

Health Systems in Transition

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Kazakhstan

Health system review

Maksut Kulzhanov • Bernd Rechel

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Health Systems in Transition

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KAZAKHSTAN

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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 research directors and staff. In order to facilitate comparisons between countries, the profiles are based on a template, which is revised periodically. The template provides detailed guidelines and specific questions, definitions and examples needed to compile a profile.

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.

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 World Health Organization (WHO) Regional Office for Europe 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 differ 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.euro.who.int/observatory. A glossary of terms used in the profiles can be found at the following web page: www.euro.who.int/observatory/glossary/toppage.

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The 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, Greece, Norway, Slovenia, Spain and Sweden, the Veneto Region of Italy, the European Investment Bank, the Open Society Institute, the World Bank, the London School of Economics and Political Science, and the London School of Hygiene & Tropical Medicine.

The Observatory team 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.

Jonathan North managed the production of the profile, with the support of Nicole Satterley (copy-editing) Shirley and Johannes Frederiksen (layout) and Aki Hedigan (proofreading). Administrative support for preparing the HiT profile on Kazakhstan was undertaken by Caroline White, and technical coordination was led by Suszy Lessof.

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The HiT reflects data available in August 2007.

List of abbreviations

ARDI	Association of Parents of Children with Disability
CARK	Central Asian republics (Kyrgyzstan, Tajikistan, Turkmenistan, Uzbekistan) and Kazakhstan
CDC	United States Centers for Disease Control and Prevention
Centre SATR	National Research and Practice Centre of Social Adaptation and Professional Rehabilitation of Children and Adolescents with Developmental Deficiencies
CIS	Commonwealth of Independent States
CRB	Central <i>rayon</i> hospital
DALE	Disability-adjusted life expectancy
DFID	United Kingdom Department for International Development
DHS	Demographic and Health Survey
DMFT	Decayed, missing and filled teeth
DOTS	Directly Observed Treatment Short-course
DPT	Diphtheria, pertussis, tetanus
DRG	Diagnosis-related groups
EBRD	European Bank for Reconstruction and Development
EC	European Commission
EEC	European Economic Community
EIU	Economist Intelligence Unit
EU	European Union
EU15	European Union Member States before May 2004
EU TACIS	European Union Technical Aid for CIS
FAP	<i>Feldsherski akusherski punkt</i> (feldsher-midwifery post)
FGP	Family group practice
FP	<i>Feldsherski punkt</i> (feldsher post)
FTE	Full-time equivalent
GDP	Gross domestic product
GFATM	Global Fund to Fight AIDS, Tuberculosis and Malaria
GMP	Good Manufacturing Practices
GP	General practitioner

GTZ	<i>Gesellschaft für Technische Zusammenarbeit</i> (German Agency for Technical Cooperation)
HDI	Human Development Index
HiT	Health Systems in Transition
HIV/AIDS	Human immunodeficiency virus/Acquired immunodeficiency syndrome
HRW	Human Rights Watch
HTA	Health technology assessment
IBRD	International Bank for Reconstruction and Development
ICD-10	(WHO) International Classification of Diseases, 10th edition
ILO	International Labour Organization
IMF	International Monetary Fund
IT	Information technologies
KIDE	Kazakh International Dental Exhibition
KZT	Kazakh tenge (currency)
LCU	Local currency unit
MICS	Multiple Indicator Cluster Survey
MDR	Multi-drug resistant
NEM	(Soviet) New Economic Mechanisms Programme
NGO	Nongovernmental organization
OECD	Organisation for Economic Co-operation and Development
OSCE	Organization for Security and Co-operation in Europe
PP	Physical persons
PPP	Purchasing power parity
SCO	Shanghai Cooperation Organization
STI	Sexually transmitted infection
SUB	Small rural (village) hospital
SVA	Rural physician clinic (rural ambulatory)
TB	Tuberculosis
UNAIDS	Joint United Nations Programme on HIV/AIDS
UNDP	United Nations Development Programme
UNESCO	United Nations Educational, Scientific and Cultural Organization
UNFPA	United Nations Population Fund
UNICEF	United Nations Children's Fund
USAID	United States Agency for International Development
USSR	Union of Soviet Socialist Republics
VAT	Value-added tax
VHI	Voluntary health insurance
WHO	World Health Organization
WTO	World Trade Organization

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Abstract

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

When Kazakhstan became independent in 1991, it faced many of the same challenges as other countries from the former Soviet Union, including an oversized and inpatient-oriented system of health facilities and a drop in health financing in the early transition years. Although the country embarked on several major health reforms in the second half of the 1990s, these often lacked consistency and clear direction. In the wake of the economic upswing fuelled by oil revenues in recent years, in 2004 Kazakhstan initiated a comprehensive National Programme of Health Care Reform and Development for the period 2005–2010.

One of the key challenges addressed by the reform programme is the considerable inequities in terms of health financing per capita between the country's *oblasts* (regions) and between urban and rural areas. Another major challenge is out-of-pocket payments for health services and pharmaceuticals, although the magnitude of these payments remains unknown. Despite an increased emphasis on primary care, the inpatient sector continues to consume the bulk of health funding, and the question of specialized and parallel health services has so far not been addressed by the reform programme. Overall, more attention will need to be paid to the quality and efficiency of health services. A system of monitoring and evaluation, as well as the establishment of clinical practice guidelines, could play an important role in achieving these aims. Many rural areas are lacking sufficient numbers of health care workers, while an oversupply exists in the major cities. A comprehensive system of human resources planning and the introduction of incentives for health care workers in rural areas might present an avenue for addressing this challenge.

Executive summary

This HiT profile on Kazakhstan provides a detailed description of the organization, financing and delivery of health services in the country and the institutional framework, process, content and implementation of health policies.

Chapter 1 explores the contextual background of Kazakhstan's health system. Kazakhstan is the largest of the former Soviet republics after the Russian Federation and had a population of 15.1 million in 2005. Like in many other former Soviet countries, the President enjoys wide-ranging powers. After the collapse of the economy in the early 1990s, it began to stabilize in the second half of the 1990s and, with close to 10% annual growth of gross domestic product (GDP) in recent years, Kazakhstan ranks among the fastest growing economies worldwide, largely driven by the country's booming energy sector. In terms of population health, the country faces similar challenges to other central Asian countries, with low life expectancy, high infant and maternal mortality, high rates of tuberculosis (TB), and an emerging HIV/AIDS epidemic.

Chapter 2 provides an overview of the organizational structure of Kazakhstan's health system and its historical background. After independence in 1991, the country had to develop its own policy and planning capacity and there were frequent changes in the organizational structure and management of the Ministry of Health. Many responsibilities have been decentralized to the regional (*oblast*) level and *oblast* health departments now have a considerable degree of autonomy. Patient rights have so far remained underdeveloped and poorly institutionalized.

Chapter 3 describes the financing of the country's health system. During recent years, budgetary allocations to the health sector have increased significantly, reaching 2.7% of GDP in 2005, while total health expenditure was estimated at 3.9% in 2004. Although primary care services receive an increasing share of the

health budget, the majority still goes to inpatient services. A health insurance model was briefly in place in the period 1996–1998, but now the country has reverted to budgetary funding. A guaranteed benefits package defining health services free of charge was introduced in 2004, which was complemented with outpatient pharmaceutical benefits to specified groups of the population. Health financing comes from three principal sources: the government budget, official user fees and informal payments, although the extent of informal payments remains unknown. Beginning in 2005, funds have been pooled at *oblast* level, with the *oblast* health departments acting as single payers.

Chapter 4 examines the planning and regulation of the health system. The improvement of the health management system is one of the priorities of the National Programme of Health Care Reform and Development, which aims to redefine the powers of the Ministry of Health vis-à-vis *oblast* health authorities. A new quality control system was introduced in 2004, headed by a Committee for Health Services Quality Control. However, at present, health care workers generally lack incentives to improve the quality of their work. So far, several poorly coordinated health information systems have existed in parallel, although efforts are under way to set up a unified health information system.

Chapter 5 addresses the planning and distribution of physical resources and the input of human resources into the health system. Although the number of hospitals and hospital beds has been reduced during the 1990s, the network of health facilities continues to be hospital oriented. The poor quality of primary care services and a lack of access to pharmaceuticals at outpatient level have been major reasons for excessive hospitalization. There is no accurate and comprehensive information system on the actual number of health care workers; according to Ministry of Health data, the ratio of health care workers to population declined in the 1990s. There are considerable regional variations, with the highest concentration of health care workers in the major cities and shortages in rural areas. Despite some reform initiatives, the quality of training and retraining remains poor and salaries for health care workers are far below the national average.

Chapter 6 describes the organization and delivery of health services, which differ in urban and rural areas. Health services are often fragmented and do not ensure continuity of care. There are no strong linkages between primary and secondary care and many health services are organized along parallel vertical structures, leading to a duplication of effort and system inefficiencies. In the sphere of public health, Kazakhstan has established an extensive Healthy Lifestyle Service, with an overall total of 1600 staff, and this service has attracted the attention of neighbouring countries. There have also been efforts to strengthen primary health care, but much more remains to be done, in particular in rural areas, as the health system continues to be geared towards inpatient

care. Since 2000, the Government has actively promoted the development of the pharmaceutical market and Kazakhstan has now become one of the most dynamic pharmaceutical markets in the former Soviet Union. The reform of the pharmaceutical sector in the 1990s, however, resulted in deteriorating access to pharmaceuticals, in particular for vulnerable groups of the population. A new pharmaceutical policy has now been adopted that regulates the prices of pharmaceuticals and provides outpatients with benefits according to a specified list of pharmaceuticals.

Chapter 7 considers Kazakhstan's principal health care reforms. Some reform activities had already commenced before independence from the Soviet Union in five health reform demonstration locations, but these were cancelled in 1990 and major health care reforms were delayed in Kazakhstan until the mid-1990s. Even then, health reforms were often inconsistent or remained at the conceptual stage. A Mandatory Health Insurance Fund, for example, was introduced in 1996, but again abandoned in 1998. One of the reasons for this was frequent changes of leaders, priorities, and the organizational set-up of the Ministry of Health. With the economic boom of recent years and the decision of the Government to use some of the country's oil revenue for the social sector, an opportunity for large-scale reforms of Kazakhstan's health sector has arisen. In 2004, the Government adopted the National Programme of Health Care Reform and Development for 2005–2010. The programme is comprehensive, sets ambitious goals and suggests a sensible reform path. Now that the second stage of the programme is about to begin at the time of writing, it is necessary to evaluate its first stage, so that the second stage of reforms can be adjusted accordingly.

Chapter 8 provides an assessment of the Kazakh health system with regard to two major dimensions: access to health services and efficiency. In the years after Kazakhstan's independence, access to health facilities at all levels has deteriorated. Major challenges relate to reduced access to pharmaceuticals, informal payments for health care and regional inequities. Regional inequities are present in terms of per capita allocations for health services, the distribution of health facilities, the provision of health services and the provision of health care workers. The implementation of a new health financing policy that ensures an equitable resource allocation to the country's regions is ongoing. The consolidation of health budgets at *oblast* level is hoped to facilitate the levelling out of per capita expenditures and fee-for-service payments across *oblasts* and to improve the quality control of health services. In terms of efficiency, major challenges include the continued reliance on inpatient care and the fragmentation and poor horizontal integration of health services.

Chapter 9 summarizes the Kazakh experience and identifies challenges that remain. A key challenge after Kazakhstan became independent was the reduction

in health care funding from public sources. The National Programme of Health Care Reform and Development for 2005–2010 envisages a gradual increase in budgetary allocations to the health sector of 4% of GDP by 2010. However, in addition to an increased financial allocation to the health sector, substantial changes are required in the organization, management and provision of health services, along with strengthening of primary health care and better integration of health services. Current reforms also envisage an overhaul of the training of health care professionals and the introduction of financing mechanisms that encourage health professionals to perform well. Overall, increased emphasis will need to be placed on the quality and efficiency of services, and establishing a system of monitoring and evaluation and of clinical practice guidelines could play an important role in achieving these aims.

1 Introduction

1.1 Geography and sociodemography

Kazakhstan is an independent republic located in the central Asian steppe. Covering 2.7 million km² (approximately the size of the 15 Member States constituting the European Union (EU) up to 2004 (EU15)), the country is the largest of the former Soviet republics after the Russian Federation. Kazakhstan has a long border with the Russian Federation to the north, adjoins China to the east, and Kyrgyzstan, Uzbekistan and Turkmenistan to the south. Kazakhstan is a landlocked country with borders on two large inland seas: the Aral Sea and the Caspian Sea. The country's terrain stretches across steppes and deserts to the high mountains in the south-east including the Tian Shan and Altai ranges. The capital, formerly Almaty (previously Alma-Ata), was moved in December 1997 to Astana (Aqmola) in the north (see Fig. 1.1).

The early history of Kazakhstan was one of successive nomadic empires that ranged widely to the north of the more settled Silk Road civilizations of Transoxiana (modern Uzbekistan) (Rashid 1994; Serikbaeva 1995). In the early 13th century, Kazakhstan, like the rest of central Asia, became part of the Mongol Empire of Genghiz Khan. The Kazakhs emerged from the descendants of the Mongols and other Turkic peoples as the empire of the Golden Horde began to disintegrate. In the 16th century, the Kazakhs established a nomadic empire, which later separated into three *zhus* or hordes: the Great Horde controlled the south, the Middle Horde the centre and north-east, and the Lesser Horde migrated to the west. Each contained a number of clans and was ruled by a khan, but these khanates were devastated in the early 18th century by the Oyrats, an expansionist Mongolian people. Protection was sought from Tsarist Russia against the Oyrats and the khans of all three hordes swore allegiance to the Russian crown. Russia gradually extended its forts into the Kazakh

region and abolished the khanates as political entities by 1850. Revolts by the Kazakhs were brutally suppressed and from this period onwards many Russians moved into the region. Under Soviet rule, Russian domination of the region was completed and the borders of the central Asian republics were drawn. The country was made an Autonomous Soviet Socialist Republic of the Union of Soviet Socialist Republics (USSR) in 1925, and a full Soviet Socialist Republic in 1936. The nomadic Kazakh herdsman were forced into settled collectives in the 1920s, where many died from disease or famine, while others fled to China. In the 1930s and 1940s, more people from other parts of the USSR settled in the new industrial cities, or were deported by Stalin to the labour camps in the north. In the 1950s, Russian settlers also came to farm the (unsuccessful) “Virgin Lands” wheat scheme on the northern steppe. Since Kazakhstan was seen as a remote and empty land, the main nuclear testing site for the USSR was established at Semipalatinsk (Semey), and the space launch centre at the Baykonur Cosmodrome.

