has substantial non-tax revenues from the State Oil Fund. The taxation of personal income is progressive but its share in budget revenues is much smaller than the share of regressive consumption taxes, which reduces the progressiveness of the overall tax burden. The main sources of the 2008 state budget were projected as profit from legal entities (31%), value added tax (23%), transfers from the State Oil Fund (15%), personal income (10%) and excise taxes (6%) (Ministry of Finance, 2008a). In 2007, more than half of consolidated central government revenues were mobilized from the oil sector. Hence, the volatility of the global oil price could cause important fluctuations in general revenues over time – the fall in oil prices in 2008 to 50% of their 2007 level being a case in point.

The taxes are collected at three levels: central, district and municipal. Municipalities, which were first established in 1999, collect land and property taxes in their jurisdictions. Their budgets are not reflected in the state budget. Their contribution to health care expenditure is almost non-existent; although

legally they are allowed to participate in local health affairs, including the creation of municipal health facilities, there is no evidence that this right has been exercised as yet. In 2008, the local budgets of cities and districts (*rayons*) constituted 909 million AZN, although local taxes generated only 254 million AZN. The difference was made up through transfers from the central budget, which represented 72% of total local spending (Ministry of Finance, 2008a). Local administrations are major players in city and district health care systems because they finance the network of primary and secondary health facilities in their jurisdictions. In 2008, local administrations controlled approximately 40% of total government spending on health. Azerbaijan allocates a very small share of total government expenditure to health; according to WHO estimates, health accounted for just 3.8% of total government expenditure in 2005, which is the least of any country in WHO European Region (WHO Regional Office for Europe, 2009). According to WHO estimates following the national health accounts classification, government health expenditure as a share of general government revenue was 3.6% in 2006, which represents 31.3% of estimated total health expenditure in 2008. Comparing recent national budget figures, health spending represented 4.2% of the total state budget in 2007 and was projected to account for less than 3.9% of the total state budget in 2008 (Ministry of Finance, 2007; Ministry of Finance, 2008a).

In January 2008, the Government of Azerbaijan took the political decision to introduce mandatory health insurance. The State Agency for Mandatory Medical Insurance was formally established but had not become operational at the time of writing. According to the National Concept on Health Financing Reform, which was endorsed by the President in 2008, mandatory health insurance payments are viewed as an additional source of funds for health care. Discussions with policy-makers in the country indicate that a payroll tax, if introduced, would not exceed 4% of payroll initially. Moreover, it is highly unlikely that a new payroll tax would be introduced as an additional source of state funding because the government is committed to the reduction of the overall taxation burden in order to stimulate sectors of the economy other than oil. If realized, it is most likely that part of the existing social security contributions would be earmarked for health. The social security contribution rate was as high as 36% of payroll in 1999 but has gradually decreased to 25%, with a split between employer (22%) and employee (3%). Based on the national average salary and the proportion of those in formal employment in the country, a 4% earmarked payroll tax, if introduced in 2009, could provide up to an additional 200 million AZN of public funds for the health sector, which is close to 50% of the amount currently allocated to health in the state budget.

If the current level of budgetary allocations to health is preserved, combined public health expenditures would surpass private ones for the first time in almost two decades.

OOP payments

As a result of low government funding for health and insufficient clarity on state-guaranteed entitlements, patients paid an estimated 61.5% of total health expenditure as OOP payments in 2007 (World Health Organization, 2009). These OOP payments comprised formal user charges for services or pharmaceuticals not covered by state benefits, any payments made for services provided in the private health care sector and informal payments and gratuities. Extensive OOP payments at the point of service delivery can be highly regressive: such fees are charged irrespective of the individual's ability to pay and there is no element of risk pooling between sick and healthy or over time. Hence, OOP payments impose a financial burden on patients and can create a particular barrier to low-income groups in need of care.

During the Soviet period, OOP payments existed formally for outpatient drugs and some medical services such as dentistry and informally as 'under-the-table' charges by providers. There are few data on the extent of OOP payments prior to independence, although there is universal agreement that they never surpassed public funding. The drastic reduction in real public expenditure for health during the first years of independence shifted the burden of health financing to health care users. In response to this situation, the government introduced formal charges for certain medical services in specialized institutions in 1994. In 1998, in order to formalize 'under-the-table' payments, the scope of official charges was significantly extended to include many diagnostic and laboratory services as well as specialist consultations. Certain categories of the general population were formally exempt from user charges (see Section 3.2 *Population coverage and basis for entitlement*).

The introduction of user fees did not, however, achieve the expected goal of providing additional formal revenues for health care or formalize informal payments. For example, user fees were estimated to be only 1.1% of total health expenditure in 2002, while informal payments constituted 22.4% (G&G Consulting, 2004). The number of public health facilities where formal charges were allowed was significantly reduced in 2004, followed by the complete discontinuation of user fees in early 2008. According to the National Health

Financing Concept, a state-guaranteed basic benefit package of services will be defined and introduced by the end of 2012, following which formal charges may be reintroduced for the services outside this basic package.

There are no universally accepted estimates of the level of OOP payments in the country because of the different approaches and methodologies applied for their calculation as well as the quality of data used. The State Statistical Committee conducts regular household budget surveys (HBS) according to which the share of OOP payments has been steadily declining from 76.2% of total health expenditure in 2002 to 55.4% in 2007 (State Statistical Committee of the Republic of Azerbaijan, 2009). According to the HBS, the average expenditure on health per person per month increased from 1.8 AZN in 2002 to 3.6 AZN in 2008. Multiplied by 12, this would give an estimated annual expenditure on health per person of 43.2 AZN for 2008. However, the methodology used by the State Statistical Committee may not capture all household expenses for health care. The only comprehensive nationally representative survey of household health expenditures was conducted in 2004 within the framework of the first World Bank-assisted Health Reform Project (G&G Consulting, 2004). The study found the mean annual household health expenditure to be US\$ 96, which was more than four times higher than the HBS finding for the same year. Based on these data, the share of OOP payments in total health expenditure was estimated to be 80%. As for the structure of OOP payments, 31.4% was found to be informal and 63.1% of this was cash payments to health personnel. The vast majority of formal OOP payments were for outpatient pharmaceuticals. Outpatient expenditures represented the biggest share of all OOP payments (68.6%), followed by preventive care and other services (20.5%) and hospitalizations (10.9%); of outpatient expenditures, 70.7% constituted payments for medical goods and drugs (G&G Consulting, 2004).

More recent data on the level of OOP payments were provided by the baseline survey conducted in seven districts (five covered by the reform project and two controls) under the second World Bank-assisted Health Sector Reform Project in 2006 (Djibuti et al., 2007). The study estimated annual per capita OOP payments at 54.8 AZN (US\$ 65), which is also significantly higher than the HBS findings for 2006 (31.2 AZN (US\$ 37)). This survey estimated the share of health expenditure in total household expenditure to be 7.5% in 2006 in the districts covered by the project and 7.0% in the two control districts. For comparison, HBS found this indicator to be 3.4% in 2006 and 2007 (State Statistical Committee of the Republic of Azerbaijan, 2009). However, regardless of the methodology used, all household surveys show the predominance of OOP

payments as a source of health financing in Azerbaijan. The danger of such high levels of OOP payments is in its ability to create financial barriers for access to health care for poor sections of the population.

Parallel health systems

Unfortunately, the exact figures for health expenditure in the parallel systems are not available. Funding for parallel services provided through state-owned companies (such as the State Railway Company and SOCAR) and various line ministries (such as the Ministry of Defence and the Ministry of Internal Affairs) comes from the state budget, but allocations to health are decided by the ministries or state companies themselves and they can invest much more into facilities and services than can the Ministry of Health, particularly as the state companies can invest profits. Parallel health service providers are also able to pay higher wages to their staff and invest more in training and technology.

It has been estimated that these parallel services cover approximately 5% of the population (Holley et al., 2004). The populations covered by these parallel services are also eligible to access services in the main statutory system (they have double coverage) but they are very unlikely to use the main system in the first instance as the quality of care is perceived to be higher in the parallel systems, which is why access to such services is considered a valuable employment benefit. The perception that services provided through parallel health systems are of higher quality also means that excess capacity can be used for private patients as services in these facilities are in demand. There are no plans to reduce parallel networks of health service providers or to integrate them into the statutory system; indeed recent investments have seen the expansion of these networks, although such expansions do now have to be coordinated with the Ministry of Health (see Section 7.1 *Analysis of recent reforms*).

External sources of funds

Grants and loans used to represent a significant share of health care funding during the 1990s, when many international non governmental organizations were active in the country supporting IDP from the Nagorno-Karabakh region of Azerbaijan. The United States, the European Union (EU), the United Nations and other multi- and bilateral donors provided humanitarian assistance worth millions of US dollars from the mid-1990s to early 2000. The exact amount of international assistance for health specifically is not known, but according to some estimates this aid represented up to 25% of public funds for primary care in the country (World Bank, 2005a). From the mid-2000s, major donors

discontinued humanitarian aid and shifted their strategies towards development assistance. Currently, international partners working in the health sector include the Global Fund to Fight HIV/AIDS, Tuberculosis and Malaria (Global Fund), the World Bank, the United States Agency for International Development (USAID), the Global Alliance for Vaccines and Immunization (GAVI), United Nations agencies – WHO, United Nations Children’s Fund (UNICEF), United Nations Development Programme (UNDP), United Nations Population Fund (UNFPA) – and other bilateral and multilateral actors.

The Global Fund has signed four grant agreements with the Ministry of Health. The first five-year grant of US\$ 10.3 million is to assist the country in reducing mortality, morbidity and transmission of HIV/AIDS. The second two-year grant of US\$ 4.3 million aims at strengthening and expanding the ‘directly observed treatment, short-course’ (DOTS) TB programme. In October 2008, Azerbaijan also received additional TB funds for the management of drug-resistant TB and a new malaria grant with the goal of reducing the transmission and incidence of malaria. The approved two-year budget for first phase of the drug-resistant tuberculosis grant is US\$ 9.2 million. The total approved budget for the first phase of the two-year malaria grant is US\$ 3.4 million.

The World Bank has provided loans for the first Health Reform Project, with a total budget of US\$ 5.5 million; this was implemented by the Ministry of Health jointly with UNICEF in 2001–2005. The second six-year Health Sector Reform Project started in 2006 with a total budget of US\$ 86 million, of which the World Bank will lend US\$ 50 million. The main objective of the project is the overall strengthening of the health care system across all main functions, including stewardship, health financing, service delivery and human resource development.

USAID funds two health projects in Azerbaijan – reproductive health and primary health care strengthening – with an annual budget of approximately US\$ 2 million. The reproductive health project aims to improve family planning services in the country, while the second project aims to assist the government in implementing health financing reform, developing solid health policies, improving the quality of services and strengthening Ministry of Health capacity in health communication.

United Nations agencies (UNICEF, WHO, UNFPA and others) provide technical assistance in the areas of maternal and child health, immunization, reproductive health, micronutrient deficiency and others. Based on biennial cooperative agreements, WHO is increasingly active in supporting the Ministry of Health in policy development and health financing reform. OXFAM GB and

some other non governmental organizations implement small-scale community-based health projects mainly targeting primary care. Including the new World Bank-assisted project that began in 2006, total international assistance in health could be estimated at US\$ 20 million annually, which would represent approximately 2% of total health expenditure in the country.

Voluntary health insurance

An estimated 0.7% of total health expenditure was raised through voluntary insurance contributions in 2007 (World Health Organization, 2009). According to another report, estimates for 2007 indicate that this share is likely to have increased to up to 2% of total health expenditure (Zoidze, 2008).

Since its introduction in 1995, the extent of voluntary health insurance in Azerbaijan has been limited in terms of both population coverage and its share of total health expenditure. There are different estimates of the number of people participating in voluntary health insurance, but all show coverage at well below 1% of the population (World Bank, 2005a). The coverage is limited to the employees of big companies, mainly in the oil sector. The legislation on voluntary health insurance requires an insurer to be majority owned by Azerbaijan nationals. The law allows for the deduction of health insurance contributions from taxable income. The number of insurance companies offering voluntary health insurance is approximately 12, with 3 to 4 dominant players. They only offer group coverage for relatively healthy corporate clients, so an individual voluntary health insurance policy is hard to find. The prices for adequate coverage are relatively high and unaffordable for the vast majority of the population.

3.4 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).

Pooling agencies and allocation

The Ministry of Health and local authorities (*rayon administrations*) are the main ‘pooling agencies’ being allocated and allocating resources for health in Azerbaijan. The Ministry of Finance provides funds to the Ministry of Health for Republican hospitals, tertiary facilities, scientific-research institutes as

well as the network of centres of hygiene and epidemiology (formerly sanitary-epidemiological stations). Also, as of 2006, all public health facilities formerly funded through Baku local authorities receive their funding from the Ministry of Health. In addition, the Ministry of Health controls the resources allocated for various state health programmes, which mainly cover the centralized purchase of programme-specific drugs, medical supplies and equipment (see Table 3.3). Finally, the Ministry of Health funds the Physicians' Advancement Institute, which is the main provider of postgraduate education for doctors. In 2008, the share of budgetary allocations for health controlled by the Ministry of Health represented approximately 63% of all expenses. The remaining 37% went to 65 local administrations, which fund primary and secondary state facilities within the *rayon* boundaries (unpublished data from the Ministry of Finance, 2008). As there is no mechanism for the redistribution of funds between district health departments, the funds allocated for local administrations can be viewed as 65 separate pools, which fragment the financing system further.

In addition, there are smaller pools that represent funds for parallel health care systems run by other ministries (Ministries of Defence, Internal Affairs, National Security, Justice, the State Customs Committee, etc.) and state corporations (State Railway Company, State Shipping Company, SOCAR), which were estimated to account for approximately 5% of all public health expenditures and approximately 5% of the population (World Bank 2005a), although *de facto* they may serve more as private patients. Only around 2% of all private health expenditure is pooled through voluntary health insurance. Approximately 15 000 individuals have voluntary health insurance coverage provided by several insurance companies, but these pools are too small for adequate risk pooling. However, coverage is mainly of low-risk people, so there is little actual redistribution of risks.

Mechanisms for allocating funds among pooling/purchasing agencies

The budgeting process starts with a Ministry of Finance request to local administrations for their budget proposals for next year. This request is accompanied by instructions that essentially set the upper limits for the local budgets. These limits are based on historic expenditure for the district/city and projected macroeconomic indicators (GDP growth, inflation, etc.). District health authorities develop budgets for health facilities in their jurisdiction and send consolidated proposals to the district finance department. The finance department combines proposals from various sectors. At this point, they may cut the initial district health budget to ensure that the consolidated district

budget is in line with the upper limits set by the Ministry of Finance. The district budget is then submitted to the Ministry of Finance. There is evidence to suggest that, since the oil boom, the Ministry of Finance has not cut the proposed district budgets, although this was common in the 1990s and early 2000s. The budget preparation by the Ministry of Health resembles this process; each facility under the Ministry of Health develops its own proposals and sends them to the central ministerial authorities. Proposals for the state health programmes are prepared by the Ministry of Health using the data from local health authorities. Finally, the Ministry of Health combines all proposals and submits a consolidated budget to the Ministry of Finance.

As a result, budget planning is not based on population health needs, which leads to significant regional inequalities in the allocation of budgetary funds in terms of annual per capita amounts. Some of these differences can be explained by the historical and input-based budgeting process, which tends to give more state funds to those districts that have a large service infrastructure. For example, city districts have a more developed hospital infrastructure than other districts and also serve populations from surrounding districts. However, because of travel distances and the local provision of primary care, the opportunity to benefit from state funding may be unequal. Another explanation for the very low allocation to some districts is because they are under occupation (see Section 1.1 *Geography and sociodemography*), and receive budget allocations that cover almost exclusively the salaries of personnel. There is no information on possible differences in the population's access to services procured centrally through state health programmes.

The mechanism for allocating public resources provides few incentives for the efficient use of resources. In practice, it fosters inefficiency since the budgeting is based on existing health infrastructure so it is input based, thus encouraging the expansion of physical capacity (number of beds and staff) regardless of actual use. Consequently, the government is planning to change the allocation principles, basing them instead on population needs. The Concept for Health Finance Reform states that the proposed health reform is planning to introduce per capita allocation of health care funds taking into account demographic, epidemiological, socioeconomic and other relevant factors; the allocation formula will also consider the cost of service provision in remote areas. It is envisaged that the new allocation formula will be tested in several pilot districts, with subsequent nationwide roll-out between 2009 and 2012.

3.5 Purchasing and purchaser–provider relations

The Azerbaijani health care system is characterized by an integrated model of purchaser–provider relations, where the providers are owned by the payers. The public health providers as state institutions have very limited financial and managerial autonomy and there is a tendency towards a reduction in the autonomy of actors further down the hierarchy of the system. For example, heads of small rural outpatient clinics (SVAs) do not have control over financial matters or staffing decisions. Often heads of village outpatient clinics and small hospitals have no information about the annual budget of the facilities they run. They also cannot hire or fire staff. District central hospitals as well as central facilities directly under the Ministry of Health enjoy greater autonomy, particularly in terms of staffing. They have their own human resources departments and are allowed to make independent staffing decisions. However, their ability to make financial decisions is limited by the treasury system, which establishes very strict rules for spending budgetary allocations.

As part of the health financing reform, the government intends to separate purchasing functions from service provision. The State Agency for Mandatory Health Insurance, once operational, will act as a single payer and establish its relations with providers on a contractual basis.

3.6 Payment mechanisms

The health financing reform contemplated by the government will introduce radical changes to the existing mechanism for paying providers. Although the final decision on what payment methods will be chosen has not yet been made, it is recognized that the current system does not promote efficient use of resources or reward better performing providers. Current plans under development for reforming payment mechanisms are the introduction of case-based payment mechanisms for hospital care and per capita financing for primary care. Another characteristic of payment mechanisms in Azerbaijan is that different methods are applied in the public and private sectors.

Paying for health services

Public health care facilities receive their payments through prospective fixed line-item budgets. Each type of expenditure is classified under a certain category, according to the economic classification of budgetary expenses: salaries, purchasing of goods (including services), pensions and social allowances, other

expenses and purchasing of non-financial assets. The total amount under each line-item is fixed and cannot be exceeded without prior approval from the Ministry of Finance. If underspending happens in one line-item, the savings cannot be transferred to other lines, where overspending is projected, without proper justification and approval from the Ministry of Finance. In practice, such approvals are difficult to obtain and possible only closer to the end of a fiscal year when underspending becomes inevitable. Moreover, the expenses without clear seasonal variations require proportional spending across the year. For example, salary expenses in a given month cannot be greater than one-twelfth of total annual salary budget. Another feature of payments through a fixed line-item budget is that the actual payment amount does not depend on output indicators such as number of patients treated or services provided. A hospital will receive payment regardless of whether it has no patients or is fully occupied. Moreover, underspending is penalized through reductions in the allocations for next year because the budgeting process is based on historic expenditures. The payment mechanism does not provide any incentives for hospital administrators to reduce costs or to improve efficiency and there is no mechanism under current payment arrangements to reward better performing facilities – nor is there any competition for funding between providers. For these reasons, there are plans being developed to move towards output-based financing criteria, such as case-based payments in hospitals and per capita financing of primary care services.