Fig. 1.1 Map of Kazakhstan



Source: United Nations Cartographic Section, 2004.

After the break-up of the USSR in 1991, Kazakhstan was the last Soviet republic to declare independence on 16 December 1991. The dissolution of the USSR came as a shock to the country, given its long-standing ties with Russia and its large Russian population.

As well as comprising geographic diversity, the country is ethnically very diverse, with a higher proportion of Russians than in the other central Asian republics. In 2003, there were approximately 130 ethnic groups (nationalities), including 57.2% Kazakhs, 27.2% Russians and 15.6% other ethnic groups (UNDP 2004). The majority of the population are said to be atheists, while the main religions are Sunni Muslim and Russian Orthodox. The official state languages are Kazakh and Russian, the latter being used in everyday business. In 2003, 56.7% of the population lived in urban areas (UNDP 2004).

The size of the population in Kazakhstan has decreased from 16.3 million in 1990 to 15.1 million in 2005 (see Table 1.1), mainly due to outmigration of ethnic Russians and other groups. The migration balance remained negative, but declined from minus 523 500 in 1994 to minus 123 200 in 2000 (Ministry of Health 2002). Since economic recovery began in 2000, there has been substantial, although poorly recorded, immigration from other central Asian republics, mainly from Uzbekistan and Kyrgyzstan (Becker & Urzhumova 2005). Restrictions on migrant workers have recently been introduced and

Table 1.1 Population/demographic indicators, 1990–2005

	1990	1998	1999	2000	2001	2002	2003	2004	2005
Total population (in million)	16.3	15.1	14.9	14.9	14.9	14.9	14.9	15.0	15.1
Population ages 0–14 (% of total)	31.8	28.6	28.1	27.5	26.7	25.8	24.8	23.9	23.1
Population ages 65 and above (% of total)	5.2	6.9	6.9	6.9	7.2	7.5	7.9	8.3	8.5
Population growth (annual %)	0.6	-1.7	-1.0	-0.3	-0.2	0.0	0.3	0.7	0.9
Population density (people per km ²)	6.1	5.6	5.5	5.5	5.5	5.5	5.5	5.6	5.6
Fertility rate, total (births per woman)	2.7	–	–	1.9	–	1.8	1.8	1.8	1.7
Birth rate, crude (per 1000 people)	21.7	14.3	14.2	14.7	14.9	14.6	15.3	18.2	18.2
Death rate, crude (per 1000 people)	7.7	10.2	9.8	10.1	10.0	11.8	10.0	10.1	10.1
Age dependency ratio (dependants to working-age population)	0.59	0.55	0.54	0.53	0.51	0.50	0.49	0.47	0.46
Rural population (% of total)	43.7	43.9	43.8	43.7	43.5	43.3	43.1	42.9	42.7

Source: World Bank, 2007.

only migrant workers with permanent contracts are now entitled to apply for work permits. By the end of 2006, approximately 164 600 workers from the Commonwealth of Independent States (CIS) received permits, most of whom (approximately 70%) were from Uzbekistan (EIU 2007).

The birth rate dropped from 21.7 births per 1000 population in 1990 to 14.2 in 1999, increasing again to 18.2 in 2005 (Table 1.1). The total fertility rate (the number of children a woman is likely to bear in her lifetime) declined from 2.7 in 1990 to 1.7 in 2005. In the Soviet period, a woman who had seven or more children was proclaimed as a “mother-hero” and given various extra benefits. In 1997, the President’s message in *Kazakhstan 2030* called for the “improvement of the health of women and children, together with a broad pronatalist policy to curb the decline in population” (Government of Kazakhstan 1997). This policy has been recently strengthened by a progressive baby bonus scheme provided by the State. Although the population structure in Kazakhstan is slightly older than in the other central Asian republics, 23.1% of the population were under 15 years in 2005. The recent demographic shifts mean that the Kazakh people are again a majority in most *oblasts* (regions), while Russians and other ethnic minorities are concentrated in cities and towns.

1.2 Socioeconomic context

With the dissolution of the Soviet Union, Kazakhstan encountered a severe economic recession leading to a period of hyperinflation. The economy initially suffered badly, as the country had depended on the Soviet Union for capital, inputs, export markets and a financial system. There had also been a budgetary transfer from Moscow to Kazakhstan, equivalent to nearly 12% of gross domestic product (GDP) (Falkingham 1999). With the collapse of trade among the former Soviet republics and the transition to a market economy, demand and production collapsed. Prices were liberalized in 1992 and the country witnessed a period of hyperinflation, exceeding 3000% in 1992 (Becker & Urzhumova 2005). In 1993, the Russian Federation ended the ruble zone and stopped supplying other former Soviet republics with rubles, necessitating the creation of new national currencies. In Kazakhstan, the new national currency – the tenge (KZT) – was introduced in November 1993.

Similar to developments in other former Soviet republics, the Kazakh economy faced a severe recession in the first half of the 1990s. The worst recorded drop of minus 17.8% GDP in 1994 signalled a near collapse of the economy. The economy began to stabilize in 1996, but new stagnation was triggered by the Russian economic crisis in 1998. Kazakhstan’s GDP recovered

Table 1.2 Macroeconomic indicators, 1990 and 1999–2006

	1990	1999	2000	2001	2002	2003	2004	2005	2006
GDP (current US\$, in billion)	26.9	16.9	18.3	22.2	24.6	30.8	43.2	57.1	–
GDP, PPP (current international \$, in billion)	76.0	57.6	64.6	75.1	83.9	93.6	105	119	–
GDP per capita, PPP (constant 2000 international \$)	5 696	3 944	4 343	4 938	5 422	5 906	6 428	6 990	–
GDP per capita, PPP (current international \$)	4 648	3 860	4 343	5 057	5 650	6 280	7 014	7 857	–
GDP growth (annual %)	–	2.7	9.8	13.5	9.8	9.3	9.6	9.7	–
Gini index (x 100)	–	–	–	31.3	–	33.9	37.0 ^a	42.0 ^a	–
Short-term debt (% of total external debt)	–	7.7	7.7	9.0	10.2	12.4	12.0	18.5	–
Value added in industry (% of GDP)	–	34.9	40.5	38.8	38.6	37.6	37.6	39.5	–
Value added in agriculture (% of GDP)	–	10.5	8.7	9.4	8.6	8.4	7.6	6.8	–
Value added in services (% of GDP)	–	54.6	50.8	51.8	52.8	53.9	54.8	53.7	–
Current account balance (% of GDP)	–	-1.0	2.0	-6.3	-4.2	-0.9	0.8	-1.3	–
Labour force (total, in million)	7.7	7.5	7.5	7.6	7.7	7.8	8.0	8.1	–
Official exchange rate (LCU per US\$, period average)	–	120	142	147	153	150	136	133	126
Real interest rate	–	–	–	–	–	–	–	–	–
Poverty headcount ratio at \$2 a day (PPP) (% of population)	–	–	–	8.5	–	16.0	–	–	–
UNDP (HDI) ^b	–	–	0.74	0.77	0.77	0.76	0.77	–	–

Sources: World Bank, 2007; ^a UNICEF, 2007; ^b WHO Regional Office for Europe, 2007.

Notes: GDP: gross domestic product; HDI: Human Development Index; LCU: local currency unit; PPP: purchasing power parity; UNDP: United Nations Development Programme.

in 1999 and recovery accelerated in 2000, when a GDP growth of 9.8% was recorded (Table 1.2), largely due to Kazakhstan's booming energy sector. In subsequent years, GDP growth rates in Kazakhstan have remained high, at close to 10% per year, with which the country ranked among the fastest growing economies worldwide (EC 2006). After declining to 61.1% in 1995, real GDP reached 94% of its 1989 level in 2003 and surpassed its previous Soviet levels in 2004 (UNICEF 2006). In 2006, GDP grew in real terms by 10.6%, fuelled by high levels of capital investment and oil revenue (EIU 2007). It has been

estimated that, as a result of increased oil and gas production and high energy prices, the country's GDP will triple between 2004 and 2015 (EC 2006).

Kazakhstan has promising economic prospects given its vast natural resources and currently high oil prices. The country contains huge fossil fuel reserves, as well as other minerals and metals. Kazakhstan has sought to expand its oil export capacity and bargaining position through various pipeline projects. The Caspian Pipeline Consortium project was opened in 2001, from the western Tengiz oil field to the Russian Black Sea oil terminal at Novorossiisk, raising Kazakhstan's export capacity substantially. In April 2006, the capacity of the pipeline had more than doubled (EIU 2006). A new oil pipeline that links the oil fields at the Caspian coast with Alashankou in western China was opened in December 2005. By 2006, the rich oil and gas reserves had attracted some US\$ 34 billion in foreign direct investment since 1991, giving Kazakhstan the highest rate of direct foreign investment per capita of all the CIS countries (EC 2006).

New export markets outside the former Soviet Union are also being sought for secondary production, but there is little demand for the country's traditional heavy industry products, and much of the industrial sector is badly in need of repair. The country continues to be heavily dependent on its energy resources, with oil and fuel products accounting for 63% of the country's exports in 2004 (EC 2006). However, driven by the continuing oil boom and demand for residential housing, there has been a massive growth in construction and services (EIU 2006).

Kazakhstan was a major grain producer for the former Soviet Union and continues to have a large agricultural sector especially in the more arable southern part of the country. Although the agricultural sector was estimated to contribute only 6.7% to GDP in 2005, it remains one of the largest employers in the country (EIU 2006). The agricultural sector still constitutes the main determinant of employment and poverty levels in rural areas (World Bank 2004b).

Total government expenditure as a percentage of GDP declined to 22% in 2004 (WHO Regional Office for Europe 2007). In the first half of the 1990s, the drop in government expenditure represented a public sector fiscal crisis, since GDP also dropped. Government revenue shrank dramatically with the switch from transfers from state enterprises to tax collection from personal incomes and from corporations. With the windfall oil revenue of recent years, tax reforms and improved tax collection rates, the situation has considerably improved and by the end of May 2006, Kazakhstan had international reserves of over US\$ 14 billion (EIU 2006). Inflation rates worsened when the KZT

replaced the Russian ruble in November 1993, but began to improve from 1996 onwards. In 2005, the consumer price inflation was at 7.6% (EIU 2006).

Since 1991 Kazakhstan has pursued market-oriented economic policies. A structural reform programme was introduced in 1993 and an anti-crisis package in July 1994. The economic reforms and privatization moved ahead at full speed starting from 1995, and the Government has embarked on a privatization programme. Small and medium-sized enterprises, as well as state and collective farms, are almost fully privatized, management contracts are allowed on large state enterprises, and the gas, oil and mineral sectors have been opened to foreign investors. The Government has also created the most advanced banking and financial sector in the former Soviet Union. It has further introduced a private pension plan, reformed the civil service and created the National Oil Stabilization Fund, which has so far accumulated more than US\$ 4 billion in oil revenue savings (EC 2006). Using the country's oil and gas wealth, the President announced a massive increase in government spending on health, education and welfare, and it is planned to increase spending in these sectors by US\$ 2.5 billion for the period 2005–2008 (EC 2006).

Despite the oil boom and growing GDP, unemployment and poverty have only slowly been reduced. While the rapid expansion of the oil and gas sectors created very little new employment, jobs were indirectly created in the services sector. However, large-scale underemployment persists in the agricultural sector. At the end of February 2007, 7.9% of the workforce was unemployed, down from 8.3% a year earlier (EIU 2007), and real wages in 2004 were still at only 70.6% of the 1991 level (UNICEF 2006). Recent years have seen substantial increases in real wages and the average monthly wage in January 2007 was KZT 45 716 (US\$ 364) (EIU 2007).

On the basis of the United Nations Development Programme (UNDP) Human Development Index (HDI), which consists of three components (life expectancy at birth, the level of adult literacy and total share of students at various educational levels, and per capita GDP), there were two distinct stages in human development in Kazakhstan after 1990, very similar to developments in other countries of the former Soviet Union. In the first stage (1990–1995), a sharp deterioration in the indicators of human development occurred, mainly due to the drop in life expectancy at birth, and the global ranking of Kazakhstan's HDI fell from 54th place to 93rd. During the second stage (1996–2002), human development indicators were slowly restored, mainly thanks to the country's economic growth, and Kazakhstan reached a HDI of 0.766 in 2002, placing it 78th out of 177 countries in the world, although this still fell short of its indicators in 1990 (UNDP 2004).

The initial decline in human development indicators in the early 1990s was accompanied by increasing poverty. Poverty rates and income inequality across the former Soviet Union increased significantly after 1991 (Falkingham 1999). The severe economic and social disruptions of the 1990s propelled many households into impoverishment, with consequent implications for their health and for their capacity to pay for health services and goods. Using a consumption-based poverty line (set at US\$ 258 per person per year), 15.4% of the population was poor in 2002. There were considerable regional variations, with poverty rates ranging from 2% in Almaty city to 32% in Kyzyl-Orda *oblast* (World Bank 2004b).

According to international poverty lines, 21% of the population lived on less than US\$ purchasing power parity (PPP) 2.15 per day in 2003, a decline from 31% in 2001. When using the poverty line of US\$ PPP 4.30 per day, this figure stood at 66% in 2003, a decline from 73% in 2001 (Alam, Murthi et al. 2005). The Gini index measuring social inequality was 0.34 in 2003 (Table 1.2), which was comparatively modest when compared with other countries of the former Soviet Union. However, with the economic boom of recent years, social inequality seems to be increasing again and the United Nations Children's Fund (UNICEF) estimated that the Gini coefficient had increased to 0.42 by 2005 (UNICEF 2007).

In the wake of the recent economic boom, corruption in public administration has increased. According to the Corruption Perception Index published by Transparency International, in 2006 Kazakhstan stood at 111th place among the 163 countries covered (Transparency International 2007). The problem has been recognized at the highest political level and the fight against corruption has been declared a national priority. One of the main reasons for corruption in the health sector is the low official salaries of health workers, which remain far below the national average.

1.3 Political context

Kazakhstan is a unitary State with a presidential form of government. Nursultan Nazarbayev became the leader of the Communist Party of Kazakhstan in 1989 and since 1991 has ruled the country as President. The President is elected by popular vote for a 7-year term and appoints the Prime Minister, the Cabinet of Ministers and the regional governors. The most recent presidential election was held in December 2005, when President Nazarbayev was re-elected for a third 7-year term with 91.1% of the vote. The Organization for Security and

Co-operation in Europe (OSCE), over which Kazakhstan aims to preside in 2009, found the elections to fall short of international standards.

The first post-Soviet Constitution of Kazakhstan was adopted on 28 January 1993. A new Constitution was approved in a nationwide referendum on 30 August 1995, greatly increasing the powers of the presidency and sidelining the legislature. Since then, only the President can initiate constitutional amendments, appoint and dismiss the Government, dissolve the Parliament, call referenda, and appoint administrative heads of regions and cities.

The Parliament consists of two houses. The Upper House (Senate) has 39 members who serve 6-year terms, with 7 senators appointed by the President, and other members appointed by *oblast* councils (2 members from each of the 14 *oblasts*, the capital Astana and the city of Almaty). The Lower House (*Majilis*) has 77 members who serve 5-year terms, based on electoral districts with the positions filled by popular election. At the time of writing, 10 members of parliament are elected under a party-list system, with the remainder elected in single-seat constituencies (EIU 2007). There are a large number of registered parties, although party politics are not highly developed. Suffrage is universal for citizens over 18 years of age. The most recent elections for the Senate took place in 2005. Elections for the *Majilis* were held in September and October 2004, with the ruling Otan (Fatherland) party, which is chaired by President Nazarbayev, winning 42 seats. In December 2006, the party changed its name to Nur Otan (Light Fatherland) and, after a merger with three smaller parties in the second half of 2006, it controlled 57 out of the 77 seats in April 2007 (EIU 2007). Danial Akhmetov became Prime Minister in June 2003 but resigned in January 2007 and was followed by Karim Masimov. In February 2007, a State Commission for Drawing Up and Stipulating a Programme of Democratic Reforms made a number of proposals for reforming the political system, including a greater role for the Parliament in forming the Government and the right of appointing the Constitutional Court, the Central Electoral Commission and the Audit Committee. However, the proposals do not envisage radical changes to Kazakhstan's presidential political system (EIU 2007). President Nazarbayev dissolved the *Majilis* in June 2007 and new elections were held in August 2007. According to official preliminary results, the Nur Otan party chaired by President Nazarbayev received 88.05% of the vote and no other party crossed the 7% threshold, handing all elected seats in the *Majilis* to Nur Otan. The new elections also put a set of constitutional amendments into effect, including an amendment that allows Nazarbayev to serve as President without term limits (BBC News 2007; Golovnina 2007).

The country was initially divided into 19 administrative divisions (*oblys* in Kazakh, *oblast* in Russian), plus the capital. In 1997, however, a Presidential

Decree reduced the number of *oblasts* to 14. In addition, there are three cities (Almaty, Bayqongyr, and the capital Astana), which means that there are overall 17 administrative divisions. The *oblasts* are further subdivided into 220 *rayons* (districts). The President appoints the senior administrators (the *oblast akims* or governors). The *oblast* administrations have been traditionally strong; *akims* wield considerable power and are also key players in decisions relating to the health care system, as are the *oblast* finance departments. Local councils, the *maslihat*, have been elected since 1994 under a form of local democracy, but they have few powers in comparison with *oblast akims* who can override council decisions. In late 2006, the first elections of 30% of town and *rayon akims* took place, and the direct election of local governors is planned to be extended to the rest of the country (EIU 2007).

Kazakhstan is a member of the United Nations and several regional organizations: the CIS, the Shanghai Cooperation Organization (SCO), the Eurasian Economic Community (together with the Russian Federation, Belarus, Kyrgyzstan and Tajikistan) and the Central Asian Economic Community (with Kyrgyzstan, Uzbekistan and Tajikistan). Kazakhstan aspires to become a member of the World Trade Organization (WTO). It is a member of several financial organizations active in the health sector, including the International Monetary Fund (IMF), the International Bank for Reconstruction and Development (IBRD), the European Bank for Reconstruction and Development (EBRD), the Asian Development Bank and the Islamic Development Bank.

Kazakhstan has ratified the following conventions relevant to health systems and policies: the United Nations Convention on the Rights of the Child, the United Nations Convention on the Elimination of All Forms of Discrimination against Women, the United Nations International Convention on the Elimination of All Forms of Racial Discrimination, the United Nations Convention relating to the Status of Refugees, the United Nations International Covenant on Economic, Social and Cultural Rights, the United Nations Educational, Scientific and Cultural Organization (UNESCO) Regional Convention on the Recognition of Studies, Diplomas and Degrees in Higher Education in Asia and the Pacific, the Council of Europe Convention on the Recognition of Qualifications concerning Higher Education in the European Region, the Single Convention on Narcotic Drugs, and the World Health Organization (WHO) Framework Convention on Tobacco Control. Kazakhstan has signed, but not yet ratified, the United Nations International Covenant on Civil and Political Rights.

1.4 Health status

Trends in life expectancy in Kazakhstan are broadly similar to those observed in the CIS, although life expectancy in Kazakhstan has remained below the CIS average and the decline in life expectancy after 1991 was steeper (Fig. 1.2). The dissolution of the Soviet Union was followed by a dramatic decline in life expectancy. In Kazakhstan, life expectancy dropped from 68.81 years in 1990 to 64.4 years in 1996, and then increased again to 65.89 in 2005 (WHO Regional Office for Europe 2007). However, despite the economic recovery, this still fell almost three years short of its 1990 level and was 13.74 years lower than the average life expectancy in the EU15, which was recorded at 79.63 years in 2004 (WHO Regional Office for Europe 2007).

Table 1.3 Official and estimated life expectancy, 1990 and 2000–2005

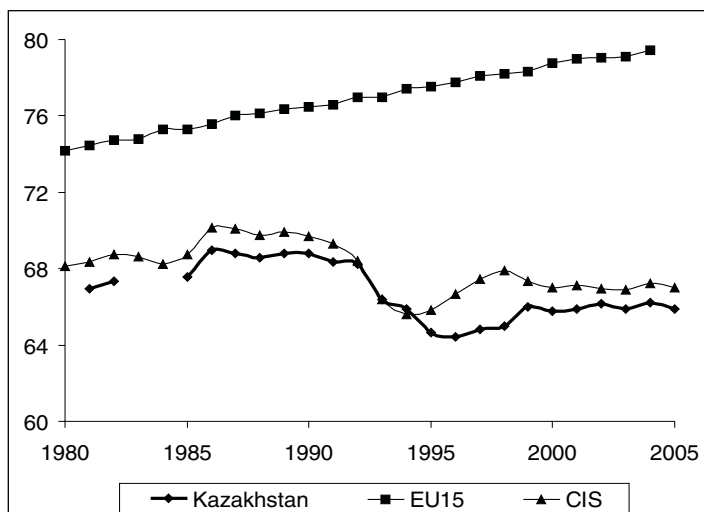
	1990	2000	2001	2002	2003	2004	2005
Life expectancy at birth, in years	68.81	65.75	65.89	66.15	65.89	66.21	65.89
Life expectancy at birth, in years, male	63.90	60.18	60.61	60.92	60.63	60.72	60.40
Life expectancy at birth, in years, female	73.40	71.65	71.41	71.62	71.47	72.02	71.73
Estimated life expectancy (World Health Report)	–	62.49	63.00	63.60	61.00	61.50	–

Source: WHO Regional Office for Europe, June 2007.

Kazakhstan also has one of the world's largest gender gaps in life expectancy (IRIN 2007a). In 2005, according to official statistics, males could expect to live for 60.4 years, while official female life expectancy was 71.73 years (WHO Regional Office for Europe 2007) (Table 1.3). Male life expectancy also experienced a much steeper fall than female life expectancy in the first half of the 1990s, from 63.9 years in 1990 to 58.93 years in 1996 (WHO Regional Office for Europe 2007). The largest proportionate increases in mortality have occurred among males of working age. Between 1987 and 1995, mortality rates more than doubled for men aged 30–44 and rose by more than 75% for men aged 45–54 (Becker & Urzhumova 2005). There are also substantial regional variations in life expectancy. The most prosperous areas (Almaty city and the capital Astana) have a substantial advantage in terms of life expectancy over other more depressed areas of the country (Becker & Urzhumova 2005).

It should, however, be noted that actual life expectancy may be even lower than recorded in official statistics (See Table 1.3 and Table 1.4). The reason for this lies in the underreporting of infant mortality, which is described in more

Fig. 1.2 Official life expectancy at birth in Kazakhstan, CIS and EU15, 1980–2005



Source: WHO Regional Office for Europe, June 2007.

Notes: CIS: Commonwealth of Independent States; EU15: European Union Member States before May 2004.

Table 1.4 Estimated mortality and health indicators, 1970, 1980, 1990, 2000 and 2005

	1970	1980	1990	2000	2005
Life expectancy at birth, female (years)	–	71.9	73.1	71.1	71.9
Life expectancy at birth, male (years)	–	61.6	63.8	60.2	60.9
Life expectancy at birth, total (years)	–	66.6	68.3	65.5	66.2
Mortality rate, adult, female (per 1000 female adults)	149	140	136	–	152
Mortality rate, adult, male (per 1000 male adults)	318	312	306	–	343
Mortality rate, 15–60 years, female ^a	–	–	–	–	194
Mortality rate, 15–60 years, male ^a	–	–	–	–	437
Mortality rate, infant (per 1000 live births)	–	72	53	63	63
Mortality rate, under 5 years (per 1000)	–	85	63	73	73

Source: World Bank, 2007; ^a WHO, 2007b.

detail below. Estimates that take this factor into account point to an actual life expectancy of 61 years in 2003, which is four years less than official statistics indicate (Rechel, Shapo et al. 2005).

Disability-adjusted life expectancy (DALE) at birth was estimated at 52.6 years for males and 59.3 years for females in 2002 (WHO Regional Office for Europe 2007). The decrease in life expectancy in Kazakhstan in the 1990s is largely due to an increase in mortality from cardiovascular diseases, in particular among middle-aged males. The age-standardized mortality rate from ischaemic heart disease for males increased from 405 per 100 000 male population in 1989 to 611 per 100 000 in 1996, declining again to 525 in 2005 (compared to 118 in the EU15 in 2004) (WHO Regional Office for Europe 2007).

The age-standardized mortality rate for selected alcohol-related causes of death is also high and stood at 308 per 100 000 population in 2003, compared to 58 per 100 000 in the EU15 in 2004. Age-adjusted cancer mortality rates (at 173 per 100 000 in 2005) are comparable to those in the EU15, but significantly higher than the central Asian average of 107 per 100 000 population (WHO Regional Office for Europe 2007). There are, however, problems with the identification of causes of death (Ministry of Health 2004), which means that mortality-related statistics classified by cause of death have to be treated with some caution.

Alcohol consumption, smoking, diets high in fats and low in antioxidants, and poor detection and treatment of hypertension are major contributing factors to the increase in cardiovascular mortality (McKee & Chenet 2002). According to a nationally representative survey with 2000 respondents conducted in 2001, 55.6% of men in Kazakhstan were heavy vodka drinkers (defined as consuming more than 100 g of vodka per sitting) and only 13.8% consumed fruits on a daily basis (Cockerham, Hinote et al. 2004). While market liberalization has resulted in increased availability of a large number of consumer items, its effects on public health have often been detrimental. A survey of 648 vendors in Almaty in 1999–2000 found that cigarettes, alcohol, sweets, coffee and tea were widely available, but that there was only limited availability of fruits, vegetables and whole grains (Yim, Humphries et al. 2003).

Central Asia has also become one of the key targets for the international tobacco industry (Gilmore & McKee 2004). The Living Conditions, Lifestyles and Health Study of eight countries in the former Soviet Union (Armenia, Belarus, Georgia, Kazakhstan, Kyrgyzstan, Moldova, the Russian Federation and Ukraine) found the highest smoking prevalence among males in Kazakhstan, where 65.3% of male and 9.3% of female respondents reported to be currently smoking (Pomerleau, Gilmore et al. 2004). However, according to three surveys conducted by the National Centre on Healthy Lifestyles in 1998, 2001 and 2004,

the incidence of tobacco smoking among the general population decreased from 28% to 23% and smoking among health professionals decreased from 34% to 26%. Despite health education campaigns in schools, however, the surveys did not find evidence of reduced smoking rates among adolescents, with an incidence of 14% in 13–15 year-olds in 2004 (National Centre on Healthy Lifestyles, personal communication, 2006).

Kazakhstan also has very high mortality rates due to external causes (accidents, injuries, poisonings and traumas) and an increase in external cause mortality contributed to the mortality crisis in the 1990s, in particular for non-Kazakh males of working age (Becker & Urzhumova 2005). Age-standardized mortality rates increased from 118 per 100 000 in 1991 to 161 in 2005, which was close to the CIS average (159), but considerably higher than the average for the central Asian republics and Kazakhstan (CARK) (81) and more than four times higher than the EU15 average (37 in 2004) (WHO Regional Office for Europe 2007). In 2005, external cause mortality in Kazakhstan was one of the highest in the WHO European Region, only surpassed by the Russian Federation and Belarus (WHO Regional Office for Europe 2007). A significant proportion of external cause mortality is due to suicide, in particular among males (49 per 100 000 male population in 2005) (WHO Regional Office for Europe 2007). Car accidents are another important cause of external cause mortality and the use of seat belts, although mandatory, is not strictly enforced. The age-standardized mortality rate for motor vehicle travel accidents among males was 20 per 100 000 in 2003, which compared to 13 per 100 000 in the EU15 in 2004 (WHO Regional Office for Europe 2007).