In the private sector, the predominant method for paying providers is on a fee-for-service basis. Both patients themselves and health insurance companies on behalf of the insured individuals pay for services received. The former pay according to prices established by facilities, while insurers may negotiate certain discounts depending on their market power. Pricing methodology does not necessarily take into account the real costs associated with the provision of services, and prices are established on an arbitrary basis. This practice results in the excessive provision of services because under such arrangements private providers have clear incentives to increase the volume of services provided (moral hazard). Private providers are not covered by the official state treatment and diagnostic protocols. Patients paying directly out of pocket are affected the most since health insurance companies have mechanisms to control providers' behaviour through utilization management.

Paying health care personnel

Despite the fact that the legislation allows different options in paying health care personnel, in reality almost all health care workers in state health facilities are salaried employees. The salary level for an individual employee is defined based on the unified tariff scale, which is applied to all public sector employees and consists of 19 levels with the lowest level being equivalent to the minimum salary in the country (see Table 3.5).

Table 3.5
Unified tariff scale for public sector employees (as of 1 September 2008)

Level	Monthly tariff (AZN)
1	75
2	79
3	83
4	86
5	90
6	94
7	98
8	101
9	105
10	110
11	116
12	123
13	133
14	143
15	155
16	181
17	250
18	315
19	530

Source: Cabinet of Ministers of the Republic of Azerbaijan (2004). Approval of types and amounts of salary payment for workers financed through the budget of the Republic of Azerbaijan [as amended by Presidential Decree August 2008].

A state sector physician’s base salary ranges from level 9 to level 15, while nurse’s pay is calculated based on levels 5–9. The base salary is increased for managerial positions (5–15%) and for working in ambulance services (50%). Additionally, certain increasing coefficients are applied for the following categories:

- dangerous and difficult working conditions (infectious diseases, disabled patients, anaesthesiology, X-ray departments, etc.): 15–20% increase from the base level;

- working with patients with HIV/AIDS: 60% increase from the base level;
- degree of specialization: 10–25% increase from the base level;
- duration of uninterrupted employment: 10–50% increase from the base level;
- working during the night: 35–50% increase from the base level; and
- work specifics (teaching personnel, offshore location, working with precious metals, etc.): 10–50% increase from the base level.

Also, the administration of a state health facility may introduce some discretionary stimulatory bonuses for high-quality work and good performance. However, these amounts are not specified and depend on the availability of funds, so this mechanism is rarely used.

Historically, health care personnel have been among the lowest paid in the public sector, and this situation, inherited from Soviet times, continued following independence. In 2007, the average salary in health care was 92.2 AZN or only 43% of the average in the country. When compared with other public sector employees, the situation for medical workers is slightly better (53% of the average) (State Statistical Committee of the Republic of Azerbaijan, 2009). For comparison, the officially established minimum consumer basket for a working person was 79 AZN for 2008 (Government of the Republic of Azerbaijan, 2007). The consumer basket for a working person was estimated at around 110 AZN in 2008 (Agayev, 2008), which would indicate that the official salaries for health personnel do not even cover the subsistence minimum. Such low salaries result in the widespread practice of charging informal fees. Another important source of income for certain physicians is back payments from pharmaceutical companies related to the sales of drugs prescribed by that particular provider. This practice became widespread during the late 1990s and early 2000s with the development of the pharmaceutical market, although the Ministry of Health has been trying to control the situation in recent years through stricter regulation (see Section 6.6 *Pharmaceutical care*).

In the private sector, physicians predominantly receive a share of revenues from the patients they see, while nurses are salaried employees. Under such arrangements both health facilities and physicians have strong incentives to induce demand, which results in excessive referrals especially for diagnostic and laboratory services.

4. Regulation and planning

4.1 Regulation

Regulation and governance of third-party payers

The organizational relationship between purchasers and providers in the Azerbaijani health system is ‘integrated’; that is, the health care providers are directly owned and employed by the third-party payer. The third-party payer for highly specialized tertiary care at the Republican level is the Ministry of Health. The third-party payer for district level hospitals, village hospitals, polyclinics and specialized clinics is one of the 65 local administrations. Village councils are the third-party payer for FAPs and the village doctor outpatient clinics (*selskaya vrachebnaya ambulatoriya* (SVA)). The Ministry of Health receives its budget direct from the Ministry of Finance; local government administrations receive their total budget allocation from the Ministry of Finance and the allocation for the funding of health services is passed on to the district health authority or village council, which administers and then distributes funds to health care providers in their area. Funds are allocated on the basis of historical incrementalism: how much was spent last year adjusted for inflation (see Section 3.6, Subsection *Paying for health services*).

The government plays only a limited regulatory role in relation to purchasers, partly because it is an integrated system but also because health issues that are deemed to be key priorities are most often addressed through vertical state health programmes for specific diseases/conditions such as HIV/AIDS or TB; services provided through these vertical programmes are financed directly at levels agreed by the National Assembly (parliament) (albeit on the same basis of line-item budgeting) and are not integrated with the main statutory system. One of the roles of the Ministry of Health is to steer health policy and set the strategic direction for purchasers. However, even though district health authorities are

formally subordinated to the Ministry of Health, as funding primarily comes through local government, the regulatory role of local government (and the Ministry of Finance) is de facto much stronger.

The defined package of services to be covered by the statutory system should be in place by 2012; in the meantime, there are just some norms set by the Ministry of Health that cover minimum standards for care.

Regulation and governance of providers

Predominantly, health services are provided by publicly owned facilities: highly specialized tertiary hospitals at the Republican level (under the direct governance of the Ministry of Health), and at district hospital and specialized clinics (*dispanser*) at the secondary level. Primary care is provided through an extensive network of adult and paediatric polyclinics, village hospitals and FAPs (see Chapter 6). Both primary and secondary care are the responsibility of local authorities, with polyclinics, outpatient clinics and village hospitals being subordinated to the district hospital administration led by the chief doctor for the district. The district hospital administration is part of the district health authority and is formally subordinated to the Ministry of Health, although they are financially answerable to local government. This is broadly how services were organized in the Soviet era and until 2008–2009 there were no significant moves away from a command-and-control style of health system.

The Ministry of Health is formally responsible for the regulation of providers in the state sector, despite its limited scope to intervene in the delivery of health care outside its own facilities. Regulation and governance by the Ministry of Health is focused on the development of norms, such as national standards for the quality and volume of health services that should be provided. There is licensing for health facilities in the private sector, but no licensing or accreditation for facilities in the state sector, be they under the control of the Ministry of Health or parallel state structures. The licence and regulation system for equipment, as with the regulation of pharmaceuticals, is the responsibility of the Ministry of Health (see Section 6.6 *Pharmaceutical care*). There is no central register or formal licensing of professional medical staff, but new staff on employment must show they have the relevant qualifications and training including continuing professional development training, which is linked to their remuneration (see Section 5.2, Subsections *Training of health care personnel* and *Registration/licensing*). Among the other reform initiatives, the Ministry of Health is planning to introduce the mandatory certification of physicians as a means of improving quality (see Section 7.2 *Future developments*). Norms

and standards for safety and infection control are enforced by the sanitary-epidemiological Service, which is empowered to conduct spot checks of medical facilities and can close facilities for disinfection where necessary. They can also fine providers if they fail to implement the necessary norms and standards. In 2009, norms for the optimum number of facilities and staff per capita were in development.

Regulation and governance of the purchasing process

Regulation and governance of the purchasing process in Azerbaijan is not transparent and there is limited scope for the use of contracting in the current system. This could, however, change significantly with the introduction of mandatory health insurance, which would purchase services from both state and private providers on a contractual basis (see Section 7.2 *Future developments*).

Regulatory functions are centralized at the national level as part of the command-and-control form of regulation inherited from the Semashko health system. Regulation is by legislation and directives that sanction providers who do not meet minimum standards. However, apart from the highly specialized Republican hospitals, the capacity of the Ministry of Health to implement these standards is severely hampered by the way in which the health system is organized at the local level.

Regulating quality of care

The Ministry of Health sets the standards for quality of care at the central level for implementation by all health care providers in the state sector. However, the monitoring and enforcement of standards are formally implemented at the local level through district health authorities. In reality very little emphasis is placed on regulating the quality of care and there is limited scope within the current health care system to implement regulations.

There have been no official quality assurance reports and there are very limited incentives available to the Ministry of Health to improve the quality of services or to encourage more patient-centred services. There is no systemic approach to evaluating the quality of services provided in either state or private health care facilities (Katsaga and Kehler, 2008) and there are no mechanisms for monitoring national patient safety. However, there have been concerted efforts to introduce voluntary national clinical guidelines to improve the quality of care. Evidence-based medicine is now the only formal approach for the development of national clinical guidelines and, as of 2009, 30 guidelines had been developed for specific conditions, 27 of which had been approved by the

Ministry of Health. The guidelines cover conditions that are most amenable to interventions at the primary care level and those which have the most significant impact on population health. Training for health care professionals in the use of clinical guidelines is ongoing, and there are efforts to revise postgraduate curricula so that they are better aligned with these guidelines and the evidence-based medicine approach.

4.2 Planning and health information management

The Ministry of Health and the Ministry of Finance formally undertake health planning. In most cases, each office within the Ministry of Health prepares plans in its own area. In addition to preparation of a national plan for optimizing the network of health facilities, planning is dominated by discussions about major capital developments focused on diagnostic facilities and high-technology investments. District health authorities are responsible for planning and delivery of health services in their districts. Priorities, such as funding, are currently set on the basis of historical incrementalism, although this is likely to change profoundly with the introduction of a basic benefits package under mandatory health insurance. At the time of writing, the key planning issues were focused on the development of capital stock and the efficiency gains that could be made by consolidating the hospital stock.

Health technology assessment

Health technology assessment can be defined as the structured analysis of health care technology (including pharmaceuticals, medical devices, procedures and organizational and support systems by which health care is delivered) that is performed for the purpose of providing input to a policy decision (Mossialos et al., 2007). On these terms, there are no dedicated health technology assessment agencies in the Azerbaijan health care system and evaluations do not feed into the policy-making process. However, national clinical protocols have been developed on the basis of clinical efficacy and cost-effectiveness.

Information systems

The split between the funding of services by local government and their regulation by the Ministry of Health at the district level has serious implications for the flow of information on the activities of providers at the local level. The Ministry of Health does not receive timely information with sufficient detail from the local level as reporting systems need improvement and are not yet

computerized. Despite efforts to improve information systems, there is no single information system in place for the collection, reporting and analysis of data on activity, services and quality. Fragmentation in the system means that potentially useful information from different parts of the system is not shared and there is a reluctance to report adverse results lest individual staff incur penalties. The reliability of health data (see Section 1.4 *Health status*) acts as a further constraint on the Ministry of Health's ability to monitor health care quality and population health.

The payment of providers according to line-item budgets does not motivate them to collect and analyse data for better planning; providers do not see how they could benefit from improvements in the health information system (Katsaga and Kehler, 2008). There is also a financial disincentive for managers to collect data, as many of the reporting forms are individually numbered so cannot be photocopied and, therefore, have to be purchased. A significant amount of information is also missing as a result of the weak enforcement of reporting procedures for private and parallel health care providers not under the Ministry of Health. The rapid expansion of the private sector and strength of parallel state service providers means that this is not an insignificant part of the overall health system (see Sections 2.3 *Organizational overview* and 3.3, Subsection *Parallel health systems*).

In order to address the broader issues of data collection and data quality within the information system as a whole, the Ministry of Health has been actively developing its Integrated Health Information System Concept. With the introduction of new provider payment mechanisms, this has the potential to radically improve the health information system.

Research and development

There are 11 specialized research institutes – pulmonology, ophthalmology, oncology, traumatology, paediatrics, obstetrics–gynaecology, haematology, prevention, cardiology, rehabilitation and surgery – and they are allocated 0.8% of the health budget. There are no formal mechanisms for integrating the findings of their research into policy-making or health technology assessment.

5. Physical and human resources

5.1 Physical resources

Infrastructure

The Cabinet of Ministers is responsible for the planning and distribution of infrastructure and capital investments in the public health sector. Currently, the main document defining government plans in this field is the State Programme for Development of Regions for 2009–2013, which was adopted by the President in April 2009. The district administrations develop their proposals for capital investment in health facilities in their jurisdiction and submit them to the Cabinet of Ministers, which approves them in consultation with the Ministry of Health. The Ministry of Health develops its own proposals for the health facilities it funds directly. In 2009, a new approach was introduced that sought to define the number and type of facilities needed in a region based on the size of its population.

The decisions on parallel health care infrastructure under other government agencies used to be made without consulting the Ministry of Health, which resulted in an uncoordinated expansion of, and sometimes duplication within, the health facility network. However, from 2008 these agencies have started consulting with the Ministry of Health about their plans. SOCAR under its social investment programme has been constructing treatment-diagnostic centres across the country, which provide both inpatient and specialized outpatient services to the local population; however, after they are built, equipped and the staff trained, these centres will become part of the statutory system rather than remaining under the control of parallel structures.

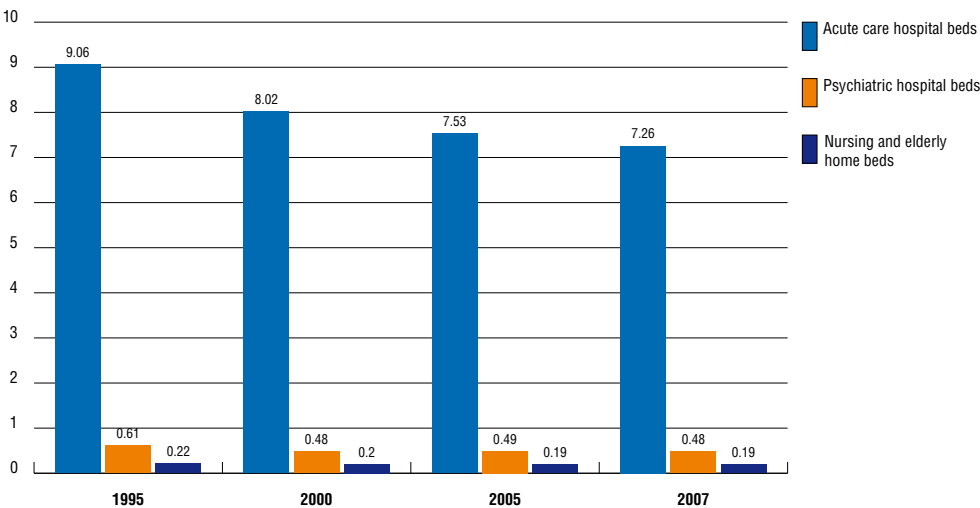
All public health facilities submit annual reports on the long-term assets with their balance values to the Ministry of Health, which keeps consolidated inventories for all institutions under its supervision. Health facilities in the private sector make their own decisions on capital investments independent of the Ministry of Health and based solely on the rate of investment return.

In recent years, the private market has expanded significantly, especially in the capital, which may indicate the profitability of providing medical services. Although there is state support for private initiatives through low interest loans, the health sector has not been considered a priority area in this regard.

Azerbaijan inherited a very extensive network of health facilities in both hospital and ambulatory sectors. In 1995, the country had 733 hospitals, with an average of 9.1 acute hospital beds per 1000 population, which was almost twice the EU level of 4.9 beds for the same year. This level gradually declined to an average of 7.3 acute care beds per 1000 people in 2007 (WHO Regional Office for Europe, 2009). In view of the low utilization of beds and in order to improve efficiency in resource use, the Ministry of Health has decided to bring the number of beds down to 4.5 per 1000 population, which is closer to the EU average as part of optimization plans.

Figure 5.1 shows how the numbers of acute care hospital beds, psychiatric hospital beds and long-term care institution beds in Azerbaijan have changed since 1995. There was a downward trend in bed numbers in acute care in the period 1995–2005, which appears to have stabilized in the period 2005–2006. Bed numbers in long-term care institutions and psychiatric hospitals, by contrast, have been roughly constant throughout this period.

Fig. 5.1
Mix between beds in acute care hospitals, psychiatric hospitals and long-term care institutions per 1000 population, 1995–2007

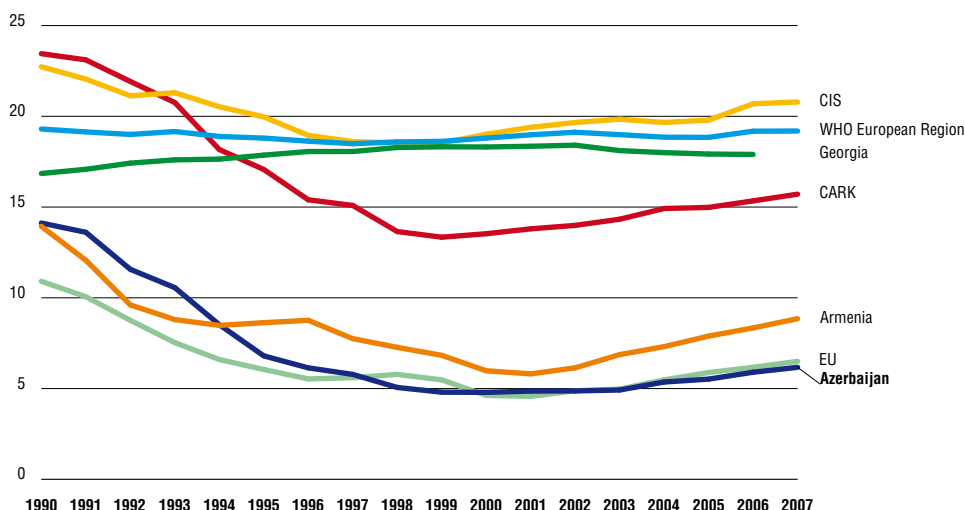


Source: WHO Regional Office for Europe, 2009.

Azerbaijan is characterized by a very low admission rate, which may indicate access problems. Even after the economic collapse following independence, the admission rate continued to decline during the second half of the 1990s, albeit less steeply, from 6.8 per 100 population in 1995 to 4.8 in 2000 (Fig. 5.2). The trend reversed in the early 2000s and admissions started to increase, reaching 6.2 per 100 population in 2007. Nevertheless, the rate is still the lowest in WHO European Region and less than a third of the average across WHO European Region (19.2 per 100 people in 2007) (WHO Regional Office for Europe, 2009).

Fig. 5.2

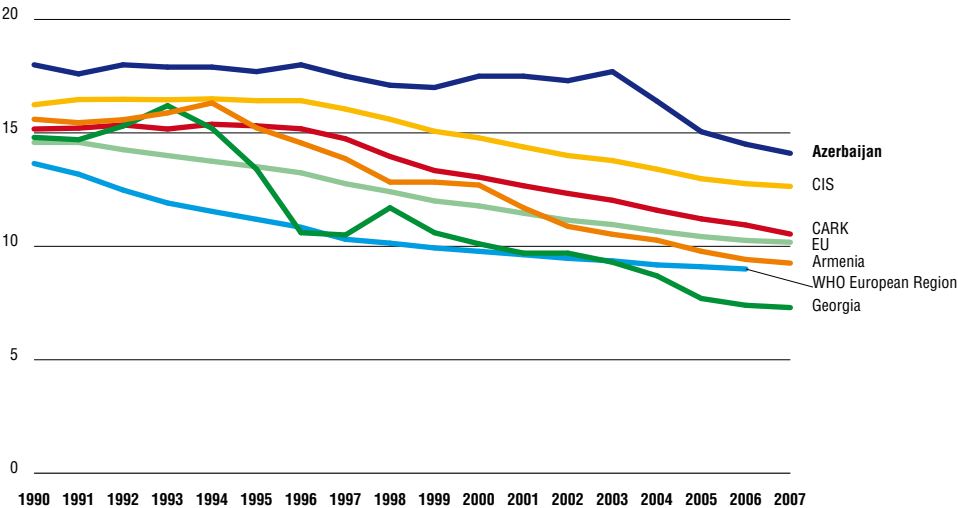
Inpatient care admissions per 100 population, 1990–2007



Source: WHO Regional Office for Europe, 2009.