Like other countries of eastern Europe and central Asia, Kazakhstan has recorded a significant increase in the incidence of diabetes in recent years. In Kazakhstan, the incidence rate increased from 35 per 100 000 population in 1995 to 116 per 100 000 in 2005, which is below the CIS average of 158 per 100 000, but above the CARK average of 60 per 100 000 (WHO Regional Office for Europe 2007).

Officially recorded infant mortality has decreased since 1990, reaching 15.1 per 1000 live births in 2005 (WHO Regional Office for Europe 2007) (Table

Table 1.5 Infant mortality rate per 1000 live births, 1990 and 2000–2005

	1990	2000	2001	2002	2003	2004	2005
Official statistics as reported to WHO	26.69	19.08	19.18	16.91	15.35	13.98	15.1
World Bank estimate	53	63	–	–	–	–	63
World Health Report	–	33	–	–	–	63	–

Sources: WHO Regional Office for Europe, 2007; World Bank, 2007.

Note: WHO: World Health Organization.

1.5), but the recorded decline is likely to reflect growing underreporting (Becker & Urzhumova 2005). There were also substantial regional differences, with the lowest infant mortality recorded in Almaty city and the highest in Kyzyl-Orda *oblast* (World Bank 2004b).

In all central Asian republics, serious concerns have been raised about the quality of official statistics on infant and child mortality. There are three main factors that contribute to the discrepancy between official data and estimates by international organizations: the continued use of the Soviet definition of live births (which considers infants who are born at less than 28 weeks of gestation or weighing less than 1000 grams as miscarriages unless they survive to 7 days of age) (Ministry of Health 2004); misreporting by medical staff (sometimes deliberate, to avoid investigations); and failure by parents to report births and deaths of children to the authorities (Aleshina & Redmond 2003). A study in Zhambyl *oblast* in 1996–1997 found infant mortality at the level of 32 per 1000 live births according to the Soviet definition and 59 per 1000 under the WHO definition. The Demographic and Health Survey of 1999, based on a nationally representative sample of 4800 women of reproductive age, established an estimated infant mortality of 62 per 1000 live births for the period 1994–1999 and an under-5 mortality rate for the same period of 71 per 1000 live births (DHS 1999). New estimates of infant mortality were derived from the Multiple Indicator Cluster Survey (MICS) conducted in 2006. According to this survey, infant mortality stood at 31.8 per 1000 live births, with a higher mortality among males (36.6) than among females (26.6). There were considerable regional variations. Infant mortality was lowest in Astana city (6.2) and highest in Zhambyl *oblast* (55.4). Infant mortality was higher in rural areas (37.0) than in urban areas (26.8), higher among women with primary education (56.5) than among women with higher education (20.2), and higher among poorer households (Statistics Agency of the Republic of Kazakhstan 2007).

In January 2005, the Ministry of Health issued a decree to adopt the WHO definition of a live birth, which is a broader definition of live birth than the Soviet version. With the support of the United States Centers for Disease Control and Prevention (CDC), health professionals in pilot sites are being trained in using the new criteria. In 2006, all hospitals reported infant mortality data according to both the old and the new definition of a live birth. According to preliminary data, the infant mortality rate recorded using the WHO-recommended criteria was 12–20% higher than the infant mortality rate recorded under the Soviet definition of a live birth. The use of the WHO definition of a live birth will make Kazakhstan's infant mortality data more comparable internationally and provide a foundation for devising new interventions to reduce infant mortality.

Table 1.6 Maternal mortality per 100 000 live births, 1990 and 2000–2005

	1990	2000	2001	2002	2003	2004	2005
Official statistics as reported to WHO	54.77	61.64	48.92	51.94	41.94	36.63	40.86
WHO/UNICEF/UNFPA estimates	80	210	–	–	–	–	–

Source: WHO Regional Office for Europe, 2007.

Notes: WHO: World Health Organization; UNICEF: United Nations Children's Fund; UNFPA: United Nations Population Fund.

According to the 2006 MICS, 97.9% of children aged 12–23 months received a BCG vaccination by the age of 12 months and the first dose of diphtheria, tetanus, pertussis (DTP) was given to 97.5%. The percentage declined for subsequent doses of DTP to 96.1% for the second dose and 91.1% for the third dose. Similarly, 98.9% of children received Polio 1 by the age of 12 months and this declined to 93.7% by the third dose. The coverage for measles vaccine by 12 months was 65.9%. The percentage of children aged 12–23 months who had all recommended vaccinations was low at only 57.1% (Statistics Agency of the Republic of Kazakhstan 2007). According to the same survey, only 31.6% of children with suspected pneumonia were treated with antibiotics (Statistics Agency of the Republic of Kazakhstan 2007).

According to national statistics, maternal mortality rates are very high in Kazakhstan, with 40.86 deaths per 100 000 live births in 2005 (more than seven times the EU15 average) (WHO Regional Office for Europe 2007). Virtually all births (98% according to the Demographic and Health Survey in 1999 and 99.8% according to the 2006 MICS) take place in health facilities, mostly in maternity homes, and, according to the 2006 MICS, in 99.1% of births there was a skilled attendant present (Statistics Agency of the Republic of Kazakhstan 2007). However, as is the case with infant mortality, actual maternal mortality rates can be assumed to be much higher. United Nations agencies estimated that the actual maternal mortality rate was 210 per 100 000 live births in 2000, which was more than three times the official rate for the same year (Table 1.6). Investigations of the Committee for Health Services Quality Control in a number of *oblasts* revealed distortions, irregularities and nonreporting with regard to maternal mortality cases. An examination of cases of maternal deaths showed that most could have been prevented (Ministry of Health 2007c).

Anaemia is a major public health problem. A survey of more than 2000 children between the ages of 6 and 59 months in the Aral Sea region of Kyzyl-Orda conducted in the period 1994–1995 found a prevalence of anaemia of 50% (Dangour, Hill et al. 2002). Similarly, a study conducted in 1999–2000 in the same region found a prevalence of anaemia among 6–15 year-olds of

approximately 50% (Hashizume, Kunii et al. 2003). According to the 1999 Demographic and Health Survey, 36% of women of reproductive age in Kazakhstan suffer from some degree of anaemia and 36% of children under five years are anaemic (DHS 1999). Anaemia is likely to be due to reproductive health and dietary causes, including high fertility rates, untreated gynaecological problems, iron-deficient diets, including those high in fats and low in vegetables and fruit, and diets that reduce the intake of iron. Iron supplementation during pregnancy is one of the main components of the UNICEF/CARK Anaemia Control and Prevention Strategy in Kazakhstan.

According to the 2006 MICS, 4.0% of children under five years of age were underweight, 12.3% were stunted (low height for age) and 3.8% were wasted (low weight for age) (Statistics Agency of the Republic of Kazakhstan 2007). A higher prevalence of malnutrition was found among children in rural areas, among children of mothers with lower levels of education, among poorer households and among ethnic Kazakhs (Statistics Agency of the Republic of Kazakhstan 2007).

As in other countries of the former Soviet Union, abortion has traditionally been the main method of birth control. However, between 1992 and 2005 the rate of abortions per 1000 live births has decreased from 1020 to 450, which compares to 226 per 1000 live births in the EU15 in 2003 (WHO Regional Office for Europe 2007). According to the Demographic and Health Survey in 1999, more than half (53%) of currently married women used one of the modern methods of contraception, with the intrauterine device being the most widely used method (DHS 1999). According to the same survey, the total abortion rate declined from 1.8 abortions per woman for the period 1992–1995 to 1.4 abortions for the period 1996–1999 (DHS 1999). According to the 2006 MICS, 50.7% of women currently married or “in unions” used contraceptives. As already mentioned, the most commonly used method was the intrauterine device, which was used by 36.3% of respondents. Less common were contraceptive pills

Table 1.7 Infectious diseases, 1990 and 2000–2005

	1990	2000	2001	2002	2003	2004	2005
Tuberculosis incidence per 100 000 population	65.8	173.4	175.9	185.4	180.1	175.6	–
Number of new HIV cases	4	347	1175	694	747	699	964
Syphilis per 100 000 population	1.5	161.4	140.4	123.2	92.1	79.3	60.9
Gonococcal infections per 100 000 population	105.2	88.2	87.5	86.6	73.7	76.2	67.5

Source: WHO Regional Office for Europe, 2007.

(6.6%) or condoms (4.6%) (Statistics Agency of the Republic of Kazakhstan 2007).

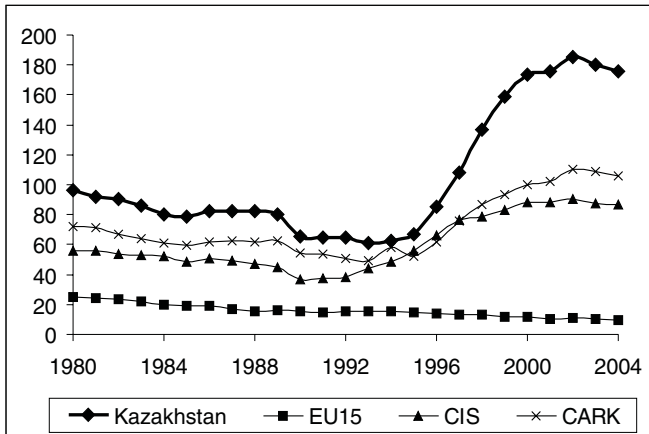
Like other countries in central Asia and the former Soviet Union, Kazakhstan has witnessed epidemics of sexually transmitted infections (STI) and tuberculosis (TB) since the early 1990s. The incidence of TB initially declined from 96.6 per 100 000 population in 1980 to 60.9 per 100 000 in 1993, but has almost tripled since, reaching 175.6 in 2004 (Table 1.7). Although this situation mirrors trends in central Asia and the former Soviet Union as a whole, the rates in Kazakhstan in 2004 were higher than in any other country of the WHO European Region (WHO Regional Office for Europe 2007) (Fig. 1.3). According to the National Centre on Tuberculosis, however, the incidence rate has since declined to 132 per 100 000 population in 2006 (IRIN 2007b).

In the 1999 Demographic and Health Survey, 9% of respondents reported that someone in their family had had TB and more than 23% reported having frequent exposure to a person with TB. Yet, only 68% of women and 62% of men knew that TB can be completely cured with proper medication (DHS 1999). There are considerable regional variations. In 2001, TB prevalence varied from 121 per 100 000 population in Almaty city to 308 per 100 000 in Kyzyl-Orda *oblast* (Godinho, Novotny et al. 2004). Prisons in particular constitute high-risk environments. In 2001, TB incidence rates were 30 times higher than among the general population and mortality rates were 9 times higher (Godinho, Novotny et al. 2004). A growing concern is multi-drug resistant (MDR) TB, which is much more difficult and expensive to treat. Although there are as yet no national data available on drug resistance, an estimated 10% of all cases found to be positive through smears are MDR (Godinho, Novotny et al. 2004).

The incidence of other communicable diseases such as syphilis has also increased dramatically (Aris 2005). The incidence of syphilis increased from 1.45 per 100 000 population in 1990 to 269.5 per 100 000 in 1997, decreasing again to 60.9 per 100 000 in 2005 (WHO Regional Office for Europe 2007). This trend was similar to developments throughout the former Soviet Union, although incidence rates in Kazakhstan were above the CIS and CARK averages. In 2000, syphilis was diagnosed in 1% of blood donors, 1% of pregnant women, and 2% of hospital patients (Godinho, Novotny et al. 2004). Many patients in the early stages of syphilis were unnecessarily hospitalized, while others obtained anonymous health care from the private sector (Godinho, Novotny et al. 2004). The incidence rate of hepatitis A decreased in Kazakhstan from 444 per 100 000 in 1990 to 70 per 100 000 in 2003 (WHO Regional Office for Europe 2007).

Despite the high incidence of STIs, 18% of women and 7% of men included in the 1999 Demographic and Health Survey reported not having heard of

Fig. 1.3 Tuberculosis incidence per 100 000 in Kazakhstan, CIS, CARK and EU15, 1990–2004



Source: WHO Regional Office for Europe, June 2007.

Notes: CIS: Commonwealth of Independent States; CARK: central Asian republics and Kazakhstan; EU15: European Union Member States before May 2004.

such infections. High-risk behaviour seems to be widespread, with 81% of interviewed women and 42% of men reporting not using a condom during their most recent sexual intercourse with a noncohabiting partner (DHS 1999). A survey in 2004 found that only approximately half of those interviewed were aware of HIV/AIDS and only 16% correctly identified all sources of HIV infection (Godinho, Renton et al. 2005). The 2006 MICS found that only 23.5% of people aged 15–24 had comprehensive knowledge about HIV prevention (Statistics Agency of the Republic of Kazakhstan 2007).

Although the absolute number of officially registered HIV cases is still comparatively low, an exponential increase has been recorded in recent years and, as in the other countries of the region, the real number of cases is likely to be much higher (Bernitz & Rechel 2006). In 2006 the situation in the country worsened, with the number of newly reported HIV cases doubling in comparison to those reported in 2005. A major HIV outbreak occurred among children in Shymkent, due to transmission in hospitals (Ministry of Health 2006b; UNAIDS 2007). At the end of 2006, the Joint United Nations Programme on HIV/AIDS (UNAIDS) estimated that the number of people living with HIV/AIDS in Kazakhstan in 2005 was between 11 000 and 77 000 (UNAIDS 2006).

The registered number of people with HIV/AIDS was 6943 in October 2006 (Ministry of Health 2006b).

As in other countries in the former Soviet Union, the epidemic is mainly driven by the inflow of heroin from Afghanistan and the increase in injecting drug use (Rechel & McKee 2007). In Kazakhstan, the number of registered injecting drug users has increased 5-fold since the early 1990s (Godinho, Renton et al. 2005). A rapid assessment carried out by UNAIDS in 1998–2002 suggested that there might be more than 250 000 injecting drug users (Godinho, Novotny et al. 2004). Of the people living with HIV in Kazakhstan in 2005, 80% were believed to be drug users (Godinho, Renton et al. 2005). There has also been an increase in the commercial sex industry, with an estimated 20 000–50 000 commercial sex workers in 2002 (Godinho, Novotny et al. 2004).

The HIV/AIDS epidemic in Kazakhstan is concentrated among highly vulnerable populations (injecting drug users and sex workers) but is also spreading to other vulnerable groups including youths, migrants and truck drivers. Injecting drug use and sexual transmission are currently the main recorded routes of HIV transmission in Kazakhstan. There is great potential for the continued rapid spread of HIV among injecting drug users, since between 8% and 28% of sex workers inject drugs, according to sentinel surveillance results for 2003 and 2004 (WHO 2005b). Sentinel surveillance in 2003 indicated HIV prevalence levels of 3.8% among injecting drug users and 4.6% among sex workers. Approximately 78% of reported cases are attributed to unsafe injecting drug use, and sexual transmission accounts for 14%. More than 25% of newly registered infections in 2004 were attributed to unprotected sex. Most people living with HIV/AIDS are men, but the proportion of women infected is reported to be increasing. In 2003, Kazakhstan's reported HIV/AIDS prevalence rate (0.2%) was higher than in the neighbouring countries (WHO 2005b).

The country is still at an early stage of the HIV/AIDS epidemic, but there are a number of factors in place that create the potential for a dramatic increase: widespread injecting drug use, migration, an extensive commercial sex industry, high-risk behaviour, marginalization of vulnerable groups, low public awareness of HIV/AIDS and limited capacity of the Government and civil society to implement effective responses. While Kazakhstan has adopted overarching policies and strategies to control HIV, the coverage of such strategies among highly vulnerable groups such as injecting drug users, commercial sex workers and prisoners is still insignificant and treatment with antiretroviral drugs is not yet widely available. According to UNAIDS estimates, in 2005 only 11% of those in need received antiretroviral treatment (UNAIDS 2006). If HIV control efforts are not significantly expanded, the HIV epidemic will broaden and, according to an “optimistic” scenario, reduce the country's GDP

by 2.2% by 2015 and slow down GDP growth by approximately 5% (Godinho, Renton et al. 2005).

Kazakhstan has a number of natural breeding grounds for epidemic diseases, including plague (in 8 *oblasts*), tularaemia (in 11 *oblasts*), haemorrhagic fever (in 4 *oblasts*), tick-borne encephalitis (in 6 *oblasts*), and anthrax (in 1767 locations) (Ministry of Health 2004).

The quality control system for food is underdeveloped and poorly coordinated, and low-quality food is domestically produced and distributed, as well as imported from other countries (Ministry of Health 2004).

The possible effects on population health of severe environmental degradation and pollution are of considerable concern in Kazakhstan. The basin of the shrinking Aral Sea is heavily salinated, since its feeder rivers are siphoned off in irrigation schemes, and the remaining water is polluted from factories and agriculture. The air around the Aral Sea is polluted with salts, pesticides and chemicals. The already limited supply of fresh water in Kazakhstan is made worse by various forms of contamination. Air and water pollution are severe, particularly in industrial areas. The rapid upsurge of industrial production and the lack of measures for environmental protection have resulted in extensive air pollution in large industrial centres such as Ust-Kamenogorsk and Karaganda.

The problems of poor sanitation and contaminated water (salinity, toxins and bacteria) have increased in urban and rural areas. Water filtration and purification systems have broken down in many areas and in 1998 in rural areas about half of the water supply systems were no longer operational (President of Kazakhstan 1998). In 2002, 61% of homes were connected with a water supply system, with a higher share in urban areas (88%) than in rural areas (27%) (WHO Regional Office for Europe 2007). The percentage of the population with access to a sewerage system, septic tank or other hygienic means of sewage disposal was 72%, a share increasing to 87% in urban areas and decreasing to 52% in rural areas (WHO Regional Office for Europe 2007). According to the 2006 MICS, 93.7% of the population has access to improved drinking water sources: 98.2% in urban areas and 87.8% in rural areas. However, this percentage declined to 82% in the *oblasts* of Northern Kazakhstan and Kostanai. In Almaty and Astana cities, 98.5% and 84.8% respectively used drinking water that was piped into their dwellings or into their yard or plot. In contrast, only about 27.5% of households in Northern Kazakhstan *oblast*, and 23.3% in Akmola *oblast* used such water (Statistics Agency of the Republic of Kazakhstan 2007).

The radiation exposure from nuclear testing in the Semipalatinsk area that once served as the Soviet Union's main testing ground for nuclear weapons has also been high. Between 1953 and 1963, when the Nuclear Test Ban Treaty

banned all testing in the atmosphere, a large number of surface and atmospheric nuclear tests were carried out at Semipalatinsk (Semey). Underground testing continued until August 1991, when the site was closed down. The current impact of the nuclear testing on population health remains unclear (Stone 2003a; Stone 2003b).

Safety standards in industry and construction leave much to be desired. In 2006 alone, there were 114 deaths in the mining and metallurgy industry, according to the Ministry of Labour and Social Protection, while 133 deaths on construction sites were recorded (IRIN 2007a).

2 Organizational structure

2.1 Historical background

Kazakhstan inherited a health system organized according to the Semashko model of Soviet health care. The extensive health system was state owned and centrally planned and one of its key principles was that health services should be free and accessible to everyone. Before independence, the Ministry of Health of Kazakhstan had administered policy set out in Moscow through a centrally organized hierarchical structure, from the republic level to *oblast/city* administrations, then to the subordinate *rayon* level.

Health care in Kazakhstan in the early 20th century was provided mostly by healers. The Russian Government also organized health care for Russian settlers in West Kazakhstan in the early 1900s, provided by travelling feldshers and midwives, medical posts and hospitals.

In the Soviet period, the early emphasis from the 1920s was on the control of communicable diseases and the development of a rural primary health care infrastructure. Under the district system, each citizen was assigned to a feldsher post (FP) in a rural area and to a polyclinic in an urban area, according to the place of residence. The emphasis changed between 1950 and 1970 to specialist and hospital care, when many hospitals and polyclinics were built, reducing the resources available for primary care. The overinvestment in doctors and hospitals followed Soviet health care norms, which emphasized large numbers of hospital beds and doctors, rather than quality and outcomes of health care.

In the 1980s, the system began to deteriorate and its management problems became apparent. The health sector had been traditionally assigned a low priority compared to other sectors of the economy which were considered to be more “productive”. As budgets became tighter, the supply of health care services could

not meet demand, and health facilities were forced to unofficially transfer some of their costs to the population in the form of informal payments.

Structural problems included the centralized system of management and budgeting, which did not allow health managers any flexibility. Budgets were allocated according to state plans based on inputs, such as numbers of staff and hospital beds. Also, there were no incentives to improve cost-efficiency; for example, the number of beds and health personnel were inflated in order to receive additional resources. The quality of care deteriorated, as resources became stretched and staff became more dissatisfied. There was little incentive to improve performance, since the level of funding did not depend on offering better quality care or achieving better health outcomes. Consumers were unhappy with the quality of care, with the shrinking availability of services and with the lack of physician choice.

Kazakhstan commenced some reform activities before independence from the Soviet Union in five health reform demonstration sites under the Soviet-wide New Economic Mechanisms (NEM) programme in 1989. These projects were cancelled in 1990, but the reform issues remained on the policy agenda.

After independence in 1991, there was initially little change to the health system, as priority shifted to political and economic reform. Improvements to the infrastructure and quality of health care services lagged due to the severe budgetary crisis. Various options were debated and pilot projects were set up to test new approaches, such as restructuring primary care, insurance funding, new provider payment mechanisms and user fees. The pilot projects were set up in two *oblasts* (Zhezkazgan and Semipalatinsk) with more limited pilot activities also taking place in South Kazakhstan and Almaty *oblasts*. In 1998, Zhezkazgan *oblast* was merged into Karaganda *oblast* and Semipalatinsk *oblast* was merged into East Kazakhstan *oblast*, the health reforms were stalled, and it took the health reform process a long time to recover the more systematic approach which had existed before the *oblast* mergers. Over time, Karaganda came to be recognized as the lead health reform *oblast* in Kazakhstan.

The pace of reform quickened in the second half of the 1990s, with the introduction of a compulsory health insurance scheme, although this was discontinued in 1998, so that a clear health policy direction was lacking throughout the 1990s. A comprehensive programme of health reforms was adopted in 2004, envisaging changes in all aspects of the health system.

2.2 Organizational overview

Since independence in 1991, Kazakhstan has had to develop its own policy and planning capacity. The Law on Health Protection of 19 May 1997 and the Law on the Health Care System of 4 June 2003 clearly set out the organizational structure of the new health system.

In Kazakhstan, policy-making is highly centralized in an executive-style government run by the President. National health policies are set by the Government and implemented by national and local authorities. The Ministry of Health is at the peak of the health system hierarchy, but services are administered mainly by *oblast* (regional) departments, which have considerable autonomy in running health services in their area.

While the organizational set-up of the country is therefore highly centralized compared to many countries in western Europe, it is less centralized than most other countries in central Asia or the CIS, and the *oblasts* have a great amount of autonomy. In the years since independence, relationships between national and local levels have often changed, with powers moving in both directions. Overall, however, there has been a delegation of power to the local level. The movement of the capital from Almaty to Astana further affected the relationships between national and local levels, as it created a void for a number of years. Current administrative reforms and the National Programme on Health Care Reform and Development for 2005–2010 are addressing the separation and delegation of powers between the national and local levels and generally envisage granting the Ministry of Health greater powers, many of which it had lost after 1997.

Ministry of Health

There have been frequent changes in the organizational set-up of the Ministry of Health. In 1997, the Ministry was transformed into the Committee of Health within the Ministry of Education, Culture and Health. In 1999, the Committee of Health was transformed into the Agency of Health, and only in 2002 was the Ministry of Health restored. These organizational changes in the status and structure of the Ministry of Health were part of the wider public administration and civil service reform carried out within the country. They were associated with management changes. Between 1997 and 2002, four different people were heading the health sector and each was introducing new health reform strategies, without any of these strategies reaching implementation status.

The Ministry of Health is now attempting to develop a stronger role in health policy. Its main functions are formulating policy on key aspects of the health system, regulating relations in the health sector through legal acts, and controlling and coordinating intrasectoral and intersectoral collaboration. In addition, the Ministry partially executes the functions of service delivery through national clinical centres. At times, this results in some lack of clarity between the functions of regulation and service delivery (Katsaga & Zuez 2006, unpublished).

According to the Law on the Health Care System of 4 June 2003, the Ministry of Health has the following responsibilities (Katsaga & Zuez 2006, unpublished):

- implementing the state policy on the protection of population health;
- developing concepts and development strategies for health care, medical and pharmaceutical science, medical and pharmaceutical education, state and sectoral programmes, development plans, as well as socioeconomic and scientific–technical programmes in the health sector;
- approving normative and legal acts, regulatory documents, and forms of registration and reporting in the health sector;
- approving rules for the advertisement of health care services, new methods and means of diagnostics and treatment;
- establishing expenditure planning rules for the provision of the guaranteed benefits package and revenue generation rules for regional single-payer systems;
- determining methods for tariff formation and planning of expenditure for health services provided in the context of the guaranteed package of free health care;
- approving the essential drugs list to be provided to the population in the context of free health care;
- controlling the observance of licensing rules permitting medical practice, manufacture and dispensing of medicines;
- determining the structure of health care delivery, including the required number of health care providers, typical structures of providers, equipment requirements and staff capacity;
- intersectoral cooperation for the protection of population health;
- developing the guaranteed benefits package and of conditions for its enforcement;
- planning national (“republican”) budget expenditure and administration of national clinical and research centres;

- interacting and cooperating with international organizations;
- supporting the creation and functioning of republican health information and communication systems.

The Minister of Health is appointed by Presidential Decree and is accountable to the Prime Minister. The Minister of Health nominates the vice ministers and chairpersons of committees, is responsible for the overall governance of the Ministry of Health and supervises the work of the administrative department. The vice ministers are appointed and dismissed by the Government. The distribution of authorities among the vice ministers is carried out by ministerial order and is prone to change. The Ministry is divided into a number of departments and units (Fig. 2.1). It has established three committees to implement health policy in the regions and at national level: the Committee on Quality Control, the Committee on Pharmacy, and the Committee on Sanitary-Epidemiological Surveillance. Committees have a vertical structure with representation in all *oblasts*. Chairpersons of committees are appointed by the Government according to nominations by the Minister of Health and are accountable to the Minister. The committees are funded from the republican budget.