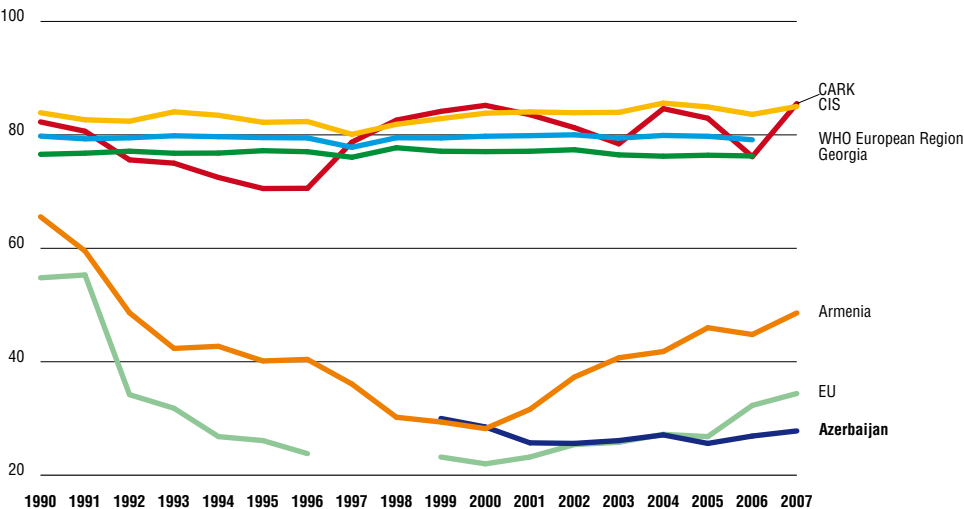
At the same time, Azerbaijan has the greatest average length of stay in the WHO European region (Fig. 5.3). One of the reasons for this could be the fact that financing is linked to the number of beds in a facility, which creates incentives for providers to keep them occupied to justify their number. This situation has persisted since the mid-1990s. Nevertheless, as in all ex-Soviet countries, average length of stay in Azerbaijan has been falling, from 17.7 days in 1995 to 13.8 in 2007 (WHO Regional Office for Europe, 2009). Average length of stay may shorten even more in coming years with the planned introduction of case-based payment system for hospitals, as has been the case in other CIS countries.

Fig. 5.3
Average length of stay (days), all hospitals, 1990–2007



Source: WHO Regional Office for Europe, 2009.

Fig. 5.4
Bed occupancy rate (%) in acute care hospitals, 1990–2007



Source: WHO Regional Office for Europe, 2009.

Finally, the health system in Azerbaijan is characterized by a very low bed occupancy rate (Fig. 5.4). In 2007, the country had the lowest bed occupancy rate in WHO European Region (27.8%) followed by Georgia (34.4%) and Armenia (48.6%) (WHO Regional Office for Europe, 2009). The fall in occupancy happened mainly during the early 1990s, when the rate plunged to around 30% by the mid-1990s from 70–80% in the late 1980s (Holley et al., 2004). The bed occupancy rate had stabilized by the late 1990s and has fluctuated around 25–30% since (Fig. 5.4). However, the bed occupancy rate is expected to rise sharply in 2009 as the Ministry of Health has taken the decision to cut the number of beds by almost half in order to improve the efficiency of resource use in hospital sector as part of the Optimization Master Plan (see Section 7.1 *Analysis of recent reforms*).

Capital stock and investments

In recent years, the government has started to allocate more and more resources for capital investment, primarily for the renovation or building of hospitals and for new expensive diagnostic equipment. As in many other ex-Soviet countries, the health infrastructure in Azerbaijan suffered significantly from a very low level of capital investment through the 1990s. With rising oil revenues, the government considers the rehabilitation of health facilities and provision of new medical equipment to be high priorities in the health sector. Along with increased capital investment allocations from the state budget for the Ministry of Health, major investments are made by other ministries as well as by state-owned companies, in particular SOCAR.

Medical equipment, devices and aids

The procurement of medical equipment, devices and aids for health facilities under the Ministry of Health is centralized and conducted by the Innovation and Supply Centre, which was established in 2005 under the Ministry of Health. All public health facilities (excluding those in parallel health systems) are required to submit their annual requests to the Ministry of Health, which analyses and approves them in consultation with leading specialists. After approval by the Ministry of Health, the Innovation and Supply Centre issues an open tender. The procurement process in the private sector and parallel public health systems is not regulated by the Ministry of Health and is made based on the decisions of the owners of the health facilities. Expensive medical equipment such as scanners for computed tomography and magnetic resonance imaging are not widely available in the main health system.

Information technology

The development of information technology is a national priority for the Government of Azerbaijan. In 2005, the President signed the Decree endorsing the State Programme for the Development of Communication and Information Technologies in the Republic of Azerbaijan in 2005–2008 (Electronic Azerbaijan). The programme set a wide range of ambitious objectives, from improving access to the Internet for the population to forming an ‘E-government’. The Action Plan for this programme included three specific objectives that pertain to health care:

- creation of the National Centre for Monitoring Population Health and various electronic medical registries;
- creation of a system of e-health cards for citizens; and
- development and introduction of a model medical-information system for health facilities.

In 2006, the Cabinet of Ministers approved Rules for the Introduction of The System of ‘E-Health Cards’. To implement this system, the Ministry of Health has launched the E-Health Card Project, which is funded through a special state health programme. Within the framework of this programme, the Ministry of Health established a separate information centre to act as the main information bank for the system of e-health cards. It is planned that ultimately all hospitals, polyclinics, ambulances, pharmacies and other health facilities will be provided with processing equipment that will allow them to read the information stored on the e-health cards as well as to enter new data. The Ministry of Health started distributing the card-reading equipment at the end of 2007. The e-health card is a plastic card with a chip that allows the entering, storing and modifying of a significant amount of information, including personal, health and insurance data. It was decided to cover the child population first, starting with neonates, and gradually expanding it to adults to achieve universal coverage. When fully established, the system of e-health cards will allow the creation of various medical registries for immunization, antenatal care, and so on. In addition, it may provide a basis for the creation of a health information system for primary care facilities. It will also greatly simplify information sharing between health facilities as well as being a part of the mandatory health insurance scheme since the information on insurance status could also be stored on the cards.

At the time of writing, the system of e-health cards was at too early a stage of development for the effectiveness of the system or the progress made towards meeting the health sector objectives set in the State Programme for the Development of Communication and Information Technologies to be evaluated.

Under the third objective of the programme, the Ministry of Health developed and installed the new hospital health information and management system in Hospital No.1 in Baku, so that it can be used as a model for other public hospitals. The new computer-based system uses special software that records all hospital activities, thus turning the physician's workplace into a computerized office that potentially will allow the existing paper-based records system to be replaced. As with the e-health cards, this system was at too early a stage of implementation at the time of writing to evaluate its effectiveness. Nevertheless, it is clear that such a system, if accepted as a model for other health facilities, will require significant investment in equipment as well as in health personnel, as most have no or few computer skills.

5.2 Human resources

In 2007, there were 30 766 physicians and 61 582 mid-level health care personnel (*feldshers*, nurses, midwives and other) in Azerbaijan. Of those, 28 489 physicians and 57 028 mid-level health workers were employed in health care system under the Ministry of Health (see Table 5.1).

Trends in health care personnel

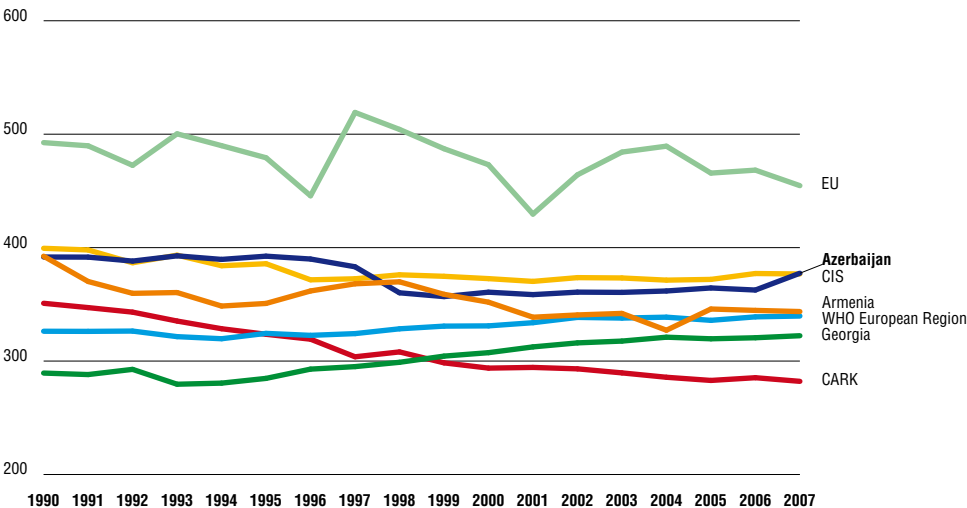
In 1990, as the Soviet Union was collapsing, Azerbaijan had 3.9 physicians per 1000 population, which was in line with the Soviet average of 4.0 physicians (physical persons) per 1000 but significantly higher than the average across the WHO European Region of 3.3 physicians per 1000 (Fig. 5.5). The gradual reduction in this indicator was observed during the late 1990s. The number of physicians per capita stabilized at approximately 3.6 per 1000 population in the early 2000s and grew to 3.8 per 1000 in 2007 (WHO Regional Office for Europe, 2009). In this regard, the country is above the average level of 3.4 physicians per 1000 population in the WHO European Region and equal to the CIS average of 3.8 physicians per 1000 population in 2007 (WHO Regional Office for Europe, 2009).

Table 5.1
Health personnel employed in the Ministry of Health system by selected categories, 2007

Health personnel	Actual persons
Doctors	28 489
Nurses	30 041
Midwives	9 416
Feldshers	7 030
Laboratory technicians	3 658
Hospital staff	
Doctors	14 984
Nurses	15 558
Midwives	4 241
Feldshers	2 042
Laboratory technicians	1 011
Primary care including polyclinics	
Doctors	13 505
Nurses	14 483
Midwives	5 175
Feldshers	4 988
Laboratory technicians	2 647

Source: Unpublished data from the Department of Health Information and Statistics of the Ministry of Health, 2009.
Note: Feldshers are medical assistants.

Fig. 5.5
Physicians per 100 000 in Azerbaijan and selected countries, 1990–2007

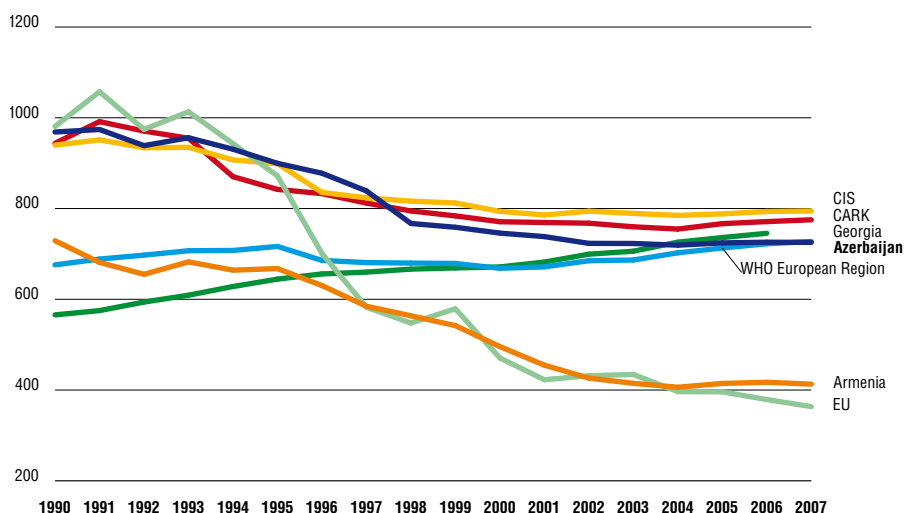


Source: WHO Regional Office for Europe, 2009.

Azerbaijan has seen a significant reduction in the number of nurses per capita since independence. As shown in Fig. 5.6, the country had 9.7 nurses per 1000 population in 1990, which was in line with the average level in CIS countries (9.4 nurses per 1000 population) but significantly higher than across the WHO European Region (6.8 nurses per 1000 population). The economic collapse of the 1990s was accompanied by very low pay for nurses in the public sector, which resulted in a significant loss of the nursing workforce. As with the physicians, some stabilization occurred in the early 2000s, with the ratio of nurses to 1000 population in 2007 staying at approximately 7.3, which matched the average WHO European Region level of 7.3 (WHO Regional Office for Europe, 2009).

Fig. 5.6

Nurses (physical persons) per 100 000 population in Azerbaijan and selected countries, 1990–2007



Source: WHO Regional Office for Europe, 2009.

There has been a significant reduction in the ratio of dentists and, in particular, pharmacists to population size since 1995 (see Table 5.2). However, it needs to be emphasized that these data may misrepresent the true situation since the existing data collection system may not capture fully all those who have moved to the private sector since the independence.

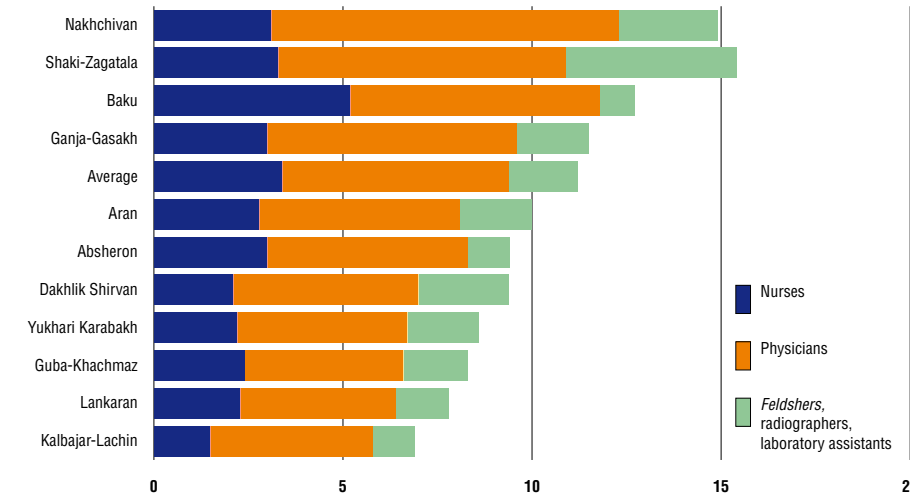
Table 5.2
Health care personnel, 1995–2007 (selected years)

Personnel	No. per 1000 population								
	1995	2000	2001	2002	2003	2004	2005	2006	2007
Physicians (FTE)	3.85	3.56	3.53	3.53	3.50	3.48	3.4	3.74	3.31
Dentists (FTE)	0.22	0.20	0.20	0.19	0.19	0.19	0.18	0.18	0.17
Nurses (FTE)	8.76	7.56	7.51	7.31	7.27	7.38	6.96	6.87	6.76
Midwives (FTE)	–	0.58	0.59	0.56	0.56	0.55	0.54	0.54	0.53
Pharmacists (PP)	0.60	0.30	0.26	0.28	0.22	0.21	0.21	0.13	0.19

Source: WHO Regional Office for Europe, 2009.
Notes: FTE: Full-time equivalent; PP: Physical person.

The average distribution of medical staff across the country disguises significant regional differences, as there are difficulties with recruiting and retaining staff in rural areas. As a consequence there is no shortage of doctors in Baku, but other regions are underserved (Fig. 5.7). A major factor behind the optimization plans for the district health services will be to ensure geographical accessibility for primary care services, and this will involve the optimization of human resources as well as capital stock (see Section 7.1 *Analysis of recent reforms*).

Fig. 5.7
Distribution of staff across economic regions, per 1000 population, 2007



Source: Adapted from Cochrane and Crilly, 2008.

Planning of health care personnel

The planning of health personnel is conducted by the Department of Human Resources, Education and Science in the Ministry of Health. The department collects and analyses data on vacancies in health facilities in the public sector. Based on the aggregated data, the Ministry of Health sends a request to the Azerbaijan Medical University, which is the only medical school in Azerbaijan. In accordance with the request the university allocates graduates to various specialty internships. The same process happens for the planning of nursing and mid-level health care personnel, where the Ministry of Health works closely with the eight nursing schools in the country. In 2009, a new approach was introduced that seeks to define the number and type of staff needed in the system based on demographic criteria.

However, the planning efforts of the Ministry of Health are not always effective in ensuring a balanced mix of medical specialties or their rational geographic distribution throughout the country. First, the Ministry of Health loosened its planning functions during the 1990s, which resulted in an oversupply in certain specialties such as obstetrics-gynaecology and surgery. Second, the ministry ceased having a mandatory three-year assignment for medical graduates to work in rural areas, which existed during Soviet times. Finally, the flourishing private sector in Baku attracted many experienced health care professionals, thus draining the public sector. The Ministry of Health is trying to address this problem through the stricter control of specialization by new doctors and restoring a system of mandatory rural assignments for graduates. However, such measures are unlikely to succeed unless supported by substantial economic or other stimuli for young physicians.

Training of health care personnel

In July 2009, the government endorsed a new law on education and the Ministry of Health was asked to prepare a draft law on medical education by October 2009. At the time of writing, the new concept for medical education was to be based on a European model and include features such as residency programmes. Nevertheless, until this new concept is developed and implemented nationwide, the training of health care personnel is as described here. The Azerbaijan Medical University is the only provider of undergraduate medical education in the country. Several unlicensed private medical schools used to function in the late 1990s and early 2000s but they were all closed by the Ministry of Education by 2005. Currently, 1020 medical students are enrolled annually in 8 departments (see Table 5.3).

Table 5.3

Annual enrolment in Azerbaijan Medical University by departments

Department	Duration of undergraduate training (years)	No. of students per year
Paediatrics	6	190
Treatment–prevention	6	500
Medico-biological	5	30
Stomatology (dentistry)	5	120
Pharmaceutical	4 – bachelors degree 6 – masters degree	60
Medical prophylaxis	5	50
Medical military	6	70
Total	–	1 020

Source: Unpublished data from the Department of Human Resources, Education and Science of the Ministry of Health, 2009.

As shown in Table 5.3, the mainstream medical education requires six years of undergraduate training. Since the health care delivery system for adults and children in Azerbaijan is still divided, providers for each system are trained separately in treatment–prevention and paediatrics departments, respectively. Military physicians are also trained for six years. The undergraduate training for dentists and doctors working in the Sanitary-Epidemiological Service lasts five years. The training of pharmacists requires four years for a bachelors degree with additional two years for those who wish to obtain a masters degree. Radiologists, ultrasound specialists and laboratory doctors need five years of undergraduate education.