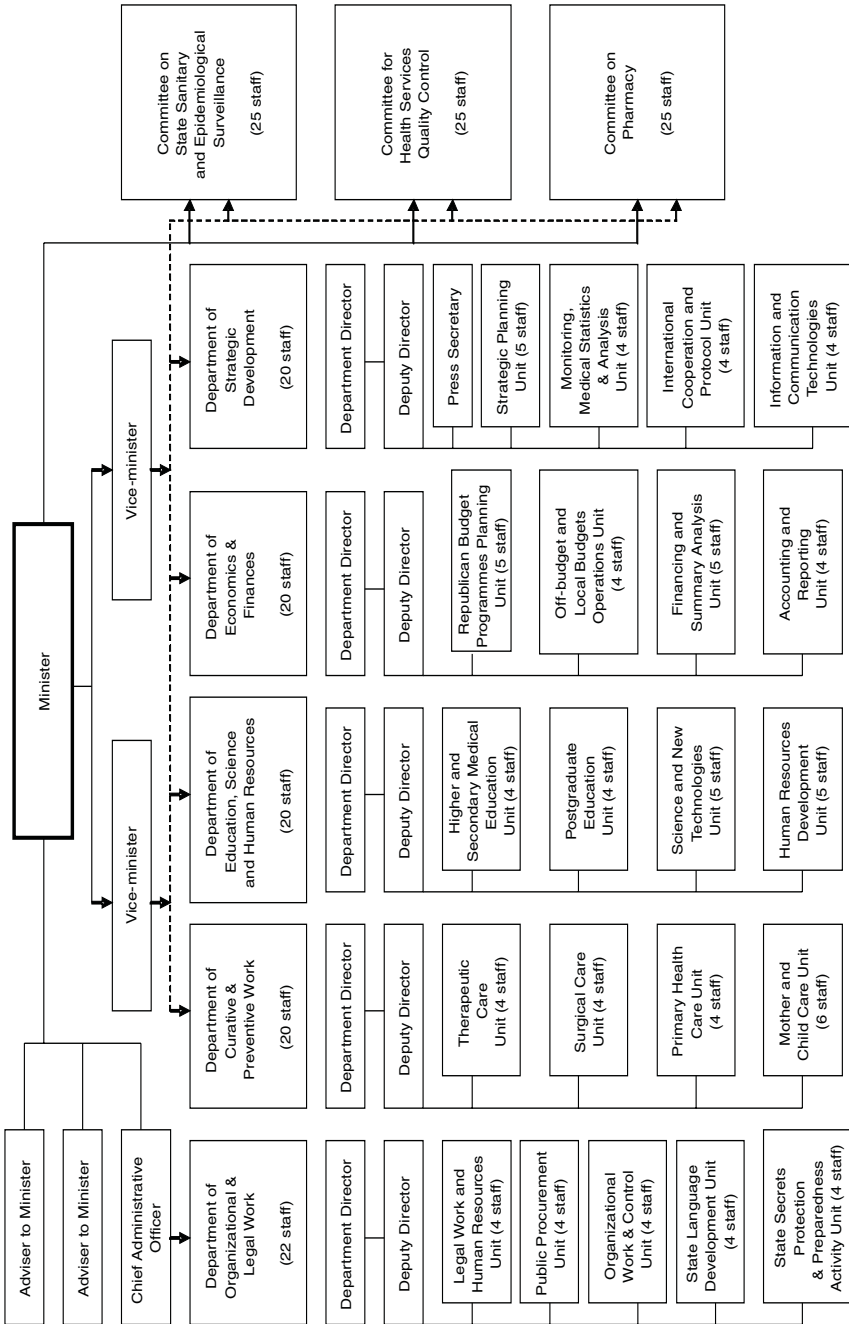
***Oblast* and city administrations**

The 14 *oblast* and Almaty and Astana city health departments are the key bodies in administering health care and run most of the hospitals and polyclinics. *Oblast* health departments are structural subdivisions of *oblast* administrations. The directors of *oblast* health departments are appointed by the *oblast akims* (governors), to whom they are accountable. *Oblasts* own and manage all public providers in the *oblast*. The directors of *oblast* health departments appoint and dismiss chief doctors of health organizations and oversee their activities.

Following the 1995 Law on Local Self-government, more responsibility was transferred from the republic to the *oblast* level, including the licensing of health care facilities. The *oblast* administrations collect the majority of government revenue and keep a significant portion. *Oblast* administrations (including their finance and health departments) are therefore quite powerful, although there is considerable variation in power and revenue across *oblasts*. Since 2005, health funds from the local and republican levels are pooled at the *oblast* level, and allocation decisions are made by the *oblast* administrators who act as single payers for their respective *oblasts*.

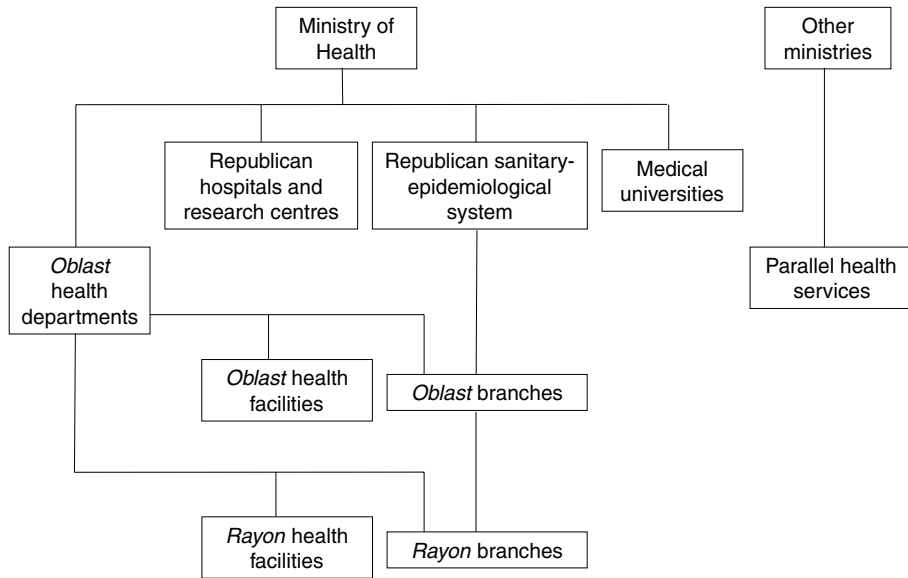
Rayons are subordinate to *oblast* administrations. They are responsible for the management of basic secondary care and most primary care, which is delegated to the chief physicians of central *rayon* hospitals (CRB). Fig. 2.2 presents an overview of the organization of Kazakhstan's health system.

Fig. 2.1 Organizational structure of the Ministry of Health



Source: Ministry of Health, personal communication, 2007.
 Note: Status as at January 2007.

Fig. 2.2 Organizational chart of the health care system



Source: Authors' compilation.

Ministry of Economy and Budget Planning

The Ministry of Economy and Budget Planning was established in 2004 and has assumed the responsibility for budget planning and allocation in the health sector, which had previously rested with the Ministry of Finance. The Ministry of Economy and Budget Planning allocates funds to the Ministry of Health and the *oblasts*, including funds for health services and capital investments.

Ministry of Finance

With the introduction of the new Budget Code in April 2004 and the establishment of the Ministry of Economy and Budget Planning, the role of the Ministry of Finance has been limited to budget execution. It is now responsible for controlling the spending at the *oblast* health department and health care provider levels.

Ministry of Labour and Social Protection

This Ministry sets the national pay scale and the various remuneration incentives (including extra payments for work with dangerous or hazardous substances) and is responsible for formulating and monitoring the implementation of labour laws. The Ministry of Labour and Social Protection has Medical-Social Expert Commissions that grant or revoke invalidity status to individuals. The Ministry also provides prosthetic and other compensatory aids to people with disabilities.

Autonomous health enterprises

Some health care organizations (such as some hospitals, large polyclinics and primary health care groups) are now legally able to become juridical entities with the capacity to manage their own funds. This became possible under the 1995 Law on Self-government and later amendments and decrees. The *oblasts* must decide (subject to various exclusions) which facilities will remain state owned and funded, and which will be reorganized as state enterprises. In contrast to state facilities, which are controlled by an upper level of management and entirely financed through the state budget, state enterprises can charge fees for certain services and have some financial autonomy. Apart from through user fees, state enterprises are financed according to contracts with the *oblast* health administration, on the basis of the volume of services provided (in the case of hospitals and outpatient clinics) or on a capitation basis (in the case of primary health care organizations).

In 2006, there were 3927 state enterprises, 4141 state institutions, and 942 private health care facilities in Kazakhstan (Ministry of Health 2007a). Most state institutions are small rural outpatient organizations. According to the government action plan for 2007–2009, most state institutions in the health sector will be reorganized to become state enterprises.

Private health care providers

Pharmacies and dentists have mostly become private profit-making organizations, while hospitals, sanatoria and large polyclinics continue to be mainly state owned. However, between 1999 and 2004, the number of private hospitals has almost doubled, and the number of private operation facilities has almost tripled. A growing share of physicians are working in the private sector, reaching 14% of all physicians in 2005.

Parallel health systems

Some ministries and government agencies have traditionally run their own comprehensive network of health services financed from the national (republican) budget. These have included the Ministry of Internal Affairs, the Ministry of Defence, the administration of the President and of the Government, the Kazakh railways, and several national companies. Some of these parallel health systems have been closed down in recent years, but more detailed data on their health infrastructure, the number of health care workers employed in these systems, and health expenditure are not available. The parallel health services are formally required to report to the Ministry of Health, but they may not always do so in practice.

Unions, professional associations and civil society

Trade union membership was, in practice, compulsory under the Soviet system. The main function of the trade unions was to represent the employer (the State) to workers rather than vice versa, but the unions also controlled substantial benefits for workers (such as holidays and health care) and were financed through payroll tax. These unions were powerful under the old Soviet system.

The 1993 Law on Trade Unions allowed the freedom to register and form new trade unions, and others have now entered the field in addition to the previous monopoly unions. The Trade Union Federation of Kazakhstan covers approximately 50 unions. This includes the Health Workers Union, one of the largest unions in the country, which in 1998 had 300 000 members and operated through 14 regional branches. All health care personnel were members of this union in the Soviet period, and it still covered 95% of health sector workers in 1998. Membership is practically automatic and the fees are deducted from members' salaries. The Trade Union Federation still owns substantial assets, such as hotels, office buildings and health spas. The Health Workers Union maintains a close working relationship with the Government and is consulted on policy documents, although without being an ex officio member of policy committees.

Recent years have also seen an increase in the number of nongovernmental organizations (NGOs) involved in the health sector. In 2006, there were 139 NGOs working in the Kazakh health system (Katsaga & Zuez 2006, unpublished). The most active NGOs are those working with patients (such as the Diabetes Association of the Republic of Kazakhstan) and professional associations (in particular the Kazakhstan Association of Family Physicians). In 2005, the Government started to allocate public funds to NGOs working

predominantly on the prevention of “socially significant” conditions, the rehabilitation of patients and the prevention of drug use.

Informal professional associations existed in the Soviet era for each of the medical specialties. Several physician associations developed in the 1990s, but they are not yet influential bodies and have no statutory standing or formal representation within policy-making bodies. They offer views on health care policies and strategies and on the revalidation of specialists. The largest and most active professional association is the Kazakhstan Association of Family Physicians. There is also now a national Association of Nurses. The Ministry of Health intends to involve NGO representatives intensively in the process of professional revalidation of health workers and the independent quality control of health care.

2.3 Decentralization and centralization

Since the country’s independence in 1991 the health care system has witnessed significant decentralization, although the central Government has retained considerable authority. Decentralization was mainly realized through the privatization of facilities, and through the devolution of administrative and financial responsibilities from national level to *oblast* level and even at times to *rayon* level, for example through the decentralization of funding to the *rayon* level between 2000 and 2003.

Kazakhstan began to privatize many state-owned facilities in the economy, such as factories and large collective farms, from 1991 onwards. Privatization has been more limited in the health system and, like in neighbouring Uzbekistan (Ahmedov, Azimov et al. 2007), mostly involved pharmacies and dental care. In 1997 over 90% of pharmacies had already been privatized (UNDP 1997). In October 2006, 95.8% of pharmaceutical organizations were in private hands (Ministry of Health 2007b). In January 1997, the Government drew up a list of 615 health care organizations for privatization, comprising approximately 8% of the 8000 state-owned health facilities in Kazakhstan at the time (Simidjiyski 1998). Only a small number have so far been privatized, and there is some confusion about the target number, the process of privatization and the status of privatized enterprises. The 1997 Governmental Decree on Privatization Programmes for Sectors set out a list of 30 types of health facility not subject to privatization and funded from the state budget. *Oblast* committees with representatives from the Ministry of Health must decide (subject to the specified exclusions) which state-owned enterprises will remain in public hands and which

will be reorganized as autonomous enterprises. However, it is often not clear which enterprises are “profit-making” and which are non-profit-making.

Privatization refers to independent public sector organizations, as well as to private “profit-making” organizations. Various problems in the privatization process have emerged, including the lack of national control over licensing, the lack of control over professional standards, the illegal privatization of some health care facilities, illegal profit-making and the misuse of privatized facilities. Legislation for regulating private health care facilities needs to be improved.

The devolution of responsibilities from national level to *oblast* level was embedded in the 1995 Law on Local Self-government, which delegated health management and financing functions to the *oblast* level. According to this law, the level of budget consolidation was to be determined by the *oblast akim* (governor). Until 2004, in some *oblasts* the budget was centralized at *oblast* level, whereas in most *oblasts* the budget was decentralized to the *rayon* level.

Beginning in 2005, according to the Budget Code of Kazakhstan, the budgets of all *oblasts* are consolidated at *oblast* level and allocation decisions are made by the *oblast* health administrations. Regional authorities execute planning and operational management according to unified rules established at national level. They are now responsible for:

- the operational management of regional health systems on the basis of national rules and norms;
- the planning and allocation of resources for health care delivery to the population in the context of the guaranteed benefits package;
- the payment of health care providers.

Overall, however, the relative roles and relationships between national level and *oblast* level are still fluid and in a process of transition.

2.4 Patient rights and empowerment

According to the Law on the Health Care System of 4 June 2003, patients have the right to freely choose health care providers. The main regulatory document with regard to patient rights is the Law on Protection of Population Health of 7 July 2006. According to this law, patients are entitled to:

- receive free high-quality care in the context of the guaranteed benefits package;
- obtain necessary information in the area of health protection;

- obtain information about their health status, and the health status of their spouse and close relatives;
- appeal against decisions of health workers and involve independent experts when they do not agree with the decisions or recommendations of health workers;
- refuse the receipt of health services.

The Committee for Health Services Quality Control is responsible for considering complaints related to the quality of health services provided, while *oblast* health departments are responsible for the protection of patient rights at *oblast* level. Overall, however, patient rights have so far remained very limited and poorly institutionalized.

One area that has received more attention is the human rights of marginalized groups and how their treatment contributes to the spread of HIV/AIDS. Throughout the former Soviet Union, members of the population groups at highest risk of HIV infection are often exposed to social exclusion, stigmatization and criminalization (Bernitz & Rechel 2006). In Kazakhstan, Human Rights Watch published a report in 2003 entitled “*Fanning the flames. How human rights abuses are fuelling the AIDS epidemic in Kazakhstan*” (HRW 2003). The report suggests that police routinely arrest injecting drug users and sex workers not for specific illicit acts, but primarily because of their status as drug users and sex workers. The utilization and effectiveness of needle exchange services is found to be severely limited because police have on occasion targeted needle exchange sites to harass drug users (HRW 2003).

3 Financing

3.1 Health expenditure

Over the course of the 1990s, health financing was very low and the limited health care resources were used inefficiently. Several factors combined to cause a major drop in government spending: these include the collapse of GDP, high inflation, the end of subsidies from Moscow and difficulties in collecting tax revenue. The consequent steep drop in the health care budget meant that the health care system was barely maintained. In 1994, real health expenditure was only 37% of its pre-independence level (World Bank 1996a). The lowest share of GDP allocated to health was recorded in 2002 at 1.93% (Table 3.1).

Globally, richer countries tend to spend a higher percentage of GDP on the health sector than poorer countries and the share of public expenditure as a percentage of overall health expenditure is positively correlated with an increase in national income. This means that in poorer countries a larger share of health expenditure has to be met privately, often by means of out-of-pocket payments.

During recent years, budget allocations to the health sector in Kazakhstan have increased significantly, both in absolute figures and as a share of GDP. Between 2000 and 2006, public health care expenditure increased significantly, from US\$ 23 per capita per year to US\$ 128 (see Table 3.1). This constituted a more than 5-fold increase and the increase in budgetary funding was accompanied by the introduction of a comprehensive health reform programme.

As a share of GDP, budget allocations to the health sector increased in Kazakhstan from 2.0% in 2000 to 2.7% in 2005. The National Programme of Health Care Reform and Development for 2005–2010 envisages gradually increasing this share to 4% of GDP by 2010.

Table 3.1 Public health care expenditure, 2000–2006

	2000	2001	2002	2003	2004	2005	2006
Health care expenditure (% of GDP)	2.0	2.0	1.9	2.1	2.5	2.7	3.4
Share of expenditure in the overall national budget	9.3	8.7	9.0	9.2	9.4	9.1	9.2
Health expenditure per capita per year (US\$)	23	29	32	41	64	98	128

Source: Ministry of Health, personal communication, 2007.

It is important to recognize that these data only capture expenditures from state budgets and not the presumably substantial out-of-pocket payments and pharmaceutical expenditure of patients. No special studies on out-of-pocket payments for health care have been conducted at the time of writing. Estimates from population-based surveys carried out by the National Statistics Agency are likely to be limited and incomprehensive. According to WHO estimates, total health expenditure in Kazakhstan, including the private sector, actually decreased between 2000 and 2004, from 4.1% to 3.8% (Fig. 3.1) (WHO Regional Office for Europe 2007).

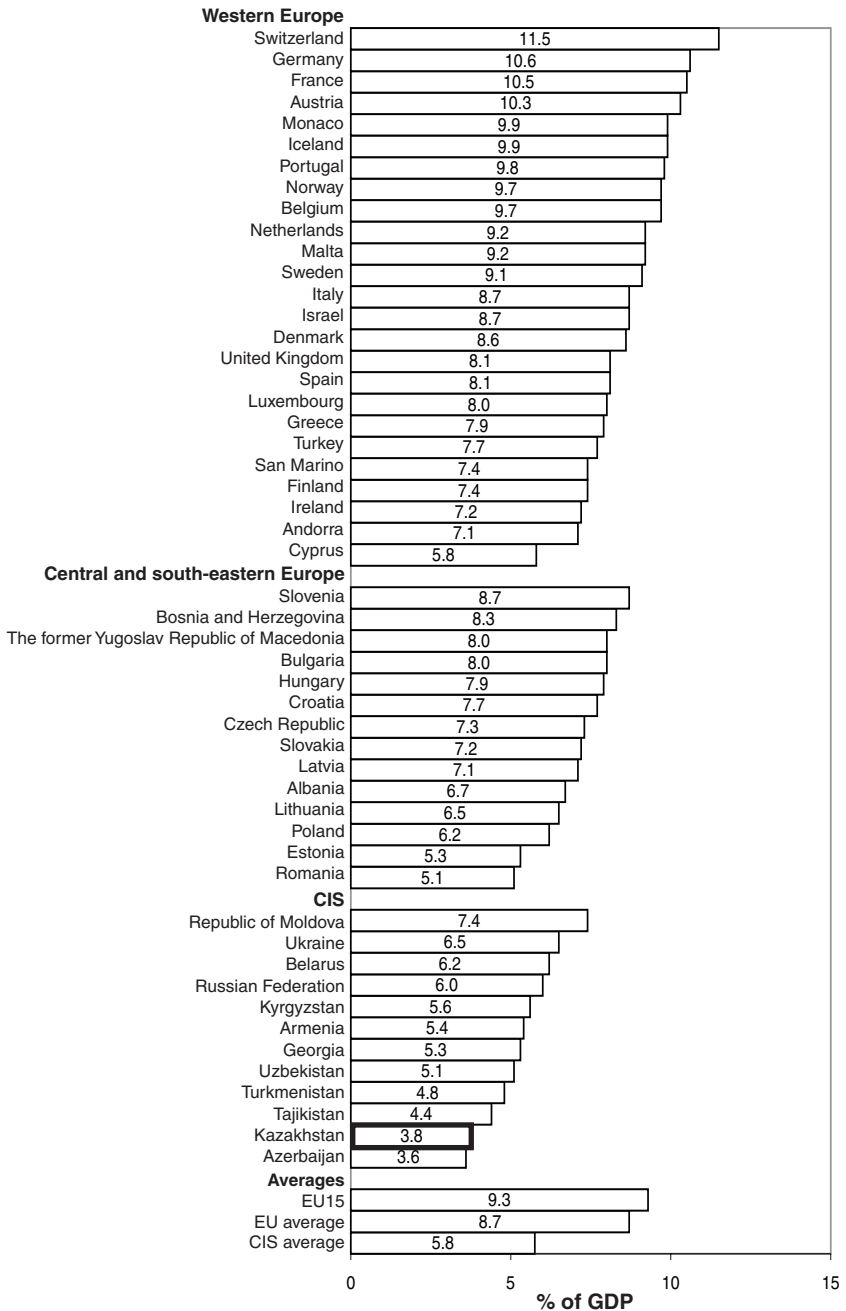
It should also be noted that an increase in health expenditure from public sources does not automatically translate into health benefits for the population. The National Programme of Health Care Reform and Development for 2005–2010 noted that the increase in per capita financing in the period 2002–2003 resulted in an annual increase in the number of inpatients by 5–7%, which might have undermined efforts to rationalize the hospital sector and strengthen primary care (Ministry of Health 2004), although the increase could also be the result of improved access to inpatient services.

Another challenge is the gap between earmarked and allocated funding for the health sector. The expected budget has often been revised downwards in the course of the financial year. For example, actual health expenditure in 1996 was only 85% of the estimated budget (UNDP 1997).

Structure of health expenditure

As in other countries of the former Soviet Union, hospital services have traditionally received the bulk of health expenditure. In the 1980s, hospital services were estimated to receive 85% of overall health funding in what is now Kazakhstan (Kulzhanov & Healy 1999). According to the WHO Regional Office for Europe Health for All database, in 2000 inpatient expenditure accounted for 53.6% of total health expenditure (WHO Regional Office for Europe 2007).

Fig. 3.1 Health expenditure as a share (%) of GDP in the WHO European Region, 2004, WHO estimates



Source: WHO Regional Office for Europe, 2007.

Notes: CIS: Commonwealth of Independent States; EU: European Union; EU15: European Union Member States before May 2004.

The need to prioritize primary health services as compared with inpatient care has been recognized in Kazakhstan's national health policies. In line with the reform efforts, financial allocation to primary care has increased in recent years. According to Ministry of Health sources, in 2005, primary care received 28% of the total health budget; an increase from an estimated share of 10% in the mid-1990s. By 2010, the primary care sector is expected to account for at least 40% of public health care resources allocated for the implementation of the state-guaranteed package of services (Ministry of Health 2004). Although primary health care services are receiving an increasing share of health expenditure in line with national health policies, the majority of funding continues to go to inpatient services, encouraging referral of patients from outpatient physicians (Ministry of Health 2004). The health care delivery system remains predominantly inpatient based. In 2004, the allocation of resources from *oblast* budgets to inpatient care within the state-guaranteed package of services exceeded primary health care expenditure three times (Ministry of Health 2004).

A major problem in assessing the structure of health expenditure in Kazakhstan is that, similar to other former Soviet countries, health care expenditure has been traditionally categorized according to budget line items, so that it is difficult to trace what is spent on particular areas, such as inpatient care, primary care or outpatient specialty services. Many polyclinics are attached to hospitals and outpatient specialty services are categorized as primary care. The envisaged increase of budgetary funding to primary care to 40% by 2010 covers not only primary care, but also outpatient specialty services, and most of the funding increase might go to outpatient specialty services rather than primary care.

One of the major challenges for the Kazakh health system is regional inequities in terms of per capita allocations for health services. In 2003, a total of KZT 6095 per capita was allocated by the State for guaranteed health care services. The level of per capita funding for health varied greatly across regions, and ranged from KZT 3500 in Almaty *oblast* to KZT 10 400 in Mangistau *oblast*, demonstrating the lack of an effective mechanism of geographic levelling (UNDP 2004). Since then, regional inequities seem to have slightly decreased (Table 3.2). In 2006, the per capita allocation ranged from KZT 8500 in Almaty *oblast* to KZT 20 500 in Astana city (Ministry of Health 2006a). These figures, however, need to be treated with caution, as they may not account for substantial capital investments, such as for the new Cardiology Centre in Astana.

In terms of how funding is used at the facility level, the generally low levels of health funding in the years of transition left a mark on how the limited resources available were spent. An analysis of health expenditure recorded in

Table 3.2 Ratio of local budgetary allocations per capita to the average country level

<i>Oblast</i>	2000	2001	2002	2003	2004	2005	2006
Akmola	1.20	1.30	1.23	1.29	1.26	1.22	1.18
Aktobe	0.79	0.89	0.88	0.91	0.87	0.86	0.74
Almaty	0.50	0.52	0.56	0.56	0.66	0.64	0.69
Aturay	1.75	1.28	1.18	1.13	1.07	1.04	1.05
East Kazakhstan	1.08	1.08	1.10	1.12	1.12	1.08	1.08
Jambyl	0.79	0.84	0.77	0.86	0.90	0.95	0.96
West Kazakhstan	1.26	1.27	1.34	1.25	1.26	1.15	1.15
Karaganda	0.94	0.99	0.99	1.00	0.97	1.06	1.08
Kostanay	0.76	0.96	0.96	0.95	0.92	0.98	0.95
Kyzyl-Orda	1.37	1.29	1.37	1.42	1.39	1.31	1.34
Mangystau	2.40	2.17	1.93	1.70	1.48	1.35	1.29
Pavlodar	0.97	1.08	1.14	1.09	1.10	1.12	1.15
North Kazakhstan	1.04	1.02	1.02	1.00	1.12	1.10	1.13
South Kazakhstan	0.82	0.74	0.75	0.78	0.84	0.84	0.82
Almaty city	1.11	1.24	1.24	1.15	1.04	1.06	1.06
Astana city	1.70	1.05	1.08	1.08	1.03	1.17	1.18
Ratio maximum to minimum (times)	4.8	4.2	3.4	3.0	2.2	2.1	1.9

Source: Finance Department of the Ministry of Health, personal communication, 2007.

the database of the Ministry of Health in 1999–2003 showed that the majority of health care facilities' expenditure was devoted to recurrent costs, with only a small share allocated to actual health services. Salaries accounted for 53.9–64.3% of expenditure, a large proportion of facility budgets was devoted to services such as electricity, water and heating, and less than 10–15% was spent on clinical care. This distribution of expenditure suggests that the quality of care has deteriorated. As a result, many patients may not have accessed hospital services where they would have previously done so.

As in many other countries of the former Soviet Union, investment in facilities and equipment deteriorated sharply with the decreasing overall budget for health care. Especially in rural areas of Kazakhstan, many health facilities became increasingly dilapidated and lacked the most basic equipment. In order to address this problem, the State has in recent years allocated considerable resources for the construction of new health facilities across the country, more than 35% of which were from the republican health budget. Since 2003, a number of new hospitals have been constructed in the country, including 27 new TB facilities. In 2006, overall 52 sites were under construction or reconstruction. While this is impressive in terms of capital investment, the construction of new facilities may not always have taken due account of cost-efficiency and need.

3.2 Population coverage and basis for entitlement

Under the Soviet model of health care, services were, in principle, free and accessible to everyone. Following independence and the collapse of the health budget, the level of health services provided for free decreased, as out-of-pocket payments increased dramatically. The insurance model that was in place in Kazakhstan between 1996 and 1998 changed expectations still further. It introduced two types of benefits packages:

- the guaranteed benefits package
- the basic benefits package.

A guaranteed benefits package of services was provided by the State for all citizens. These services included emergency treatment for life-threatening conditions, the blood transfusion service, specialist national hospitals and research institutes (such as for cancer and psychiatric care), services for specified population groups (such as the disabled, war veterans, old-age pensioners and children), and programmes for communicable diseases such as TB. It also included public health services, such as immunizations and activities of the sanitary-epidemiological (san-epid) service.

Under the insurance scheme between 1996 and 1998, the second package – the basic benefits package – was available only to the insured, although in theory insurance was compulsory for the whole population. The basic benefits package included ambulatory care and most inpatient care.

Overall, a clear distinction between the two benefits packages was lacking and this resulted in confusion and perverse incentives for providers.

Following the discontinuation of the mandatory health insurance system in 1998, a list of health services provided free of charge from public providers was adopted in 2000. One of the objectives of the National Programme of Health Care Reform and Development for 2005–2010 was the introduction of a state-guaranteed basic benefits package of services provided free of charge. The basic benefits package was to be established on the basis of available state finances, equal access to health services, and a shared responsibility for health between the State, the individual and the employer (Ministry of Health 2004). Decree No. 815 of the Ministry of Health of 17 November 2004 specified rules for the provision of the guaranteed benefits package and established limits on volumes of free-of-charge inpatient services. With Government Resolution No. 1296 of 28 December 2005, a basic benefits package was approved for the period 2005–2007. The basic benefits package covers specified health services which are paid from the national state budget. It includes emergency care, outpatient

care and inpatient care and is envisaged to be revised every two years. User fees paid for services included in the basic benefits package are illegal, and user fees are only allowed for services outside the basic benefits package.

A new outpatient pharmaceutical benefit system has also been introduced. Children, adolescents and women of reproductive age are now entitled to pharmaceuticals free of charge. In 2006, 12% of all state funds allocated for the provision of the state-guaranteed benefits package were used for this type of pharmaceutical expenditure.