Physicians specializing in sanitation and epidemiology undergo five years of training in the relevant department of the Azerbaijan Medical University. Nurses specializing in sanitation and epidemiology are trained in the Nursing School in Baku for two and a half years. There are also postdiploma training courses available through the Baku Nursing School. One of the private universities also provides a masters degree programme in public health.

In addition to an undergraduate education, all physicians are required to undergo a one-year internship when they practise medicine under the supervision of senior physicians. Some of the doctors may also specialize at this stage. The major specialty training of physicians starts during the sixth year of undergraduate education, when the split into surgical and non-surgical specialties occurs. Those in the treatment–prevention department may also choose to specialize in obstetrics-gynaecology. The specialized training is two years (the sixth year of undergraduate education and the one year of internship) for surgeons and obstetrician-gynaecologists. The training

for all other specialties is one year and occurs during the internship. The graduates who did not select any narrow specialty become generalists, who are either general paediatricians for graduates of the paediatrics department or general therapists for graduates of the treatment–prevention (*lechebno-profilakticheskii*) department. However, if they wish, they can specialize in the later stages of their career through specialization courses at the Azerbaijan Physicians' Advancement Institute, which is the main body responsible for the postgraduate education of physicians.

The Azerbaijan Physicians' Advancement Institute also provides short courses for physicians, who are required to attend refresher training courses in their respective areas of medicine every five years. In 2008, more than 2700 physicians attended various refresher courses through the Institute. In addition to the courses of the Azerbaijan Physicians' Advancement Institute, several training courses have been developed and funded by international organizations such as UNICEF (training in maternal–child care), UNFPA (training in family planning and reproductive health), WHO (training in primary care and public health), USAID (training in primary care and emergency medicine) and others. These training courses are usually conducted through so-called master-trainers, who are commonly selected by the sponsoring agency in consultation with various national counterparts and then trained by international consultants. However, this practice has proven to be unsustainable because the courses have not become institutionalized and usually have been discontinued after the cessation of funding.

There are eight nursing schools in Azerbaijan, two of which are in the capital while others are located in other larger cities across the country. The duration of training varies, depending on specialty profile, from 22 months to 30 months. Nurse training is not considered higher education and graduating nurses are granted vocational diplomas. In 2008, the total annual admission to all nursing schools was 1950 (see Table 5.4). Postdiploma education for nurses is provided through three nursing schools (Baku, Ganja and Mingchevir). Depending on the specialty, refresher courses are required every five years. The course duration also varies from five days to two months. In 2008, approximately 2200 nurses underwent postdiploma training (unpublished data from the Ministry of Health, 2009).

Table 5.4
Annual enrolment in nursing schools by specialties in 2008

Specialty	Duration of undergraduate training (months)	No. of enrollees per year
<i>Feldsher</i>	30	520
Nurse	22	420
Midwife	30	520
Pharmacy technician	22	230
Sanitary–epidemiological technician	30	50
Laboratory technician	22	90
Dental technician	22	120
Total	–	1 950

Source: Unpublished data from the Department of Human Resources, Education and Science of the Ministry of Health, 2009.
Note: *Feldshers* are medical assistants.

Registration/licensing

There is no central register of physicians working in Azerbaijan and individual practitioners are not formally licensed (see Section 4.1, Subsection *Regulation and governance of providers*).

6. Provision of services

6.1 Public health

Historically, the concept of public health, as defined by WHO, has not existed in Azerbaijan. The country inherited a Soviet understanding of public health that was mainly limited to the control of communicable diseases to be conducted through the developed infrastructure of sanitary-epidemiological network. Soon after independence, the adoption of the Law on Sanitary-Epidemiological Wellbeing provided a legal framework for a broader concept of public health in the country. Currently the responsibility for public health services is divided between different agencies, including the Sanitary-Epidemiological Service, the recently established Public Health and Reforms Centre of the Ministry of Health, the National HIV/AIDS Centre and other structures.

The Sanitary-Epidemiological Service has the following main functions:

- to develop and approve sanitary and hygienic norms and regulations including communal hygiene (drinking water, sewage disposal, living and work spaces and others), food hygiene (production, distribution, storage, sale and handling of food products), occupational and environmental hygiene, radiation hygiene;
- to devise norms and regulations for environmentally hazardous substances;
- to conduct state sanitary surveillance and epidemiological investigation;
- to register and conduct social-hygienic monitoring of the environmental and occupational impact on the health of the population:
 - to prevent and eliminate infectious and parasitic diseases and food poisoning;
 - to organize and conduct sanitary-hygienic and anti-epidemic activities in emergencies;

- to review the sanitary-epidemiological situation, demographic processes, quality of environment, physical development of and morbidity among the population;
- to develop programmes and activities on the improvement of the health of the population and other social activities;
- to disseminate sanitary knowledge in order to promote healthy lifestyles and improve the sanitary culture of population; and
- to ensure protection against entry and spread of quarantine infections on the territory of the Republic of Azerbaijan as well as to prevent the import of food products and consumer goods dangerous to health.

The Sanitary-Epidemiological Service is a vertically integrated system with central and local levels represented by the following structures.

Sanitary-Epidemiological Surveillance Inspection Service. A department of the Ministry of Health that reports to the Head Republican Sanitary Doctor and coordinates the activities of the specialized hygiene and epidemiology centres as well as ensuring implementation of state sanitary surveillance.

Republican Hygiene and Epidemiology Centre. The Centre provides organizational-methodological supervision of 83 district and city hygiene and epidemiology centres as well as the hygiene and epidemiology centre on water transport in implementation of the functions of Sanitary-Epidemiological Service.

Republican Sanitary-Quarantine Inspection Service. This provides organizational-methodological supervision of organizations in the Sanitary-Epidemiological Service over issues related to ensuring sanitary protection against the entry and spread of quarantine infections (the list of such infections is approved by the Cabinet of Ministers) and the import of food products and consumer goods dangerous to health. The inspection has eight sanitary-quarantine posts on state border crossings.

Republican Anti-Plague Station. This organizes and implements preventive and anti-epidemic measures against very dangerous infections (10 conditions including plague, cholera and anthrax, which are endemic in certain areas) and also provides organizational-methodological supervision of local sanitary surveillance structures. It has five regional branches. The station also carries out research activities.

Disinfection Service. This service is responsible for the overall supervision of district and city disinfection departments and stations and provides organizational-methodological guidance to health facilities in the conduct of disinfection and sterilization activities. Its local departments also provide disinfection and pest control services on a private contractual basis with other organizations or individual households.

The hygiene and epidemiology centres are equipped with bacteriological, parasitological, virological and environmental health laboratories. However, their equipment, especially at the district level, often fails to meet international standards, and testing is predominantly conducted at the central level. The centres are staffed by sanitary physicians and physician-epidemiologists, who specialized in the relevant fields at the undergraduate level, as well as technical staff, including laboratory technicians, specialists in disinfection, pest control and others. Currently, the Sanitary-Epidemiological Service employs approximately 9000 people, including 1300 physicians.

Although the responsibilities of the Sanitary-Epidemiological Service are broad, the major activities concentrate on the surveillance of infectious diseases and supervision of the immunization programme. Overall, the Sanitary-Epidemiological Service is characterized by a low level of integration with primary care services. Indeed, there are tensions between the two as some of the sanitary norms and requirements are too difficult to follow. For example, many primary care physicians refuse to diagnose their patients with diarrhoea because even in cases of simple diarrhoea they are required to notify the local hygiene and epidemiology centre, refer the patient to hospital and trace and report all contacts. As a result, both providers and patients are more interested in hiding such cases, and a recent survey of prescription practices conducted by the Ministry of Health jointly with WHO and USAID revealed that virtually no cases of diarrhoea are registered in outpatient settings (Analytical Expertise Centre for Medicines, 2009). While such strict rules are appropriate for the control of more serious infections such as cholera, they need to be modified for milder infections.

Although the Sanitary-Epidemiological Service is formally responsible for promoting healthy lifestyles, their role is limited to distribution of health posters to health facilities that only cover topics related to immunization and personal hygiene.

Immunization programme

The legal basis for state efforts in immunization is laid by the Law on Immunoprophylaxis of Infectious Disease adopted in 2000. The State Programme on Immunoprophylaxis of Communicable Diseases was approved by Cabinet of Ministers in 2006 and covers the period 2006–2010. The programme describes the main principles of state policy in the field of immunization:

- necessity to conduct vaccination of all citizens of the country;
- free immunization and vaccination activities in national and municipal medical facilities;
- implementation of targeted national and regional programmes;
- use of efficient medical immunobiological medications for immunization activities;
- training of medical staff in the field of immunoprophylaxis;
- social protection of the population in cases of adverse events following immunization;
- improvement of the data monitoring systems;
- creating conditions for humanitarian organizations to participate in immunization programmes; and
- development of international cooperation.

The Republican Epidemiology and Hygiene Centre supervises the organization and implementation of immunization activities through the network of city and district centres. It tracks the collection of statistical data on the spread of communicable diseases at all levels and determines the target groups and procurement planning for vaccines. It also distributes vaccines to health facilities based on their plans and requests, ensures the stock of vaccines on site is sufficient for three months in cold storage and writes requests for the procurement of vaccines. The procurement of all medications and the supply of all vaccines to medical facilities are conducted by the Innovation and Supply Centre, which is also responsible for their storage and distribution to final destination users (see Section 5.1, Subsection *Medical equipment, devices and aids*). Vaccines are actually administered by primary care providers.

In 1994, Azerbaijan's Ministry of Health adopted WHO guidelines for childhood immunizations, which recommended that all children receive BCG vaccination against TB; four doses of DTP vaccine to prevent diphtheria, pertussis and tetanus; five doses of polio vaccine; and a measles vaccine

during the first year of life. Since 2003, measles immunization has been given at 12 months of age in the form of an MMR vaccination to protect against measles, mumps and rubella. In addition, since 2001, the Ministry of Health has recommended that children receive three doses of hepatitis B vaccine. The current immunization schedule is provided in Table 6.1. The Ministry of Health is currently discussing the possibility of adding a vaccine against *Haemophilus influenzae* type B (Hib) to the obligatory immunization schedule.

Table 6.1
National immunization schedule as of January 2009

Age	Vaccines
Within 12 hours of birth	Hepatitis B
4–7 days	BCG, OPV
2 months	DTP, OPV, hepatitis B
3 months	DTP, OPV
4 months	DTP, OPV, hepatitis B
12 months	MMR
18 months	DTP, OPV
6 years	MMR, DT

Notes: BCG: Bacillus Calmette-Guérin (TB); DTP: diphtheria-tetanus-pertussis; DT: diphtheria-tetanus; MMR: measles, mumps and rubella; OPV: oral polio vaccine.

Advocacy campaigns on immunization are conducted by local hygiene and epidemiology centres as well as by primary care providers. Since 2006, Azerbaijan has joined the European Immunization Week Initiative, conducted by WHO European Region Member States in April of every year. The first European Immunization Week in Azerbaijan was launched by Mehriban Aliyeva, the First Lady, in 2007 and was very successful in the mobilization of resources and public attention. This initiative is considered by the government to be one of the best opportunities to achieve high vaccination coverage through sustainable public awareness campaigns on immunization.

HIV/AIDS programme

The legislative basis for national efforts to control HIV/AIDS was established through adoption of the Law on the Prevention of Spread of the Disease Caused by HIV (AIDS) in 1996. The law outlined the responsibilities of the state in the area of HIV/AIDS control, namely:

- adoption and implementation of a national programme to prevent the spread of HIV/AIDS epidemic;

- safety in terms of HIV infection during transfusion of blood and its components, the transplantation of organs and tissues as well as various medical interventions (both surgical and dental) at curative–preventive facilities;
- provision of full information to the population about HIV/AIDS prevention;
- initial and continuing counselling about opportunities for and safety of medical investigations during HIV infection (for both patients and medical personnel);
- provision of outpatient and inpatient care and drug treatment for patients with HIV/AIDS who are citizens of the Republic of Azerbaijan, based on the rules established by relevant authorities;
- provision of all kinds of specialized care free of charge to prisoners in penitentiary facilities who have HIV/AIDS; and
- provision of all kinds of specialized care to patients with HIV/AIDS who are foreigners or persons without citizenship, based on the rules established by relevant authorities.

The first National Strategic Plan for the Prevention of HIV/AIDS was adopted in 2002 and implemented from 2002 to 2006. In 2008 the second Programme to Fight HIV/AIDS was adopted with the following goals:

- to strengthen coordination of efforts and activities in the field of HIV/AIDS control, to be implemented by various public structures and the private sector;
- to improve epidemiological indicators related to HIV/AIDS and sexually transmitted infections, including infection with HIV among high-risk groups;
- to provide medical care, treatment and social support to patients with HIV/AIDS; and
- to strengthen preventive measures among high-risk groups and the general population.

Azerbaijan established a vertical infrastructure for preventing and treating HIV infection and AIDS in 1998, separating it from the Sanitary-Epidemiological Service. The National AIDS Centre is located in Baku, with 12 regional laboratories to cover the entire country. The Centre acts as reference laboratory and inpatient facility. Because of the comparatively small

number of patients requiring antiretroviral treatment (less than 200 in 2008), all such patients receive this therapy through the National Centre in Baku. It also oversees and coordinates all anti-HIV activities as well as studying the epidemiology of HIV and AIDS. The role of regional laboratories is to test blood, carry out surveillance, provide counselling services and educate the public on prevention of HIV infection. The testing and counselling are anonymous and free. The testing policy has changed over time and there is no longer a mandatory testing policy, except for blood donors. However, it is still common practice to screen all pregnant women and military recruits. Moreover, Ministry of Health instructions to health providers recommend that all inpatients are offered voluntary screening for HIV/AIDS, which, in practice, often becomes mass testing without full consent.

Implementation of the HIV/AIDS programme has been supported by international organizations. Among them is the Global Fund, which provided a US\$ 10 million grant to implement a five-year project starting in 2005 aimed at strengthening the capacity of the government to respond to HIV/AIDS and other sexually transmitted infections. As with other Global Fund projects, a Country Coordination Mechanism was established, chaired by the Ministry of Health, to oversee the process of proposal development and to facilitate programme implementation. The project primarily targets high-risk groups such as injecting drug users, prisoners, commercial sex workers, men who have sex with men, migrants and youth through outreach awareness campaigns, syringe exchange programmes and condom distribution. It also strengthens the capacity of the health care system to diagnose and treat HIV/AIDS and other sexually transmitted infections through the training of health personnel and provision of antiretroviral drugs, laboratory supplies and equipment.

Malaria programme

The malaria situation in Azerbaijan began to deteriorate rapidly after 1990 as a result of the almost complete cessation of malaria preventive activities and mass migration of the population from the areas affected by the conflict over the Nagorno-Karabakh region of Azerbaijan. In 1996, the number of registered malaria cases in Azerbaijan reached 13 135 (Ministry of Health, 2008a). As of 1998, the government committed to an intensive response to the burden of malaria and developed a National Malaria Control Programme in cooperation with WHO. The National Malaria Control Programme was implemented with the support of international partners. Over the course of 1997–2006, as a result of large-scale epidemic control interventions, the malaria situation in the country improved continuously, with only 110 cases reported in 2007 (Ministry

of Health, 2008a). Although the incidence at present is relatively low (< 1 per 1000 population at risk in 2007), the receptivity of 80% of the territory of the country remains high, and active foci of malaria are currently reported in 23 districts of Azerbaijan (Ministry of Health, 2008a).

The Republican Hygiene and Epidemiology Centre is the main structure within the Ministry of Health responsible for the planning and implementation of malaria control measures in the country. The diagnosis and treatment of malaria is considered a part of the primary health care system, while surveillance and vector control efforts are overseen and conducted by the Sanitary-Epidemiological Service. Currently, malaria control interventions consist mainly of disease management, training, surveillance and selective vector control.

In December 2005, Azerbaijan endorsed the Tashkent Declaration to move from malaria control to elimination in the WHO European Region (WHO Regional Office for Europe, 2005). The goal of the programme financed under this agreement is to reduce the transmission and incidence of *Plasmodium vivax* malaria and to prevent malaria outbreaks. In 2008, the Ministry of Health adopted the National Malaria Elimination Strategy and the Action Plan for 2008–2013 (Ministry of Health, 2008a), which has the following objectives:

- to eliminate local transmission of malaria by 2013;
- to prevent reoccurrence of malaria in the areas already cleared from infection; and
- to strengthen surveillance of imported malaria.

After 2013, when the complete interruption of malaria transmission has been achieved, activities will be directed at preventing the re-establishment of malaria. In areas of the country where malaria has already been eliminated, attention is given to maintaining malaria-free status.

The National Programme is currently supported by Global Fund, which provided a US\$ 3.4 million grant in 2009 to strengthen the institutional capacity of the Republican Hygiene and Epidemiology Centre and its regional branches in malaria epidemiology, management and prevention. The project is also aimed at improving the capacity of the health care system to provide early diagnosis and treatment of malaria by strengthening the capacity of parasitological laboratories and entomological units of the hygiene and epidemiology centres as well as training health personnel in malaria diagnosis, case management and

treatment. In addition, Global Fund supports improvements in the surveillance system as well as vector control interventions, community awareness campaigns and scientific research and studies on malaria.

TB programme

The Law on the Control of Tuberculosis enacted in 2000 guarantees the following:

- emergency care for TB;
- provision of testing related to TB;
- social support, including provision of isolated living space for patients with infectious forms of TB and employment for persons suffering from TB and its consequences;
- specific prophylaxis of TB, consultative-diagnostic, treatment and rehabilitation care in public anti-TB outpatient, inpatient and sanatorium facilities;
- provision of specialized care for prisoners in penitentiary facilities who have TB; and
- tax breaks for organizations providing employment for persons who have become disabled as a result of TB.

Formally, Azerbaijan has a national TB control programme based on the DOTS strategy recommended by WHO, but TB services are provided through a vertical system of specialized facilities with little integration into primary care. The Azerbaijan Lung Disease Research Institute is the leading institution implementing the national programme. It supervises the work of a network of specialized TB clinics, which are funded by district administrations. Although coverage of the DOTS strategy was extended to the whole country, its actual implementation raises much concern since the patients are still referred from primary care to TB specialists to confirm diagnosis and receive treatment. The role of primary care providers is limited to referral of suspected cases, contact tracing and health education.

Anti-TB drugs are provided free of charged through TB specialists. In order to reduce the inappropriate use of anti-TB drugs, the Ministry of Health has prohibited the open sale of first-line anti-TB drugs through pharmacies since 2007. However, considering the significant social stigma associated with TB, which makes patients unwilling to be formally registered, this may be difficult

to enforce. There is already some anecdotal evidence that this prohibition is not strictly followed by private pharmacies, and the drugs are still freely available on the market.

In 2008, the Azerbaijan Lung Disease Research Institute drafted a new national strategy for TB control that envisaged the establishment of a network of bacteriological laboratories to be responsible for sputum microscopy of all suspected cases. The central laboratory at the Azerbaijan Lung Disease Research Institute will act as a reference laboratory and will conduct sensitivity tests for all cases of suspected MDR-TB. Considering the very high incidence of primary MDR-TB, which is among the highest in the WHO European Region, international experts proposed a modification to the strategy to ensure sensitivity testing of all sputum samples prior to the initiation of treatment with first-line anti-TB drugs.

The national TB programme is supported by international donors such as Global Fund, USAID and others. The funding from Global Fund is aimed at strengthening and expanding the DOTS programme in the country as well as scaling up the management of drug-resistant TB. In 2009, USAID launched a two-year programme to provide technical assistance to the Ministry of Health in designing and implementing national TB policies.

Health promotion

Prior to establishing the Public Health and Reform Centre (PHRC) the importance of health communication was seriously understated by Ministry of Health structures. The absence of a body dedicated to health communication activities, and insufficient capacity in both personnel and resources, led to an inability to organize efficient communication interventions by the Ministry itself or to coordinate the work of partners, including international organizations. This led to serious delays in the development and approval of communications materials, duplication of some material and controversial messages on some health-related issues, while other areas of interest were left neglected. The establishing of the PHRC with its Department of Health Communication and Public Relations (DHCPR) in 2007 helped the Ministry of Health to ensure better oversight and coordination of health promotional activities carried out by a number of governmental and non governmental agencies. This department is closely supported by international organizations, strengthening its capacity through training, exchange visits and technical assistance in the development of a national health communication strategy.

The DHCPR is responsible for the development of annual health communication activity plans as well as a multi-year national health communication strategy. At the time of writing, the first strategy was under development in close collaboration with leading experts in the Ministry of Health and local and international partners active in health communication. This document will define the national priorities for health communication interventions and streamline the Ministry of Health's activities in promoting health and well-being for all Azerbaijanis. The department also serves as a final authority for the assessment and approval of all health communication materials developed in Azerbaijan. The DHCPR works closely with the media to improve their reporting skills on health-related issues through various workshops and seminars. The DHCPR also coordinates media placements for health communication materials from the Ministry of Health and its partners to obtain it gratis or at discounted rates. Nevertheless, despite the establishment of the DHCPR, the government allocates limited resources to public health campaigns.

In those parts of the health system under the Ministry of Health, the nurses working in primary care facilities are tasked with conducting health promotional or educational activities in their coverage areas. However, in most cases they lack specialist skills in this field and their efforts are not supported by printed materials.

In addition to Ministry of Health structures, there are many non-profit-making organizations involved in health promotional activities in areas of their interest. Among them are the Azerbaijan Health Communication Association and the Azerbaijan Diabetic League.

Other programmes

Azerbaijan implements several other public health programmes developed in accordance with the national priorities in protecting the health of the population. Among them is the programme on prevention of iodine deficiency through the iodization of salt. Because there was a high prevalence of endemic goitre caused by a lack of iodine, the government enacted the Law on the Iodization of Salt for Mass Prophylaxis of Iodine Deficiency in 2002. Under this, the government is responsible for ensuring access for the population to iodized salt through subsidies on its production, encouragement of its import and state support for population awareness campaigns.

Another important initiative is giving vitamin A supplements to all children at the ages of 12 months, 18 months and 6 years, which was introduced in 2004. There are also discussions about flour fortification supported by the Asian Development Bank and other donors, but no legislation or national programme has been adopted in this field so far.

6.2 Patient pathways

There is no formal system for patient pathways in Azerbaijan. Weak gatekeeping at the primary care level means that any patient can start from any level of care (primary, secondary or tertiary) depending on their place of residence, personal connections and ability to pay. Any patient with the financial means can also opt out of the public system with its formal gatekeeping and self-refer directly to a private facility. Although most health care is formally free at the point of use, often patients will be requested to pay fees to access services (World Bank, 2005b).

In rural areas where there is a low penetration of the private health sector, primary care usually starts from FAPs, SVAs and outpatient departments of SUBs, which are the main access point to the public system for rural residents. Primary care physicians then refer patients in need of secondary care to central district hospitals. However, depending on the diagnosis, the patient can also be referred to one of the vertically integrated specialized clinics for a number of conditions, for example TB or psychiatric illness. In urban areas, patients visit polyclinics to obtain primary care services. Patients may then be referred either to a multi-profile city hospital or to a specialized tertiary facility. As there is no gatekeeping function and a disrupted referral system, patients can bypass primary care and go directly to the upper levels of care. Under such conditions, continuity of care and its integration by primary care physicians are seriously undermined. Almost all pharmaceuticals in outpatient settings are purchased directly by patients through OOP payments. However, drugs for the treatment of certain conditions are guaranteed free of charge by the state (including those for diabetes, TB, HIV/AIDS and others).

In private facilities, the fee-for-service charges have to be covered out of pocket or through voluntary health insurance. In big cities, the private sector effectively competes with public facilities as it has a perceived better quality of services and wider range of diagnostic and laboratory services. As a result, patients with the ability to pay generally prefer to go to private health facilities,

which act as multispecialty clinics, often with inpatient surgical departments. The patients are required to pay fees for service based on the price schedule developed individually by each private facility.

The main characteristics of patient pathways in the Azerbaijan health system are therefore:

- a lack of an effective gatekeeping function at the primary care level;
- a subsequent unlimited access to any specialist or secondary/tertiary care facility;
- an absence of waiting times at any level of care as a consequence of the excess capacity and low utilization;
- an absence of formal charges in public health facilities since 2008; and
- the need for significant OOP payments in order to access pharmaceuticals and services.

6.3 Primary/ambulatory care

The existing model of ambulatory care in Azerbaijan was inherited from the Soviet time where ambulatory facilities provide both primary care and outpatient specialist services. Also, the model differs significantly between rural and urban areas.

The following facilities provide primary care in rural areas.

Feldsher-midwife points (FAPs) or feldsher points. These facilities are usually small centres with a few rooms and basic equipment staffed by a *feldsher* (medical assistant), midwife and nurse or a *feldsher* and nurse only. The centre provides first aid, antenatal and postnatal care, undertakes basic disease prevention activities such as immunization and health education as well as simple medical procedures such as injections and wound dressing, as prescribed by a physician. Midwives also attend home deliveries if the pregnant women do not deliver at maternity hospitals for some reason and provide family planning advice. The activities of FAPs are supervised by physicians working in the nearest physician-staffed facilities. Usually a FAP serves a population of approximately 500–1500 people. In 2007, there were 1927 FAPs and *feldsher* points in the country (unpublished data from the Ministry of Health, 2009).

Rural physician clinics (SVAs). These are staffed by a therapist (internist for adults) and a paediatrician as well as a midwife and nurses. The SVAs are responsible for providing most primary care services including management of most common health conditions, antenatal and postnatal care, plus major preventive services including immunization and health promotion. Physicians also make home visits when patients are not able to come to the facility. However, the absence of a clinical laboratory and diagnostic equipment limits the scope of care available through SVAs. Typically an SVA has a catchment population of 2500–4000 people. There were 707 SVAs in Azerbaijan in 2007 (unpublished data from the Ministry of Health, 2009).

Small village hospitals (SUBs). Outpatient departments of small village hospitals have a broader scope of care, providing the services available through SVA plus delivery care, laboratory services and dental care. Accordingly, a SUB will have an obstetrician-gynaecologist, a dentist and laboratory personnel on its staff. There were 349 SUBs in Azerbaijan in 2007 (unpublished data from the Ministry of Health, 2009).

The provision of high-quality health care in rural areas is one of the main challenges facing the Azerbaijani health system. Among the biggest problems is the shortage of physicians in rural areas, which has been worsening through a combination of low salaries and existing physicians retiring and not being replaced (see Section 5.2 *Human resources*).

Another major problem is the dilapidated physical infrastructure, which suffered years of underinvestment. The baseline survey of health facilities conducted in five districts targeted by the Health Sector Reform Project in 2006 revealed that the majority of buildings had not been rehabilitated since construction. The study found that only 8% of all primary care facilities had a central water supply. Almost no facility had a piped sewerage system. The majority of the primary health care facilities either burn or dispose of medical waste at designated places. A high proportion of medical equipment was either absent or not functioning properly (Project Implementation Unit, 2007).

In urban areas, primary health care and outpatient specialist services are provided by polyclinics. Urban polyclinics are typically large health care facilities where a group of primary care physicians work jointly with approximately 10–20 types of specialists and supported by diagnostic and laboratory services. There are three kinds of polyclinics: for adults, for children and for women of reproductive age. The specialists work in the adult and children's polyclinics. In contrast to providers of rural primary care, polyclinics are equipped with more specialized equipment for diagnostics and

treatment. According to governmental norms, a therapist serves a population of 1600–1800 adults, while a paediatrician typically covers 600–800 children within a certain geographic catchment area. In 2007, there were 141 separate adult and paediatric polyclinics in the country (unpublished data from the Ministry of Health, 2009).

Until the mid-1990s, every citizen was assigned to a particular primary physician at the local polyclinic. This physician performed gatekeeping to specialist services and coordinated the referral of patients to narrow specialists and diagnostic and laboratory investigations in the same polyclinic when required; patients did not have a formal choice of physicians. However, with the 1997 Law on the Protection of Health of the Population, residents of the Republic of Azerbaijan were granted the right to choose their health care provider. In practice, the population continues to be assigned to primary care facilities by the state according to residence. However, many directly self-refer to a primary care provider or specialist, paying out of pocket where necessary. Self-referral to specialist care is seemingly the preferred option because of the low professional status of primary care physicians and the perceived quality of primary health care services and infrastructure.

Until around 2005, the urban primary care infrastructure suffered from low investment in capital infrastructure. The situation has improved since then, with polyclinics being rehabilitated and re-equipped. However, the capital investment is directed primarily to facilities in Baku and major cities while polyclinics in most rural districts are still in need of major rehabilitation.

The Ministry of Health hopes to restructure completely the model of ambulatory care described above in coming years. The government considers family medicine as the future direction for primary health care development, which will be implemented first in rural areas. But the pace of introducing family medicine is slower than desired. Despite delays, a significant milestone was achieved with the inclusion of a family physician position in the official nomenclature list of medical professionals. Another success was the formal approval of the Optimization Master Plan for pilot districts, in which the family physician group practice model was included, based on an assumption that this specialty has been introduced in the country. The Statute on Family/General Practice Doctor and the Statute on Family/General Practice Nurse have been prepared. These documents describe general conditions, educational and qualification requirements, and the obligations and rights of both family physicians and nurses. A curriculum for family medicine training was developed and the first master-trainers for the retraining of primary care physicians

received Training of Trainers in Turkey. The new model of primary care will be piloted in several rural districts targeted by the World Bank-supported Health Sector Reform Project and rolled out to the entire country if successful (see Chapter 7 for more details).

6.4 Secondary care (specialized ambulatory care/inpatient care)

As with outpatient care, the organization of inpatient care differs between rural and urban areas. In each rural district, inpatient care is provided by a network of small village hospitals (SUBs) and a big central hospital that acts as a referral centre for the entire district. There are 349 SUBs in the country, with an average of 32 beds per hospital (unpublished data from the Ministry of Health, 2009). The beds are split between internal medicine, paediatric and obstetric departments, with a catchment area of 10 000–15 000 people. Many of these SUBs have not been renovated and provided with new equipment since independence. In view of the dilapidated infrastructure, the Ministry of Health has developed optimization plans for each district, which envisages the closure of most SUBs, transforming them into primary care centres.

Central district hospitals are multi-profile inpatient facilities providing a broad range of secondary care, including emergency care, general surgical, obstetric, gynaecological, paediatric and other services. In some district centres, inpatient paediatric and maternity services are provided in stand-alone hospitals. Central district hospitals also provide certain diagnostic investigations such as X-ray and ultrasound as well as laboratory services typically involving the basic clinical tests required in secondary care. Some of the central district hospitals may have an affiliated outpatient department that provides primary and specialist outpatient care. In 2007, there were 65 central district hospitals in the country, with an average of 217 beds per hospital (unpublished data from the Ministry of Health, 2009). Until around 2005, the central district hospitals suffered seriously from underinvestment in capital infrastructure, which affected the quality and range of services available at these facilities. The situation has improved since then, and many district hospitals have been renovated or rebuilt.

As part of the optimization plans mentioned above (see Section 6.3 *Primary/ambulatory care*), the Ministry of Health is planning to merge many specialized hospitals with central district hospitals to form a single multi-profile secondary inpatient facility in each district to achieve greater efficiency in resource utilization. Also, under the State Programme for Regional Development, SOCAR is funding the construction of new treatment–diagnostic centres with the aim of improving the access of rural populations to high-technology medical and diagnostic services such as computed tomography and magnetic resonance imaging, which were previously unavailable outside Baku. SOCAR also funds the training of health personnel to work in these facilities, with training occurring within the country and abroad. Currently 7 of the planned 14 centres are functional.

In urban areas, inpatient care is provided by city hospitals, which provide a wider range of specialist services and more advanced equipment. Most of the city hospitals are located in the three biggest cities of the country (Baku, Ganja and Sumgayit). In 2007, there were 142 city hospitals in the country, with an average of 113 beds per hospital (unpublished data from the Ministry of Health, 2009).

Another category of inpatient facility contains the specialized hospitals providing services for certain conditions. The most common types of specialized facility are maternity, TB, dermatovenereal, psychiatric, oncological and endocrinological clinics, which are parts of vertically integrated national systems typically led by a tertiary-level specialized scientific research institution or national centre (see Table 6.2). The specialized hospitals are not present in

Table 6.2

Summary of specialized and tertiary hospitals in 2007

Hospital type	No. facilities	No. beds, total	No. beds, average
Maternity	26	3 260	125
Infectious diseases	7	950	136
Eye diseases	8	615	77
Psychiatric and psychoneurological hospitals and clinics	18	3 430	191
TB hospitals and clinics	25	1 610	64
Oncology clinics	8	560	70
Skin-venereal diseases	19	900	47
Endocrinology	3	140	47
Narcology (alcohol and drug abuse) clinics	6	455	76
Cardiology	4	350	88
Scientific research institutes, Republican and university hospitals	20	4 706	235

Source: Unpublished data from the Department of Health Information and Statistics of the Ministry of Health, 2009.

every district but are located based on regional principles to cover the entire country, while all tertiary level facilities are located in Baku. In addition to research, tertiary institutions also serve as teaching hospitals where the relevant clinical chairs of the Azerbaijan Medical University are located.

6.5 Emergency care

Pre-hospital emergency care (the ambulance service) is provided through 68 ambulance stations, which function in every district and city either as a stand-alone facility or as a department within the central district hospital. According to the Statute on the Ambulance Service, pre-hospital emergency care has to be available within 30 minutes of call time and there should be one ambulance team per 10 000 inhabitants. These norms serve as the major planning parameters for the service. In 2007, the ambulance service employed 5192 people, including 1496 physicians; these formed 471 ambulance teams (brigades) consisting of a physician, a *feldsher*/nurse and a driver constantly available on-call (unpublished data from the Ministry of Health, 2009). In addition to regular teams, the ambulance service has several specialized brigades for resuscitation and cardiology.

Upon arrival, an ambulance physician decides whether the patient can be managed on-site without resorting to inpatient care. If hospitalization is required, the patient is transferred to a designated hospital, which is commonly a central district hospital in rural districts and a city or specialized hospital in urban areas. The care starts in the hospital's admission department, where on-duty physicians assess the patient and decide on the treatment needed. If necessary, physicians from various departments are called to clarify further management of the patient. However, admission departments are not equivalent to emergency departments. Their role is limited to assessment and initial stabilization until patients are transferred to the relevant specialist departments for definitive care. In practice, they are often completely bypassed thus reducing the scope of their work to just the registration of patients.

Overall, pre-hospital and in-hospital emergency services fall behind internationally accepted standards in terms of the skills of personnel and the available equipment and supplies. The assessment of emergency services conducted in 2006 by the Emergency Medicine Development Initiative Project funded by USAID and several international oil companies in three rural districts and Ganja, the second largest city in Azerbaijan, revealed less than 50% availability of essential emergency equipment both in pre- and in-hospital

settings (Sule et al., 2008). In terms of essential emergency procedures, availability was also found to be low, at 21% and 62% in pre- and in-hospitals levels, respectively. The supply of emergency medications was also far from meeting critical needs. Finally, ambulance team coverage was below the national standard of 1 team per 10 000 people, ranging from 0.68 in Ganja to only 0.10 in Kurdamir district (Sule et al., 2008).

Understanding the need for improvements in emergency care, the government decided to allocate additional resources to this sector. In 2007, the President issued an executive order to implement a set of measures aimed at improving the national ambulance service. Based on this order, the Ministry of Health received an additional 12 million AZN to purchase new vehicles, communication equipment and supplies. In 2009, an additional 3 million AZN was allocated to purchase new ambulances for rural areas. The base salaries of health personnel working in the ambulance service have been raised to double those of other public sector health care employees. Significant efforts have also been made to improve the skills of health care personnel working in emergency care through training programmes in collaboration with international partners. Nevertheless, these efforts need to be expanded substantially to make tangible improvements in emergency care in the country as a whole, particularly in rural areas.

6.6 Pharmaceutical care

Azerbaijan began developing the national legal framework for pharmaceutical sector soon after gaining independence, but the main regulatory basis has been developed since 2006. The major legislative and regulatory acts in this field are:

- The Law on Pharmaceutical Activity, 1997
- The Law on the Turnover of Narcotics, Psychotropic Substances and Their Precursors, 2005
- The Law on Pharmaceutical Products, 2006
- The Requirements for Establishing and Functioning of a Pharmacy, Ministry of Health, 2006
- The Requirements for Wholesale of Pharmaceuticals, Ministry of Health, 2006
- The Requirements for Opticians, Ministry of Health, 2006

- The Statute of Analytical Expertise Centre for Medicines, Ministry of Health, 2007
- The Rules for State Registration of Pharmaceuticals and Management of Drug Registry, Cabinet of Ministers, 2007
- The List of Over-the-Counter Pharmaceuticals, Ministry of Health, 2008.

The registration and licensing of pharmaceuticals used to be conducted by the Department of Licensing and Medical Equipment of the Ministry of Health, which existed from 1996 to 2005. These two major functions were conducted without any expertise (all registration was made by one person). In 2005, as part of the process of restructuring of the Ministry of Health, the Innovation and Supply Centre was created with the following three functions:

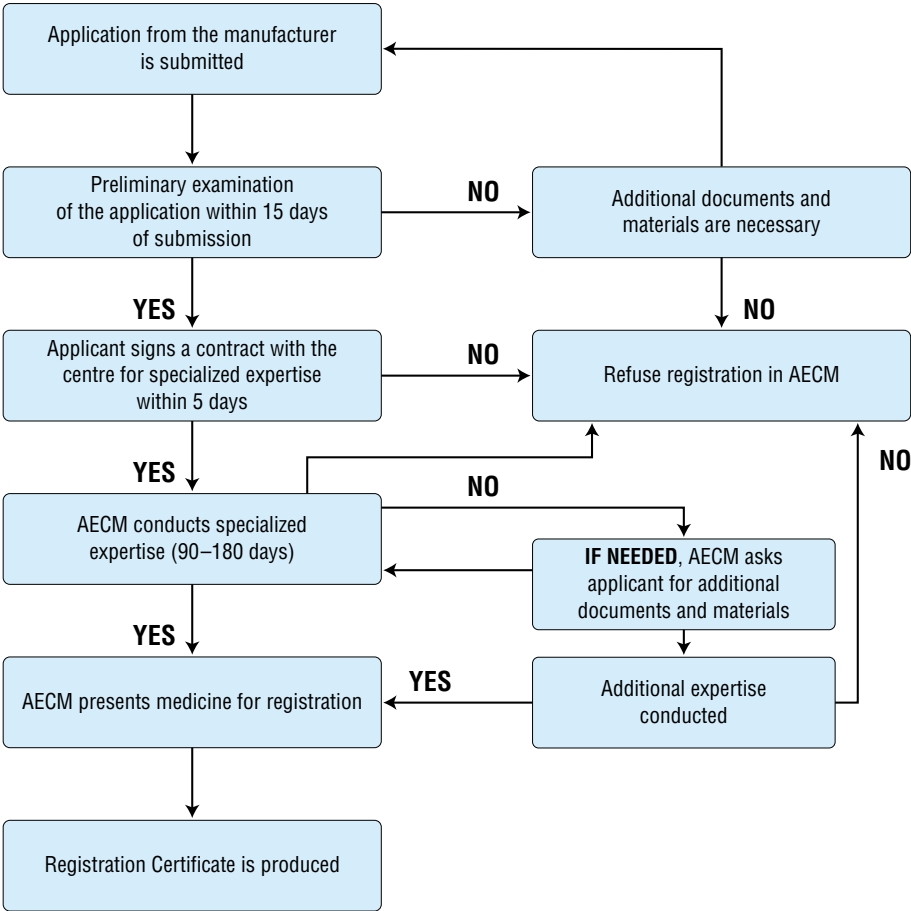
- to control the quality of medicines;
- to provide health care facilities with medicines; and
- to license pharmaceutical entities (pharmacies, wholesalers, manufacturers).

However, considering the conflict of interest between regulation and purchasing functions, the Ministry of Health split those functions among three different units in 2007. As a result, the purchasing function stayed with Innovation and Supply Centre, while responsibility for the licensing of pharmaceutical entities was shifted to the Licensing Department and the responsibility for ensuring the quality of medicines was transferred to the newly established Analytical Expertise Centre for Medicines (AECM). The last is also responsible for controlling the retail of narcotics/psychotropic substances and their precursors. The AECM executes its functions through the following departments:

- registration of medicines
- analytical expertise of medicines (which includes laboratory and import)
- pharmacovigilance
- inspection of pharmaceutical entities
- registration of medical equipment, devices and aids
- control of narcotics/psychotropic drugs and their precursors
- information-analysis.

As seen in Fig. 6.1, the registration of a new drug has two stages: (i) preliminary assessment of the availability of all required documents, and (ii) specialized assessment, consisting of laboratory tests, review of clinical aspects of the submitted dossier and review of the drug instruction leaflet, which is sent to the Pharmacological and Pharmacopoeia Expert Council of the Ministry of Health for approval. Also, the specialized assessment approves the labelling and packaging for the medicine, and this becomes the only legal labelling and packaging allowed for import into and sale in Azerbaijan.

Fig. 6.1
Schematic presentation of drug registration process



Source: Analytical Expertise Centre for Medicines, 2008.

The quality, effectiveness and safety of medicines are controlled by the Department of Analytical Expertise of Medicines of AECM. This department conducts pharmaceutical and clinical-pharmacology testing of medicines. The quality of medicines is evaluated by the Central Medicine Control Laboratory, which is a part of the Department of Analytical Expertise of Medicines. The Inspection Department of AECM conducts spot checks of pharmacies and wholesalers to verify their compliance with the requirement for storage of drugs and pharmacy infrastructure standards, as well as for the quality of randomly selected items. All of the key AECM staff have been fully trained by WHO in these regulatory functions since 2006.

At the time of writing, there were approximately 3200 pharmaceutical items registered in the country. The total turnover of the pharmaceuticals market was estimated at US\$ 120–150 million in 2004 (World Bank, 2005a). Using official inflation rates, the market could actually be estimated at US\$ 240–300 million.

There are no price controls on pharmaceutical products. The prices of pharmaceuticals are established freely, based on the costs of import, distribution and promotion as well as profit margins established by various participants in the pharmaceutical market. The promotion costs often include expenses associated with direct back payments to physicians, a practice that is illegal but not strictly controlled.

The Ministry of Health began the development of a national essential drug list with the support of WHO and the World Bank in 2004. Leadership changes and restructuring within the Ministry postponed this process, but it was renewed in January 2009 when the Department of Rational Drug Use and Planning was established within the Innovation and Supply Centre. The department was tasked with creating a technical working group for the development of an essential drug list. The working group is currently preparing the list based on a WHO model list and the clinical practice guidelines available in the country.

While the essential drug list is being developed, the Ministry of Health has produced a list of medicines that are considered essential for public sector hospitals and primary care facilities. The hospital list includes approximately 100 items that are procured by the Ministry of Health for public hospitals and which are meant to be free for all inpatients. The list for primary health care facilities has 115 items that are to be given free of charge to certain eligible groups of the population, such as war veterans, disabled patients, IDPs and others. In addition, the Ministry of Health procures pharmaceuticals for certain conditions that are covered by the state health programmes (see Table 3.3 for the list of programmes). All procurement is conducted by the Innovation and

Supply Centre, which receives requests from the Ministry of Health that are based on either the estimates of relevant chief specialists (for the state health programmes) or requests from health facilities.

The local manufacturing of pharmaceuticals is very limited, representing probably less than 1% of total turnover. There is one functioning factory, which is not compliant with good manufacturing practice standards, that produces approximately 90 generic drugs and intravenous fluids in small quantities. The distribution of pharmaceuticals is totally privatized. Very few public pharmacies remain, mainly as part of medical facilities. They are responsible for dispensing subsidized drugs to eligible groups of the population within a given district. There were 1750 retailers and 107 drug importers and wholesalers in the country in 2008.

According to the Ministry of Health, there were 991 pharmacists employed in the public sector, including 56 working in the hospitals in 2007, which is more than four times fewer than in 1997 (4566 pharmacists) (unpublished data from the Ministry of Health, 2009). This reduction indicates that the majority of pharmacists moved to the private sector with the privatization of pharmaceutical entities. Exact data on the private sector workforce are not available.

With the exception of certain conditions such as TB and diabetes, all other outpatient drugs are purchased by the population out of pocket at full cost. As mentioned above, there are certain population categories that are eligible for subsidized drugs as determined by the Ministry of Health. However, often not all the drugs are available at all times, so even eligible people have to purchase them directly at least sometimes. Such a situation is likely to result in problems with financial access to pharmaceuticals, especially for the poor. In addition, remote rural areas may experience geographical access problems since the vast majority of retail pharmacies are located in cities and district centres.

Rational drug use

With the exception of two limited studies, no comprehensive assessment of the situation regarding the rational use of drugs has been conducted in Azerbaijan. The most recent study, conducted by AECM with the support of WHO in 2008, revealed significant problems in this field, including high use of injections, the simultaneous prescription of drugs with similar therapeutic effects, and the irrational use of antibiotics and other products (Analytical Expertise Centre for Medicines, 2009).

To address the situation, the Ministry of Health began developing a formulary system in the country, which, if properly designed and implemented, will promote rational, clinically appropriate, safe and cost-effective drug therapy. This work is led by AECM and focuses on several issues:

- development of a National Drug Formulary;
- full evaluation of the situation regarding the rational use of drugs by health providers;
- development of a rational antibiotic use strategy; and
- establishment of an adverse drug reaction control department within AECM.

In parallel to these efforts, the PHRC leads the process of developing and implementing evidence-based clinical practice guidelines, which are strong tools in rationalizing the use of drugs in the country (see Chapter 7). In addition, the Ministry of Health has taken measures to strengthen the system of prescriptions, including defining a list of 400 medications that are officially available over the counter and introducing a single standard prescription form. However, more efforts are required to enforce these changes. In practice, pharmacies still sell prescription drugs over the counter with the exception of controlled drugs (psychotropic drugs and their precursors).

6.7 Rehabilitation/intermediate care and long-term care

Basic rehabilitation care is delivered by physiotherapy physicians and nurses working in polyclinics. The range of services includes manual therapy, special physical exercise programmes, bathing with special agents, electromagnetic wave therapy and others. More advanced rehabilitation services are provided by the Republican Rehabilitation Centre for Children and the Scientific-Research Institute for Rehabilitation Care, both of which are located in Baku. In addition, the Ministry of Health runs a network of specialized sanatoria, or rest establishments, with rehabilitation services for patients discharged from acute care hospitals. In 2007, there were 17 such sanatoria, with 1535 beds, in the country; seven provided care for patients with TB and three for children with neurological disorders, including cerebral palsy (unpublished data from the Ministry of Health, 2009). Also, there were 75 sanatoria and other recreational facilities in 2007, with 12 140 beds, owned by the Ministry of Labour and

Social Protection, state enterprises and trade unions and providing various ranges of rehabilitation services (State Statistical Committee of the Republic of Azerbaijan, 2009).

Long-term care is provided primarily by acute care hospitals and families. Also, in 2007, there were seven residential care facilities for elderly and disabled adults who were living alone and could not care for themselves. The adult facilities had a total capacity of 1012 beds, and there are two facilities for disabled children with 605 beds (State Statistical Committee of the Republic of Azerbaijan, 2009).

6.8 Palliative care

Palliative care services are not developed either in terms of specialized facilities or human resources. The initiatives to establish hospice facilities supported by international organizations (Open Society Institute) never materialized primarily because of issues of cultural inappropriateness. In most cases, patients in need of palliative services are cared for by families in home settings because generally it is considered shameful when such patients are not cared for by their families. The pain management for terminally ill cancer patients is provided through local oncology clinics or oncologists working at local polyclinics.

6.9 Mental health care

The Law on Psychiatric Care from 2001 is the major piece of legislation in mental health in Azerbaijan. The country is also a party to many international mental health initiatives such as the Madrid Declaration on Ethical Standards for Psychiatric Practice, the Mental Health Declaration for Europe and the Mental Health Action Plan for Europe. However, very few changes have been made in the provision of mental health care, which still carries the main features of the old Soviet model – relying heavily on a vertical system of specialized psychiatric care institutions with very limited integration with primary care. The principle providers of mental health services are psychiatrists. There were 445 psychiatrists in the country in 2008 (State Statistical Committee of the Republic of Azerbaijan, 2009).

Outpatient mental health care is provided through psychiatrist's offices in polyclinics as well as 11 psychiatric clinics. There are also 18 psychiatric inpatient facilities (hospitals and inpatient departments of clinics) in Azerbaijan,

with a total of 4135 beds (unpublished data from the Ministry of Health, 2009). The total number of beds is in line with the regional average but the wards in inpatient facilities are not differentiated into acute and long-term care. Overall, there is a lack of human resources in mental health because of the unwillingness of medical graduates to specialize in psychiatry. As a result, the number of psychiatrists per 100 000 population is only 5.2, which is below the European average (World Health Organization, 2005). As primary care physicians are virtually uninvolved in the provision of mental health services, except for referral to specialists, the situation leads to significant access problems.

In 2007, the PHRC of the Ministry of Health and WHO conducted an assessment of the mental health system in Azerbaijan. The assessment provided a set of recommendations for reforming mental health care in the country that were reflected in the first National Mental Health Policy developed in 2008 (Ministry of Health, 2008b). According to this policy the main goals of mental health care are:

- mental health protection and prevention of mental disorders;
- arrangement of conditions to provide accessible, effective and comprehensive care for people with severe mental disorders;
- protection of human rights and interests of people with mental disorders and countering stigma and discrimination; and
- improvement of social support for people with mental disorders and their families.

The main objectives of the National Mental Health Policy 2008, as defined in the document are:

- improvement of governance and intersectoral coordination in mental health and human rights protection;
- development of mental health resources (human resources, physical capital and financing);
- strengthening measures to prevent mental health problems among the population;
- integration of mental health services into primary health care; and
- development of mental health and social welfare services for people with mental disorders.

Considering how recent is the adoption of the National Mental Health Policy, more time is needed to see how effective the implementation of the proposed changes will be.

6.10 Dental care

According to the State Statistical Committee, there were 2522 dentists in the country in 2007 (State Statistical Committee of the Republic of Azerbaijan, 2009). Dental care is delivered by a mix of public and private facilities. In 2007, the public sector under the Ministry of Health comprised 37 dental polyclinics, 666 individual dental offices and 46 dental prosthetic offices. In total, the Ministry of Health employed 1980 dentists (stomatologists), dental surgeons and orthodontists (unpublished data from the Ministry of Health, 2009). Also, there are dental clinics run by various line ministries for their employees, detailed information on which was not available. The private sector is represented by approximately 250 facilities, the majority of which are solo practices. Altogether, there were approximately 400 dentists working in the private sector (unpublished data from the Ministry of Health, 2009).

7. Principal health care reforms

7.1 Analysis of recent reforms

Reform content

The early years of independence were marked by the military conflict with Armenia and its aftermath, which resulted in many casualties and an increased need for medical services in conflict zones and among IDPs (accounting for approximately 10% of the country's population), such as the control of diphtheria, polio and malaria outbreaks. During that time, the focus of ministerial efforts and the priorities of international assistance were on emergency medical services, health services for IDPs and epidemic control rather than on health system reforms. Instead, the state concentrated on sustaining the core functions of the system at a time of collapse in state financing resulting from the military conflict and the disruption of economic ties with other former Soviet republics.

Among the major policy changes implemented in the 1990s was the introduction of official charges, initially for certain specialized services in 1994 with a subsequent significant expansion to many outpatient and hospital services in 1998. However, the formal charges did not become a significant source of government revenues, possibly because of resistance from health professionals, who were not provided with strong enough incentives to replace the practice of informal charging with formal charges.

Another policy change aimed at ensuring the provision of health services to the population, at least those able to afford to pay out of pocket, was the creation of more favourable conditions for private medical practice, which was in line with the overall transition from central planning to the market. Initially, the private health sector was regulated mainly through Ministry of Health executive orders. The significant growth of the private sector by the late 1990s necessitated the creation of a stronger legislative base and the Law on Private Medical Practice was adopted in 2000.

The first detailed policy discussions about systemic health reforms were started in 1998, when the government established the State Commission on Health Reform, which was to develop proposals and a programme for health reforms. In 1999, the Commission, under the leadership of the Ministry of Health, issued the first conceptual document outlining the main directions for health reforms, including the development of new financing mechanisms, the development of medical insurance and reforming primary care and other areas of service provision (Holley et al., 2004). According to its Statute, the Commission was also to develop national programmes for current health care issues and targeted programmes for the protection of population health in different areas. In response, the Ministry of Health developed several proposals reflecting priority areas in health care that were enacted by the *Milli Mejlic* (National Assembly) in the late 1990s and early 2000s (see Table 7.1).

Table 7.1

Major laws and other legislation in the field of population health, 1999–2008

Title	Year
Law on Medical Insurance	1999
Law on Private Medical Practice	2000
Law on the Control of Tuberculosis	2000
Law on the Immunoprophylaxis of Infectious Diseases	2000
Law on Iodization of Salt for Mass Prevention of Iodine Deficiency	2001
Law on State Care for Persons with Diabetes	2003
Law on State Care for Persons with Haemophilia and Thalassaemia	2005
Law on Blood and Blood Component Donors and Blood Service	2005
Law on Oncology Care	2006
The Establishment of the State Agency on Mandatory Health Insurance (Presidential Decree)	2007
The Concept for Health Financing Reforms and Introduction of Mandatory Health Insurance (Presidential Decree)	2008

Despite a relatively well-developed legislative base, the implementation of these legal acts often lagged behind. For instance, the Law on Medical Insurance (1999) provided a legal framework for mandatory health insurance but this was never introduced. A significant share of legislation adopted in the 1990s and early 2000s was not supported by adequate implementation mechanisms and, most importantly, the necessary financial resources. The activities of the Commission became less visible from the late 1990s, probably reflecting the lack of commitment by the Ministry of Health's leadership to the reforms.

The policy discussions about systemic health reforms were renewed in 2005, following a change in leadership at the Ministry of Health. Among the first steps in this area was the development of a new concept for health reforms

in 2006. In early 2008, an updated and expanded version of this Concept for Health Care Reform had been drafted by the Ministry of Health through consultation with major stakeholders at the national level as well as with WHO, World Bank, USAID and other international organizations (Ministry of Health, 2008c). Although this concept has not been formally endorsed, it is referred to as a working document. While the system-wide Health Care Reform Concept has not been formally approved, a Concept for Health Financing Reform was passed by Presidential Decree in early 2008 and outlined major directions in reforms concerning health financing and the objectives of increased efficiency, quality and access in the health system. The Action Plan to Introduce Health Financing Reform was approved by the Cabinet of Ministers in 2008. In addition, strategies and conceptual notes have been developed around specific health care priorities, which also outline the directions for health system change, such as a Reproductive Health Strategy, a Mental Health Strategy, a TB Strategy, and so on.

In 2001, the World Bank signed an agreement with the Government of Azerbaijan to implement the Health Reform Project through a US\$ 5 million Learning and Innovation Loan, with components on capacity building for health policy reform and on district level primary care. The second, larger Health Sector Reform Project supported by another World Bank loan was launched in 2006 and is expected to end in 2012. The project envisions reforms across all the main functions of the health care system, including improvements in the overall health system stewardship and financing, and enhancing access to, and quality of, essential health care services in selected pilot districts (Absheron, Agdash, Gakh, Ismayilli and Sheki) (see Table 7.2). The second Health Sector Reform Project, given its scope, represents a major commitment by the Government of Azerbaijan towards reforming the system of health care provision and financing.

The first real increase in state funding for health was seen in 2005, with the increase in state oil revenues. This enabled the new leadership of the Ministry of Health to introduce a significant number of state health programmes starting from 2006, which represented a new mechanism for directing funds to new priority areas in health care. Each state health programme has an implementation plan with clear objectives and separate funding. However, all these state health programmes were adopted during the period of unprecedented economic growth observed in Azerbaijan in 2005–2008. Whether these programmes will continue to receive the funds they need during the period of economic slowdown and a sharp fall in oil prices needs to be seen.

Table 7.2**Objectives and activities of the Health Sector Reform Project by health system functions**

Health system functions	Objectives and activities
Stewardship	Develop a health policy framework and strengthen the capacity of the Ministry of Health to lead health and health care policy analysis and development
	Develop a national drug policy and strengthen the capacity of the Ministry of Health Pharmaceuticals and Medical Devices Unit
	Support the development of an accreditation and licensing scheme for both public and private health facilities
	Improve the capacity of the Ministry of Health and systems to monitor population health and health sector performance
	Improve the capacity of the Ministry of Health for dealing with emerging diseases, such as avian or swine influenza in humans
Resource generation	Develop a human resources strategy for the health sector
	Review undergraduate medical education and postgraduate training programmes, with a view to improving the quality of education
Service delivery	Upgrade/renovate/construct primary health care facilities at the subdistrict level and construct three district hospitals
	Strengthen managerial and clinical skills of health care workers
	Introduce new planning and management methods and tools
	Improve coordination and strengthen system hierarchy between the primary and secondary levels of health care
Health financing	Strengthen planning, implementation and monitoring mechanisms for effective health care financing policy
	Define a package of publicly financed health care services and design new output-based budgeting and funding allocation mechanisms at national, district and facility level

Reform efforts described in this chapter refer principally to the health care system under the Ministry of Health. Parallel state health systems have also undergone significant reforms. In Azerbaijan, some of the ministries governing their own parallel health care systems were better able to sustain facilities throughout the economic transition period because they had relatively more resources. Therefore, unlike some countries in the region where parallel state systems were integrated into the main health system, these structures have remained independent. Also, the parallel health systems under other ministries are considered a part of employee benefits, which has acted as a strong incentive to invest in services and facilities.

Reform implementation

Despite adoption of the first concept of reforms as early as in 1999, no systemic changes were introduced in the health sector, which still carries all the main structural features of the Semashko health system. The overall approach to reform implementation in Azerbaijan has been based on incremental change and

the preservation of those features of the existing system that proved functional. The country's political environment, with the emphasis on social stability and political harmony and the absence of strong opposition to pick up the health agenda, was also not favourable for radical changes. As a result, the reform efforts made so far have targeted only certain areas of the health system such as primary care or have been piloted in a limited geographic zone. Moreover, many of them were initiated and implemented by international organizations with little involvement and commitment from the central government, which resulted in a lack of sustainability once donor funding ended. The reform implementation process at the national level is much more incremental and takes a longer-term view.

Primary health care reform

The Government of Azerbaijan has stated its commitment to prioritizing primary care and many international donors have supported efforts aimed at strengthening primary care services as the more efficient and cost-effective means of health care delivery. For instance, in the late 1990s, UNICEF supported primary health care revitalization projects in several districts (Guba, Masalli, Lankaran, Jalilabad and Neftchala) in order to reorient the health care system from inpatient care to ambulatory services and prevention, to provide training to health personnel in family medicine, to rehabilitate health infrastructure and to improve access to pharmaceuticals. These projects also tried to increase community participation in the provision of health services as well as to raise population awareness of health issues in order to increase personal responsibility for health. USAID funded several projects with similar sets of interventions in the areas affected by the conflict in the Nagorno-Karabakh region during the late 1990s and early 2000s. Although these pilots failed to achieve sustainable or systemic changes, they stimulated a national policy dialogue about the future directions of health reforms and led to an improved understanding and acceptance by the government of a need for serious reforms in the health sector.

As discussed above, the Ministry of Health attempted to introduce a new model of primary care within the framework the Health Reform Project supported through the World Bank loan in five targeted districts (Khachmaz, Salyan, Goychay, Shamkir and Sharur) between 2001 and 2005. The main focus of the project was to improve primary health care services by rationalizing the health care network and human resources. The plans for rationalization were developed for each district with the emphasis on:

- decreasing the number of inpatient beds, inpatient facilities and personnel;
- establishing new services where there was a need;
- increasing the number of primary health care outpatient clinics; and
- reorientating services and personnel from specialized care towards basic primary care, general practice and preventative medicine.

Although the plans were formally approved by the Ministry of Health, they were never implemented fully because of a lack of proper coordination in reform efforts with other structures of the government. For instance, because the financing of health care facilities is administered by district authorities through funding from the Ministry of Finance, the Ministry of Health alone was not able to rationalize the number and types of health facility without losing funds and health personnel. The Ministry of Finance was not a partner in these plans and did not agree to reconsider funding mechanisms in pilot districts. As a result, the district health authorities lost the motivation and incentives to implement the rationalization plans, and the Ministry of Health never insisted on their implementation. The Ministry of Health, with support from UNICEF, also organized a series of clinical in-service training sessions for physicians and nurses aiming to improve the quality of primary care services in pilot sites. However, the training programmes were not institutionalized and failed to become part of the national system for postgraduate education of health personnel. The lack of commitment from the Ministry of Health to replace the existing fragmented system of primary health care inherited from the Soviet era with an integrated model based on family medicine/general practice, which was being promoted by international donors, was another reason why the reform of primary health care services did not take root.

Efforts to reform the primary health care system were renewed in 2006 with the launch of the second Health Sector Reform Project supported by the World Bank. The project envisioned the development of a new optimized system of health care service provision based on the principles of family medicine in selected pilot districts (Absheron, Agdash, Gakh, Ismayilli and Sheki). The optimization plans for each district were developed and approved in 2008. According to these plans, the network of health facilities will be rationalized based on the principles of geographical accessibility, with a 15-minute access time to primary care facilities. The plans propose to have a primary health care facility staffed with a family doctor and three to five nurses in all settlements with a population of 1800–2000 people. A settlement with less than 1000 people will not be generally eligible for a physician-staffed facility but may have a medical point staffed by paramedical staff (*feldshers*, nurses and midwives).

However, the new model does not consider changing the system of primary care service provision in urban settings, where the system of polyclinics for adults and children is to be retained.

In line with these plans, the Ministry of Health has officially introduced the post of family physician in the list of medical positions. In order to launch a postgraduate training programme in family medicine, a group of medical professionals were selected and sent to Turkey for a five-month training course. They will act as master-trainers in family medicine for both physicians and nurses starting in-service training for primary care providers in pilot districts. If successful, this training programme will be rolled out nationally. Simultaneously, the Ministry of Health drafted the statutes for family physicians and nurses as well as their scope of work. These documents, once approved, will define educational requirements for these positions, their roles and responsibilities as well as describing the mix of skills they need to possess.

Optimization of service delivery structure

In parallel with the reforms of primary care, the Ministry of Health started developing plans for the optimization of the service delivery structure to bring it in line with population needs and to improve efficiency in resource use. With support from international consultants invited within the framework of the Health Sector Reform Project, the Ministry of Health developed new norms for staffing and hospital beds that were linked to population parameters. According to these norms, the upper limit for the numbers of physicians working at secondary and tertiary care is set at 2.09 and 0.513 per 1000 population, respectively. The numbers of nurse working in secondary and tertiary care are set at 4.1 and 1.151 per 1000 population, respectively. The number of beds per 1000 population is set at 3.7 beds for secondary care and 0.82 beds for tertiary hospitals. Most importantly, the Ministry of Health in consultation with district health authorities developed individual optimization plans for every district during 2009; these plans envisioned the transformation of most (approximately 70%) village hospitals into primary health care facilities. The location of the remaining village hospitals would be based on a 45-minute access time. The initial evaluation of the optimization plans shows that they will result in a significant reduction (60–65%) in the bed stock in secondary hospitals across the country. The application of new staffing norms will also lead to a decrease, sometimes substantial, in the number of nurses in the districts where the ratios of nurses to population are above the new limits introduced by the Ministry of Health; some districts will have vacant nurse positions. Such a situation is a result of the uneven geographical distribution of nurses that has developed

historically. Considering the low mobility of the nursing workforce (they commonly work in the facilities close to their residence), the effective ratios for nurses, when taken nationally, will be even lower than that proposed by the Ministry of Health, at least in the initial phase.

The optimization plans also include the merging of many paediatric and maternity hospitals in rural districts with central district hospitals, especially when their current location is dilapidated and requires significant investment in capital infrastructure. The specialized clinics such as TB, psychiatric or endocrinology services will be either merged with central district hospitals or turned into smaller specialized hospitals with outpatient departments. It is envisioned that all these changes will become effective as of January 2010.

Improvement of the quality of health services and introduction of evidence-based medicine

In 2007, the Ministry of Health, with support from USAID, initiated the process of introducing evidence-based medicine in Azerbaijan. The Ministry of Health designated its PHRC as the institutional home for evidence-based medicine and tasked it with the objective of developing and introducing a set of evidence-based clinical practice guidelines. With the support of international experts, the PHRC organized a series of trainings in evidence-based medicine for local specialists, followed by development of the Statute for Development of Evidence-Based Clinical Practice Guidelines. In 2008, based on official statistics, PHRC identified the 32 most common conditions to support the development of the initial set of clinical practice guidelines, which are mainly related to conditions managed at the primary care level. Expert groups consisting of leading specialists, clinical pharmacologists and PHRC staff were established to lead the process of guideline development. At the time of writing, most of the guidelines are under review by the Ministry of Health Scientific Council. Upon approval, PHRC plans to introduce them through in-service training and the dissemination of printed materials. Currently the centre is soliciting proposals for the selection of the next group of conditions for the development of clinical practice guidelines.

However, the clinical practice guidelines are not mandatory in nature and are considered advisory documents. Also, considering the limited resources of the PHRC to disseminate them through training programmes and the lack of incentives for providers to follow the guidelines, the mechanisms for their successful implementation are yet to be developed.

Health financing reform

Since 2006, there has been a growing understanding in the Government of Azerbaijan of the need for profound changes in the area of health financing to ensure the successful implementation of overall health reforms. The Ministry of Health took the lead in this direction and with support from the World Bank, USAID and WHO developed the Concept on Health Financing Reform and Introduction of Compulsory Health Insurance in Azerbaijan (the Concept) which was endorsed by the President in January 2008. The Concept identified the following main goals for health financing reform in the country (Ministry of Health, 2008c):

- to create new economic principles for financing the health care system and improving population access to health care;
- to increase the quality of health care services through the more efficient use of public funds allocated to the health sector; and
- to improve population health and increase average life expectancy.

According to the Concept, the government will be responsible for the free provision of services included in a state-guaranteed benefit package, while all other services have to be covered by citizens themselves. The reform also envisions the separation of health regulation, service provision and purchasing functions as well as the creation of the State Agency for Mandatory Health Insurance, which will act as a single purchaser of health services on behalf of the government. At the time of writing, this agency had not become operational, and this has resulted in a delay in the implementation of many activities envisioned in the Action Plan for 2008 and 2009. Nevertheless, certain preparatory activities were conducted by the Ministry of Health with support from the World Bank, WHO and USAID, which may facilitate the implementation of health financing reform. These activities include the development of proposals on the state-guaranteed benefit package (including its costing), strengthening hospital health information systems in light of the anticipated introduction of case-based hospital payment mechanisms, drafting the statute for the State Agency for Mandatory Health Insurance as well as other regulatory documents required for the implementation of health financing reform.

7.2 Future developments

Although in coming years the Government of Azerbaijan will primarily concentrate on further implementation of the ongoing reform initiatives, including the Health Sector Reform Project and the health financing reform described above, there are other areas in the health sector where reforms are also anticipated. Among other reform initiatives is the Ministry of Health plan to introduce mandatory certification of physicians as a means to improve the quality of services. Currently, a voluntary system of certification is in place that allows physicians of certain specialties (internal medicine, paediatrics, surgery, gynaecology and emergency medicine) to take examinations to prove an increased knowledge of their field. Those who pass the relevant examinations are eligible for a salary rise in accordance with rules set by the Cabinet of Ministers. The Ministry of Health is now developing a new testing system that will cover most of the specialty areas and make the certification mandatory.

Another reform initiative in the area of medical education is the anticipated introduction of residency programmes for medical graduates wishing further specialization, following the adoption of the new Law on Education by the National Assembly in July 2009. Undergraduate medical education will also undergo major changes including the closure of paediatric departments, which will lead to a uniform training programme for all medical graduates. The specialization in paediatrics will be available only through the relevant residency programme. In parallel with this, the Azerbaijan Medical University plans to revise its training curricula to bring them in line with modern knowledge in medicine and related fields. The university also has plans to move the majority of clinical chairs to its own hospitals. Altogether the Azerbaijan Medical University plans to have four clinics (oncological, dental, surgical and therapeutic), two of which are under construction. Also, the strengthening of postgraduate education for nurses is planned with the support from GAVI through the Health System Strengthening Grant.

8. Assessment of the health system

8.1 The stated objectives of the health system

The Constitution of Azerbaijan states that citizens have the right to the protection of their health and to receive health care services. The major objective as outlined in health legislation is to improve the health status of the population. The Law on Protection of the Health of the Population as well as the Concept on Health Finance Reform also stresses the importance of access to health care for every citizen. Recent reform initiatives have been focused more on the issues of quality of services and efficiency in resource use (see Chapter 7).

8.2 The distribution of the health system's costs and benefits across the population

The basic benefits package guaranteed by the state is being discussed and is not due to be in place until 2012. Most services and pharmaceuticals are paid for out of pocket at the point of access. The high level of OOP payments relative to prepaid government funds (2:1 in 2007) indicates that health revenue collection remains predominantly regressive. The lack of risk pooling in direct private payments means that many households are under threat of catastrophic health care costs in the face of serious illness. There are no recent estimates of catastrophic levels of health expenditure, but based on the Azerbaijan survey of living conditions conducted in 1995, the proportion of households with catastrophic health expenditures was estimated at 5.77% (Xu et al., 2003).

Empirical evidence for five districts of Azerbaijan showed that the richest quintile spent a higher share (9.3%) of household expenditure on health than the lowest quintile (6.7%) in 2006 (Djibuti et al., 2007). Rather than showing that poor patients are charged less than rich patients when accessing the same service (vertical equity), this finding can be at least partly explained by lower

utilization among poorer households. In fact, the proportion of persons with acute illness being able to access health care was significantly lower in the poorest quintile (52.4%) compared with the richest quintile (68.5%). The reason for not accessing needed care was reported by 90.5% to be financial for the five districts surveyed in 2006 (Djibuti et al., 2007). Household surveys indicate that health services utilization among low-income groups was lower, suggesting that the utilization of health services is related to socioeconomic status more than need (Djibuti et al., 2007; State Statistical Committee of the Republic of Azerbaijan and Macro International, 2008). Azerbaijan's hospital admission rates are very low by international standards, which may also indicate access problems (see Section 5.1, Subsection *Infrastructure*).

Overall, there seems to be no severe shortage of primary, secondary or tertiary service providers in the country as a whole. However, differences exist between urban and rural areas. There is high variation in the per capita allocation of state health budget resources between districts. While this also reflects differences in the scale of health care facilities between districts, the chance to benefit from state funding may also be unequal (see Section 3.4, Subsection *Mechanisms for allocating funds among pooling/purchasing agencies*). According to the Demographic and Health Survey of 2006, 52% of all women reported that having no provider available was a major concern in accessing health care when they are sick (State Statistical Committee of the Republic of Azerbaijan and Macro International, 2008). According to the Ministry of Health, differences in access and the quality of services available also result from the fact that up to 30% of posts for paediatricians and gynaecologists in rural districts are vacant, while in big cities it is common practice to split the posts of specialists between several physicians each working part-time. To address this, the government is considering whether to restore the three-year mandatory placement of medical graduates in rural areas, and there are plans to introduce financial incentives for medical workers in rural areas. The recent initiative of the government to build diagnostic–treatment centres throughout the country through SOCAR underlines the government's commitment to reducing geographical barriers to accessing high-quality services.

8.3 Efficiency of resource allocation in health care (across services, across inputs)

Since state funding accounts for approximately a third of total health care expenditure, only part of resource allocation can be steered by the government (see Section 3.1). The state budget allocation by line-items in 2008 suggests that hospitals received approximately three times more budget than polyclinics (see Table 3.2). A major trend is the increase in the total health budget allocation for state health programmes from 5.2% to 25.9% between 2006 and 2008. In addition, funding for inpatient care facilities and equipment has increased recently under new capital investment programmes, some of which are outside the state health budget (see Section 5.1, Subsection *Capital stock and investments*). Therefore, the current allocation of resources for health care favours the hospital sector and specialist/physician-centred care over primary health care provision. International evidence suggests that this is not the most efficient allocation of resources. Under the current health financing system, it is difficult to direct funding to population health needs such as chronic disease management. Vertical state health programmes target specific diseases but cannot compensate funding imbalances in the general health system.

Changes in health financing, with the planned move towards a single payer that contracts health care providers based on performance-based payment schemes, should improve allocative efficiency. Moreover, the planned radical rationalization of the hospital sector in most districts is expected to increase efficiency by reducing fixed costs, although a long overdue increase in state salaries for medical workers would increase costs.

8.4 Technical efficiency in the production of health care

The necessary data for assessing the technical efficiency of the system objectively are not available, but the reliance on high-cost diagnostics as standard practice and the weak gatekeeping function of primary care providers would indicate, on the basis of international experience, that the current system does not provide good value for money. There are major disincentives to increasing the efficiency of the health sector in the current health financing and service delivery system. Insufficient data and analysis of technical efficiency in the system also limit the development of planning for efficient resource allocation.

Azerbaijan inherited a very extensive network of health facilities both in hospital and ambulatory care. Despite a very high average length of stay at hospitals, Azerbaijan had the lowest bed occupancy rate in the WHO European Region in 2007 (WHO Regional Office for Europe, 2009). The Ministry of Health started to prepare for a countrywide rationalization of the health facility network in 2009. The fact that extensive parallel health systems are run by ministries other than the Ministry of Health may also be a source of technical inefficiency across all government investments in the health sector to the extent that overcapacity in infrastructure or equipment is created.

System performance is further constrained by input-based line-item budget allocation and fragmentation in the financing of the health care sector, which does not promote the continuous optimization of service delivery structures across districts and the integration of vertical programmes. Since budgets are calculated based on the number of beds rather than the quantity and quality of services actually provided (outputs), productivity is not encouraged and it may be lucrative to maintain or even expand physical capacity (number of beds and staff) regardless of actual use. In addition, rigid line-items and the loss of unspent funds do not provide incentives for hospital administrators to contain costs. The health financing reform approved by Presidential Decree in 2008 foresees a shift towards contracting and performance-related payments in the fullness of time.

The increase in capital investments, primarily in the renovation or construction of hospitals, in new expensive diagnostic equipment, and to some extent in the health information system, is expected to increase the range and quality of services provided. However, as the state recognizes, significant investments in human resources are needed to ensure effective use of the new equipment. Since the mid-1990s, there has been an insufficient adjustment of human resource capacity to demand with regard to skill mix and geographical distribution. The modernization of the medical education system has been slow and this has had a negative impact on the level and scope of knowledge and skills obtained by graduates. For this reason, in July 2009 after the passing of the Law on Education, the Ministry of Health was directed to revise the entire medical education curriculum.

The prices of pharmaceuticals are currently not controlled, indicating that the potential of government-negotiated price reductions and facilitation of the import of generic drugs may be underexploited (see Section 6.6 *Pharmaceutical care*). A recent study revealed significant problems with rational drug use (Analytical Expertise Centre for Medicines, 2009). To address this, the

Ministry of Health started the development of evidence-based clinical practice guidelines and took measures to strengthen the system of prescriptions. In practice, however, pharmacies still sell prescription drugs over the counter, with the exception of controlled drugs. Moreover, the high share of OOP payments also increases the influence of patients and doctors on the choice of diagnostics and treatment, which may not always follow criteria of rational use and cost-effectiveness.

8.5 Quality of care

In reality, very little emphasis is placed on regulating the quality of care and there is limited scope within the current health care system to monitor and implement such regulations (see Section 4.1, Subsection *Regulating quality of care*), so it is not possible to provide evidence on the quality of services provided by public, private or parallel service providers. A limited-scale assessment of the quality of services in rural areas was conducted during 2007–2008 within the framework of the Health Sector Reform Project. The overall conclusion was that the quality of care was insufficient: “Despite the high average indicators of medical personnel and bed stock by population, the health care system in Azerbaijan is not functioning effectively enough. Similarly the material-technical base of a number of health care facilities does not correspond to modern requirements. Many facilities treating fewer or no patients are providing low quality care. Medical organizations are mainly located in converted buildings which do not meet the sanitary-hygienic requirements. Their provision with modern medical equipment and sanitary motor transport is minimal” (Akgun, 2008). Facilities are likely to be better resourced in urban areas, but no full-scale assessment has been conducted.

The quality of service provision is hampered by insufficient upgrading of the skills of health staff through continuous medical education and, to some extent, by poor equipment and supplies. Incentives that motivate medical personnel to systematically provide the best possible quality of care remain weak in the current system. For instance, the Reproductive Health Strategy points out that “although obstetric institutions are overstaffed with maternity nurses, the quality of the service they provide remains at an unsatisfactory level” (Ministry of Health, 2008d).

The Scientific Research Institute of Obstetrics and Gynaecology also found that only 1% of newborn pathology is diagnosed during the antenatal period (Ministry of Health, 2008d). This suggests problems in system

capacity to provide effective services to pregnant women and reflects a gap in comprehensive updated clinical protocols and standards. As discussed in Chapter 7, the Ministry of Health has started to implement a number of activities aimed at improving the quality of health care services, including evidence-based clinical practice guidelines and the mandatory certification of health providers. However, there is no national legal and regulatory framework for quality assurance in health as yet and quality control has been achieved only in specific parts of the system. An example of this could be improvements in the quality control of pharmaceuticals (see Section 6.6 *Pharmaceutical care*).

8.6 The contribution of the health system to health improvement

It is always challenging to disentangle the impact of socioeconomic transition and the contribution of the health system to health improvement. However, in Azerbaijan it is particularly difficult because of problems with the reliability of demographic and health data (see Section 1.4 *Health status*). Data quality issues also place limits on the extent to which health services can contribute to overall population health, because the government's ability to adequately measure the impact of health service interventions on health outcomes is central to the development of evidence-based policy-making.

Nevertheless, there is some evidence that the health system is not fully effective in reaching certain patients. For example, the very high incidence of primary MDR-TB in Azerbaijan suggests that the health system is currently not effective in providing coverage with TB prevention, treatment and control (see Section 6.1 *Public health*). Occurrence of MDR-TB is a useful marker for potential health system weaknesses: health systems that are carefully regulated and well managed, providing accurate diagnosis, appropriate treatment, reliable pharmaceutical supplies and careful follow-up are unlikely to experience high rates of antibiotic resistance (McKee and Falkingham, 2008).

9. Conclusions

After Azerbaijan regained independence in 1991, no radical changes were introduced to the health sector. Because of the war with Armenia in the mid-1990s and the resulting large number of IDPs, coupled with social and economic transition, reforms were delayed. Since then, smaller-scale reform efforts have brought some improvements in the general health system, although a significant part of state investments have targeted parallel state health systems. Political pressure to reform the fundamentals of the health system is growing in Azerbaijan. The overall political environment does not favour changes if they could be accompanied by significant social tension. Reform implementation is, therefore, incremental in nature and change is sought over the longer term. In addition to a general striving for stability, oil-driven economic growth has brought more government and private funding to the health sector. Possibilities for seeking care in parallel state systems or with private providers, and the large amount of resources potentially available for the health sector, may have created the false impression that system changes have become less urgent.

The Azerbaijan Government's commitment to system-wide reforms was renewed in early 2008, when the President approved the Health Financing Concept on the establishment of a single payer and new provider payment mechanisms. Yet, implementation had not started at the time of writing in Spring/Summer 2009. Also, the Ministry of Health prepared a plan for the optimization of the service provider network and capacity in all districts in late 2008. Nevertheless, the construction and refurbishment of hospitals by the Ministry of Health and SOCAR are very advanced in terms of implementation and it appears that politically it is much easier to build new facilities than it is to rationalize existing capital stock.

The hospital sector remains the priority with regard to resource allocation and reform attention, while primary care receives little attention and fewer resources. Besides a tradition of specialist-centred care inherited from the

Soviet system, large visible capital investments such as building hospitals may have been more attractive during the time of economic boom than engaging in more long-term investments, for example in improving the knowledge and skills of medical staff.

By regional and international standards, public funding is still low and the country spends far less on health than it can afford. There are high levels of OOP payments for health services, problems with access and insufficient protection for the population from financial risks. At the same time, the current health system is marked by inefficiencies that require profound changes before additional funding can be put to effective use. For example, increases in the salaries of medical workers should be accompanied by workforce rationalization. Also, there is a need for a shift in norms so that provider payment rewards performance rather than inputs, as is currently the case.

Although the general environment may have become more favourable towards reform in recent years, more attention may be needed to create a process of policy design and implementation that is effective at changing established structures. The Ministry of Health has invested in the capacity of its staff in recent years which should be continued. In addition, strategies to work with other government sectors and to involve stakeholders from the implementation and local community level more systematically appear critical for reaching broad political consensus and for making reform proposals operational, that is, moving from reform proposals to implementation. Another challenge for the Ministry is to keep the government focused on creating a strong general health system that provides a package of services to all citizens while much attention and resources are being targeted at improving the range and quality of services provided by parallel state systems.

The planned health financing reform and the optimization of service providers are reform initiatives with a potentially large impact on system efficiency, accountability and accessibility. The establishment of a Mandatory Medical Insurance Agency and new financing mechanisms will not be easy – it is a complex thing and many issues need to be addressed if it is to function well. However, if it is done well it could provide the population with much needed risk pooling and improve access to basic services. For instance, it will be important to link the testing and implementation of new provider payment schemes and financial incentives to the restructuring of the provider network, and changes in the legal rights and managerial capability of providers. Changes

in financing mechanisms are critical to maintain the level of state funding in relation to provider outputs and, hence, to mitigate the usually strong resistance to the downsizing and closure of medical facilities.

However, improving the quality of care remains the most pressing problem to address and reflects the fact that until (July 2009) insufficient attention had been paid to improving the system of pre- and post-diploma education and to human resource planning. In addition, there may be a need for targeted investments in staff capacity to ensure that the new infrastructure can be utilized at its full capacity, for example by building on the experience of hospitals operating in parallel health systems.

Azerbaijan is a resource-rich country so it has the capacity to allocate significant resources to health care (as witnessed in the recent hospital building drive). This means that the country has the real financial potential to provide its citizens with equal access to good quality and efficient health services, while protecting them from the risk of catastrophic health expenses. However, simply increasing the level of budget allocations to the health sector will not resolve the situation. Concurrently, the health system needs to increase and demonstrate its capacity to use the money in a prudent and transparent manner. The planned shift from the budgeting methods inherited from Soviet times towards new ways of paying providers that attempt to motivate for improved quality and productivity are important steps towards this objective. Building technical capacity and broad political support to prepare for this change are, therefore, the critical next steps.

10. Appendices

10.1 References

- Agayev R (2008). *Minimum əmək haqqı minimum xərclərin 50%-ni ödəmir [Minimum wage does not cover 50% of minimum spending]*. Baku, Bizim Yol.
- Akgun S (2008). *Development of quality assurance. Final report to the Ministry of Health*. Baku, Health Sector Reform Project.
- Analytical Expertise Centre for Medicines (2008). *Azərbaycan Respublikasında dərman vasitələrinin qeydiyyatı prosedurunun qısa sxema [Schematic presentation of drug registration process]*. Baku, Analytical Expertise Centre for Medicines, Ministry of Health of the Republic of Azerbaijan (http://www.pharma.az/index.php?option=com_content&task=view&id=48&Itemid=71, accessed 4 June 2009).
- Analytical Expertise Centre for Medicines (2009). *Development of national formulary system and strategy for rational use of drugs in Azerbaijan*. Baku, Analytical Expertise Centre for Medicines, Ministry of Health of the Republic of Azerbaijan.
- Cochrane D, Crilly T (2008). *White paper on the health sector workforce: capacity and planning implications. Interim report to the Project Implementation Unit of the Ministry of Health of the Republic of Azerbaijan*. Baku, Ministry of Health.
- Council of Europe (1953). *European convention for the protection of human rights and fundamental freedoms*. Brussels, Council of Europe.
- Djibuti M et al. (2007). *Health expenditure and utilization survey: baseline study report, Health Sector Reform Project*. Tbilisi, World Bank, USAID and Curatio International Foundation.
- Figueras J, McKee M, Lessof S. (2004). Overview. In: Figueras J et al., eds. *Health systems in transition: learning from experience*. Copenhagen, European Observatory on Health Systems and Policies:13–32.
- G&G Consulting (2004). *Final report on health expenditure analysis component*. Ankara, G&G Consulting.
- Government of the Republic of Azerbaijan (2007). *The Law on the Living Minimum for the Republic of Azerbaijan 2008*. Baku, Government of the Republic of Azerbaijan.
- Holley J, Akhundov O, Nolte E (2004). *Health care systems in transition: Azerbaijan*. Copenhagen, WHO Regional Office for Europe on behalf of the European Observatory on Health Systems and Policies.
- Kara A (2007). The parliamentary elections in Azerbaijan, November 2005 and May 2006. *Electoral Studies*, 26(3):720–724.

- Katsaga A, Kehler J (2008). *Report: WHO mission to evaluate the quality of data for the purpose of assessing health system performance*. Baku, WHO Regional Office for Europe.
- Kutzin J (2001). A descriptive framework for country-level analysis of health care financing arrangements. *Health Policy*, 56(3):171–204.
- McKee M, Falkingham J (2008). The changing face of transitional societies. In: Coker R, Atun R, McKee M, eds. *Health systems and the challenge of communicable diseases: experiences from Europe and Latin America*. Maidenhead, Open University Press:21–46.
- MDG Monitor (2008). *MDG profile: Azerbaijan*. (http://www.mdgmonitor.org/factsheets_00.cfm?c+AZE, accessed 23 February, 2009).
- Ministry of Finance (2007). *Law on the State Budget for 2007*. Baku, Government of the Republic of Azerbaijan (<http://www.finance.gov.az/>, accessed 27 April 2009).
- Ministry of Finance (2008a). *Law on the State Budget for 2008*. Baku, Government of the Republic of Azerbaijan (http://www.finance.gov.az/index_az.jsp?mod=empty, accessed 27 April 2009).
- Ministry of Finance (2008b). *Information on budget execution in 2006–2007*. Baku, Government of the Republic of Azerbaijan (http://www.finance.gov.az/index_az.jsp?mod=empty, accessed 27 April 2009).
- Ministry of Finance (2009) [web site]. Baku, Government of the Republic of Azerbaijan (<http://www.finance.gov.az>, accessed 27 April 2009).
- Ministry of Health (2008a). *National malaria control programme*. Baku, Republican Hygiene and Epidemiology Centre, Ministry of Health.
- Ministry of Health (2008b). *National mental health policy*. Baku, Ministry of Health.
- Ministry of Health (2008c). *Concept on health financing reform and introduction of mandatory health insurance*. Baku, Ministry of Health.
- Ministry of Health (2008d). *Reproductive health strategy*. Baku, Scientific Research Institute of Obstetrics and Gynecology, Ministry of Health.
- Ministry of Taxes of the Republic of Azerbaijan (2009). *Information about forms of taxes*. Baku, Government of the Republic of Azerbaijan (<http://www.taxes.gov.az>, accessed 24 April 2009).
- Mossialos E, Allin S, Figueras J, eds (2007). *Health systems in transition: template for analysis*. Copenhagen, WHO Regional Office for Europe on behalf of the European Observatory on Health Systems and Policies.
- O’Lear S (2007). Azerbaijan’s resource wealth: political legitimacy and public opinion. *Geographical Journal*, 173:207–223.
- Project Implementation Unit (2007). *Health facility survey baseline study report*. Baku, Ministry of Health.
- State Statistical Committee of the Republic of Azerbaijan (2009) [web site]. Baku, State Statistical Committee of the Republic of Azerbaijan (<http://www.azstat.org>, accessed 27 April 2009).
- State Statistical Committee of the Republic of Azerbaijan and Macro International (2008). *Azerbaijan demographic and health survey 2006*. Baku, State Statistical Committee of the Republic of Azerbaijan, USAID and UNICEF.
- Sule H, et al. (2008). State of emergency medicine in Azerbaijan. *International Journal of Emergency Medicine*, 1(1):3–9.

- Transparency International (2008). *Global corruption report 2008: corruption in the water sector*. Cambridge, Cambridge University Press.
- UNICEF Innocenti Research Centre (2008). TransMONEE database [online database]. Florence, UNICEF Innocenti Research Centre (<http://www.unicef-irc.org/databases/transmonee/>, accessed 24 May 2010).
- United Nations (2008). *Map No. 3761 Rev. 7*. New York, United Nations (<http://www.un.org/Depts/Cartographic/map/profile/azerbaij.pdf>, accessed 20 July 2009).
- United Nations Development Programme (2007). *Gender attitudes in Azerbaijan: trends and challenges. Azerbaijan human development report 2007*. Baku, United Nations Development Programme and the State Committee for Family, Women and Children's Issues.
- United Nations General Assembly (1989). *Convention on the rights of the child* [Resolution 25 session 44]. New York, United Nations.
- WHO Regional Office for Europe (2005). *The Tashkent declaration "The move from malaria control to elimination" in the WHO European Region*. Copenhagen, WHO Regional Office for Europe.
- WHO Regional Office for Europe (2009). *European Health for All database*, August 2009 edition [offline database]. Copenhagen, WHO Regional Office for Europe.
- World Bank (2005a). *Azerbaijan health sector review note, Vol. II: Background papers*. Washington, DC, International Bank for Reconstruction and Development, World Bank.
- World Bank (2005b). *Azerbaijan health sector review note, Vol. I: Main report*. Washington, DC, International Bank for Reconstruction and Development, World Bank.
- World Bank (2009). *World development indicators*. Washington, DC, World Bank (<http://go.worldbank.org/U0FSM7AQ40>, accessed 19 February 2010).
- World Health Organization (1992). *International Statistical Classification of Diseases and Related Health Problems: 10th Revision (ICD-10)*. Geneva, World Health Organization.
- World Health Organization (2005). *Mental health atlas*. Geneva, Mental Health: Evidence and Research, Department of Mental Health and Substance Abuse, World Health Organization.
- World Health Organization (2006). Human avian influenza in Azerbaijan, February–March 2006. *Weekly Epidemiological Record*, 81(18):183–188.
- World Health Organization (2009). *Azerbaijan: national health accounts*. Geneva, World Health Organization (<http://www.who.int/nha/country/aze.pdf>, accessed 30 April 2009).
- Xu K et al. (2003). Household catastrophic health expenditure: a multicountry analysis. *Lancet*, 362(9378):111–117.
- Zoidze A (2008). *Technical assistance to develop health financing policy for Azerbaijan. Final report to the Ministry of Health*. Tbilisi, Curatio International.

10.2 HiT methodology and production process

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

Authors draw on multiple data sources for the compilation of HiT profiles, ranging from national statistics, national and regional policy documents, and published literature. Furthermore, international data sources may be incorporated, such as those of the Organisation for Economic Co-operation and Development (OECD) and the World Bank. The OECD health data contain over 1200 indicators for the 31 OECD countries. Data are drawn from information collected by national statistical bureaux and health ministries. The World Bank provides World Development Indicators, which also rely on official sources.

In addition to the information and data provided by the country experts, the Observatory supplies quantitative data in the form of a set of standard comparative figures for each country, drawing on the European Health for All (HFA) database. The 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 January 2010 edition, the Health for All database started to take account of the enlarged European Union (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 profile consists of 10 chapters.

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

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

10.3 The review process

This consists of three stages. Initially the text of the HiT is checked, reviewed and approved by the research directors of the European Observatory. The HiT 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.

10.4 About the authors

Fuad Ibrahimov is Health Finance Program Manager at the USAID-funded Azerbaijan Primary Health Care Strengthening Project implemented by Abt Associates Inc. He has a degree in medicine from the Azerbaijan Medical University and received his Master of Public Health degree from the Rollins School of Public Health, Emory University.

Aybaniz Ibrahimova is Health Policy Program Manager at USAID-funded Azerbaijan Primary Health Care Strengthening Project implemented by Abt Associates Inc. She has a degree in medicine from the Azerbaijan Medical University and received her Master of Public Health degree from the University of Utah.

Jenni Kehler is an economist with a special interest in health financing and health systems policy. She has been working for WHO both as a consultant and as a staff member based at the WHO Country Office of Azerbaijan, WHO Regional Office for Europe and WHO Headquarters in Geneva.

Erica Richardson is a Research Fellow at the European Observatory on Health Systems and Policies, specializing in health system monitoring for countries of the Commonwealth of Independent States. She is an Honorary Research Fellow at both the London School of Hygiene & Tropical Medicine and the Centre for Russian and East European Studies at the University of Birmingham, United Kingdom.

The Health Systems in Transition profiles

A series of the European Observatory on Health Systems and Policies

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

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

How to obtain a HiT

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

If you would like to order a paper copy of a HiT, please write to:

info@obs.euro.who.int

The
publications of the
European Observatory on
Health Systems and Policies
are available at
www.healthobservatory.eu



HiT country profiles published to date:

Albania (1999, 2002^{ag})
Andorra (2004)
Armenia (2001^g, 2006)
Australia (2002, 2006)
Austria (2001^e, 2006^e)
Azerbaijan (2004^g, 2010^g)
Belarus (2008^g)
Belgium (2000, 2007)
Bosnia and Herzegovina (2002^g)
Bulgaria (1999, 2003^b, 2007^g)
Canada (2005)
Croatia (1999, 2007)
Cyprus (2004)
Czech Republic (2000, 2005^g, 2009)
Denmark (2001, 2007^g)
Estonia (2000, 2004^{gi}, 2008)
Finland (2002, 2008)
France (2004^{cg})
Georgia (2002^{dg}, 2009)
Germany (2000^e, 2004^{eg})
Hungary (1999, 2004)
Iceland (2003)
Ireland (2009)
Israel (2003, 2009)
Italy (2001, 2009)
Japan (2009)
Kazakhstan (1999^g, 2007^g)
Kyrgyzstan (2000^g, 2005^g)
Latvia (2001, 2008)
Lithuania (2000)
Luxembourg (1999)
Malta (1999)
Mongolia (2007)
Netherlands (2004^g, 2010)
New Zealand (2001)
Norway (2000, 2006)

Poland (1999, 2005^b)
Portugal (1999, 2004, 2007)
Republic of Korea (2010)
Republic of Moldova (2002^g, 2008^g)
Romania (2000^f, 2008)
Russian Federation (2003^g)
Slovakia (2000, 2004)
Slovenia (2002, 2009)
Spain (2000^h, 2006)
Sweden (2001, 2005)
Switzerland (2000)
Tajikistan (2000, 2010^g)
The former Yugoslav Republic of
Macedonia (2000, 2006)
Turkey (2002^{gi})
Turkmenistan (2000)
Ukraine (2004^g)
United Kingdom of Great Britain and
Northern Ireland (1999^g)
Uzbekistan (2001^g, 2007^g)

Key	
All HiTs are available in English. When noted, they are also available in other languages:	
^a	Albanian
^b	Bulgarian
^c	French
^d	Georgian
^e	German
^f	Romanian
^g	Russian
^h	Spanish
ⁱ	Turkish
^j	Estonian
^k	Polish



The European Observatory on Health Systems and Policies is a partnership between the WHO Regional Office for Europe, the Governments of Belgium, Finland, Ireland, the Netherlands, Norway, Slovenia, Spain, Sweden and the Veneto Region of Italy, the European Commission, the European Investment Bank, the World Bank, UNCAM (French National Union of Health Insurance Funds), the London School of Economics and Political Science, and the London School of Hygiene & Tropical Medicine.

HITs are in-depth profiles of health systems and policies, produced using a standardized approach that allows comparison across countries. They provide facts, figures and analysis and highlight reform initiatives in progress.