Health services which are not included in the basic benefits package have to be paid from:

- out-of-pocket payments
- voluntary health insurance (VHI)
- employers
- other sources.

Pharmaceuticals remain the main type of benefits which require consumer co-payments. Inpatients have their pharmaceuticals covered by the hospital (although in the past many hospitals could not afford to supply these), while ambulatory care patients, except socially vulnerable groups and certain diagnostic groups such as cancer patients, must buy their own medication. This sets up an undesirable incentive for people to seek inpatient rather than outpatient care. The coverage of pharmaceuticals also varies considerably across *oblasts*.

3.3 Revenue collection and sources of funds

In the National Programme of Health Care Reform and Development for 2005–2010, the Kazakh Government concedes that structural reforms of the health sector, such as those in health financing, sometimes lacked consistency. There were several stages in the reorganization of Kazakhstan's financing system since the country's independence in 1991, including a short-lived and ill-fated experiment with a mandatory health insurance system. Following the inherited Soviet system, Kazakhstan began the 1990s with a wholly government-funded health care system, except for largely unofficial out-of-pocket payments by users.

The fiscal crisis that the country encountered in the early 1990s triggered the search for complementary sources of revenue. A Health Insurance Fund was established in 1996 and a single compulsory national system of health insurance was set up for the whole population, with the exception of the military

and their parallel health services. The employer deducted 3% of the salary for those in work (in effect a payroll tax), the *oblast* administration paid for socially vulnerable groups (including children, students, the unemployed and pensioners), while the self-employed were required to pay their own insurance. The insurance scheme was administered through branch offices in the 14 *oblasts* and in Almaty city (Kulzhanov & Healy 1999).

Between 1996 and 1998, KZT 24.5 billion was additionally allocated to the health system through the mandatory health insurance system. However, in 1998 the mandatory health insurance system was discontinued. There were several reasons for this. The Health Insurance Fund had large revenue shortfalls and in 1998 defaulted on some commitments. In 1996, the Fund contributed 15% to the overall health budget rather than the planned 25%, and in 1998 it contributed approximately 40% to the overall health budget, although half of the latter amount came from the State for those not in the workforce. There were various reasons for the shortfall in revenue. Many enterprises had large debts and could not pay payroll tax. In addition, about one quarter of the population was outside the system (such as the self-employed and small farmers), and many did not pay health insurance. Most importantly, the *oblasts* did not pay their required contributions for those not in the workforce. By the end of 1998, *oblast* administrations owed the Health Insurance Fund KZT 27 billion. The Fund defaulted on contracts and owed health facilities KZT 8 billion. In 1998, the country was hit by the Russian crisis and international financing organizations (the IMF and the World Bank) recommended to close down all nonbudgetary funds, including the Mandatory Health Insurance Fund, and to move towards targeted, budgetary financing. Finally, confidence in the Fund collapsed with allegations of corruption and misappropriation of reserve funds (Kulzhanov & Healy 1999).

Following the Russian crisis in 1998, strict financing according to state budgets was reintroduced and extrabudgetary funds such as the Mandatory Health Insurance Fund discontinued. In 1999, Kazakhstan reverted to the previous tax-based system with budgetary health financing. While this alleviated the immediate economic concerns, the problems of the old system resurfaced, such as system inefficiencies and strict line-item budgeting.

The National Programme of Health Care Reform and Development for 2005–2010 envisages the introduction of a new health financing policy, with the aims of using resources more efficiently, improving the linkage between different levels of care, reinvesting resources saved through rationalization, and decreasing regional differences in health financing. A national monitoring system for the rational use of resources has been established, as well as a system of financial incentives and punishments.

The following programmes have been given priority in terms of health financing:

- primary health care services;
- construction and reconstruction of primary health care facilities and mother and child health facilities;
- procurement of medical equipment and means of transportation to primary health care, childbirth and emergency care services, according to specified minimum standards;
- patients referred for inpatient services by primary health care providers;
- health services to patients suffering from “socially significant and hazardous diseases”;
- provision of pharmaceuticals to specified population and disease categories;
- provision of health services in disasters.

Health care revenue now comes from three main sources: the government budget, official user fees, and unofficial out-of-pocket payments. VHI and international assistance are additional sources of revenue. However, the reintroduction of a mandatory health insurance system was planned and preparation for this started in 2000, with the Concept for the Further Health Care Development for 2001–2005 which was approved with Government Resolution No. 790 of 25 May 2000. According to a Government Resolution in 2002, mandatory health insurance should be one of the main sources of health financing and implementation of a new mandatory health insurance system was envisaged for 2008. The National Programme of Health Care Reform and Development for 2005–2010 also envisages the introduction of VHI schemes and to reconsider the reintroduction of a mandatory health insurance system. However, given the growing budgetary allocations to the health sector, at the time of writing the reintroduction of a mandatory health insurance system seems to be unlikely.

The implementation of National Health Accounts was envisaged for 2006–2007. They are hoped to provide policy-makers with more reliable information on the quantity of financial resources used for health, their sources and the way they are used.

Out-of-pocket payments

Hospitals and other health care organizations now officially charge for services outside the basic benefits package. User charges for goods and services by public sector health care organizations were legalized in 1995. *Oblast* administrations

can decide the level and extent of such payments and many have drawn up price lists for services outside the basic benefits package. The price lists envisage full payments for health services not regarded as essential, such as some dentistry and cosmetic surgery. Many health care organizations, however, simply needed user payments in order to supply goods and services that were in short supply due to budget deficits. Patients often paid for food and pharmaceuticals in hospitals, although these were supposed to be provided free of charge and patients were routinely given a list of pharmaceuticals and medical supplies to bring with them to the hospital. Patients usually paid for pharmaceuticals, medical aids or dentures from outpatient services and polyclinics. The size of these official co-payments is believed to have been considerable. For example, the Almaty *oblast* raised 10% of its health care revenue in 1996 from such charges (Ensor & Savelyeva 1998).

The 1996 Living Standards Survey of 2000 households in Kazakhstan showed that the majority of households made substantial out-of-pocket payments for goods and services to public sector health care institutions, to the extent that a hospital admission could cost more than twice a person's monthly salary (UNDP 1997). Various estimates suggest that out-of-pocket payments for pharmaceuticals and health services constituted approximately 30–35% of overall health expenditure (Ensor & Savelyeva 1998; World Bank 1998). According to the Household Budget Survey conducted in 1996, patients covered approximately 30% of the costs of pharmaceuticals in hospitals (Ensor & Savelyeva 1998). There are no reliable estimates on informal payments made to staff, but this amount would add substantially to the above estimate (Kulzhanov & Healy 1999).

Informal payments or “under-the-table” payments have been a long-standing feature of eastern European health care systems. These have been difficult to measure since, although widespread, they are not officially sanctioned. The payments may be monetary or nonmonetary (such as farm produce), or be paid to institutions or to individual staff members. The level of unofficial payments has increased in the transition years for several reasons. Factors include the inability of health services to meet the needs of the population, the low official salaries of health care staff and the growth in private health services.

The state-guaranteed benefits package remained underfunded, its implementation was poorly monitored and it lacked a clear distinction to the services that have to be paid by patients. This contributed to high informal payments, which supplement the low official salaries of health care workers (Ministry of Health 2004).

Informal payments generally have a greater impact on poorer parts of the population who might defer treatment or self-medicate. They also lead to

inefficient service provision, as patients are forced to buy pharmaceuticals at retail rather than wholesale prices (Ensor & Savelyeva 1998).

A survey in five polyclinics in Almaty city and two rural villages in Almaty *oblast* in 1999 found lower rates of utilization and health care expenditure in rural households and that the ability to pay influenced the rates of hospitalization. Spending on hospitalization was 90% of the average monthly income in rural areas, compared with 57% of income in urban areas (Thompson, Miller et al. 2003). These findings were corroborated by the Household Budget Surveys in 2001 and 2002, which showed that people from lower income groups tended to use medical services less often, spend less on health than the more affluent, and relied more on self-treatment (World Bank 2004b). A survey conducted in 2001 found that 34.8% of those reporting illness in the previous year did not seek care because they were unable to afford it (Balabanova, McKee et al. 2004). More up-to-date information on informal payments, however, is not available.

Voluntary health insurance

The Government is actively promoting the introduction of VHI as a means of expanding the sources of health financing, with contributions from both individuals and employers. VHI currently covers the staff of large industrial enterprises, the financial sector, and the gas and oil sector. In 2005, approximately 5% of the population were covered by VHI. The Government is also encouraging contracts between enterprises and health care providers for preventive medical examinations of employees.

External sources of funding

External sources of funding for health care in Kazakhstan include a large number of projects, although they are not separately listed in national data on health expenditure. The external agencies include the World Bank, WHO, the United States Agency for International Development (USAID), UNICEF, UNDP, the United Nations Population Fund (UNFPA), the Asian Development Bank, the EU, the Global Fund to fight AIDS, Tuberculosis and Malaria (GFATM), the International Red Cross, the United Kingdom Department for International Development (DFID) and the governments of some other countries. The donor-supported initiatives include pilot projects on primary care, health financing and new provider payment systems, and priority programmes on issues such as family planning, safe motherhood, TB, HIV/AIDS, disease prevention and health promotion campaigns, and medical equipment and supplies.

The World Bank supported the Health Restructuring Project in 1999–2002, with a loan of US\$ 42.5 million. The project aimed at improving cost-effective health care services, particularly in primary care, supporting integrated health care reform, improving management capacity and supporting health promotion. The project comprised four national and three regional components. The national components of the World Bank-supported project included TB control, health promotion, health policy and evaluation, and clinical training for general practitioners (GPs). The regional components (initially in East Kazakhstan and Almaty *oblasts*) covered primary health care, facility rationalization, and strengthening financial and other management. The original intention was to roll out the project over 10 years at a total cost to the World Bank of US\$ 162.5 million, but, noting “the absence of sustained national leadership and technical support” (World Bank 2002) the project was closed in 2002.

A new health care project supported by the World Bank, the “Health Sector Technology Transfer and Institutional Reform” project, with an envisaged total of US\$ 190 million, is currently in the pipeline. The project’s main objective is to accelerate implementation of key health reforms by bringing international best practices to Kazakhstan and building up the capacity of specialists in health financing, health care quality, information systems and public health (World Bank 2006a). Currently, the World Bank provides technical assistance to the Ministry of Health in determining strategic priorities of health reform and for the improvement of the health management system. This work is implemented in terms of the health financing system, health care quality, medical education reform and establishment of health information systems (Katsaga & Zuez 2006, unpublished).

According to the Biennial Collaborative Agreement for 2006–2007 between Kazakhstan and the WHO Regional Office for Europe, the following are considered to be priority areas for collaboration:

- strengthening core health systems functions;
- improving mother and child health;
- strengthening the prevention and control of major communicable diseases;
- prevention and management of noncommunicable diseases with an emphasis on healthy lifestyle;
- addressing environmental health risks;
- strengthening national capacity in the area of emergency preparedness and response.

USAID is one of the main donor organizations involved in health system development and reform. The ZdravPlus project is implemented by Abt

Associates. Within the framework of this project, a conceptual model for health system strengthening has been drawn up in consultation with government representatives and stakeholders. The model covers stewardship, resource use, service delivery, and population and community involvement (Katsaga & Zuez 2006, unpublished).

The USAID-funded Tuberculosis Control Project is implemented by Project HOPE. It is supporting the Directly Observed Treatment Short-course (DOTS) approach and aims to build political support for effective and sustainable TB control, strengthen human and systems capacity, raise community awareness of the risks and symptoms of TB, and encourage positive care-seeking behaviour (Katsaga and Zuez 2006, unpublished).

The CDC are involved in the following activities:

- HIV sentinel surveillance among high-risk groups with the aim of helping to identify high-prevalence areas and populations in need of prevention, treatment and care efforts;
- assistance with the introduction of hepatitis B immunization;
- an electronic surveillance system for TB in three central Asian countries to assist with and monitor implementation of the DOTS strategy;
- introduction of quality standards for HIV and TB laboratories in central Asia.

The CAPACITY project, implemented by John Snow, Inc., provides assistance to implement the grants awarded from the GFATM.

The Asian Development Bank, through a regional grant from the Japanese Fund for Poverty Reduction, addresses micronutrient deficiencies in children and mothers through fortification of wheat flour and salt iodization. It has also provided technical assistance for the preparation of a comprehensive medium-term poverty reduction strategy and for the monitoring of poverty reduction projects. The ongoing first and proposed second Rural Water Supply and Sanitation projects address gender and development issues (Katsaga and Zuez 2006, unpublished).

UNICEF supported the creation of a National Programme on Improvement of Perinatal Care by providing consultants, training specialists and disseminating information. Efforts by UNICEF and its partners have led to legislation on universal salt iodization and flour fortification. It is also involved in other mother and child health programmes.

Donor coordination has improved with the approval of the National Programme of Health Care Reform and Development for 2005–2010, which serves as a guarantor of reform stability and as an overall framework for international donor assistance. Challenges that remain are to improve the level

of information exchange and to reduce duplication (Katsaga and Zuez 2006, unpublished).

3.4 Pooling of funds

Kazakhstan has had three phases of pooling since the collapse of the former Soviet Union. In the first phase, between 1995 and 1999, there was vertical pooling fragmentation due to the introduction of mandatory health insurance. Kazakhstan introduced health insurance in January 1996 with the establishment of the Mandatory Health Insurance Fund responsible for the collection of a payroll tax and for the operation of a health insurance programme. The Ministry of Health continued to pool funds and to purchase health services using budgetary funds and the Mandatory Health Insurance Fund began pooling funds and purchasing health services using payroll tax funds. The programmes operated by the Ministry of Health and the Mandatory Health Insurance Fund were separated, they were each assigned different populations to cover and different defined benefits packages. Pooling arrangements and benefits packages varying across populations reduced the equity of health services. Health insurance was cancelled in December 1998 and pooling initially improved, as all health funding again came from the government budget with pooling at the *oblast* level.

In the second phase, between 1999 and 2004, however, there was horizontal pooling fragmentation due to decentralization of funding to the *rayon* level. This decentralization reduced equity, as *rayons* do not tend to be large enough risk pools and there is significant variation in funding capability across *rayons*, exacerbated by oil and other natural resources driving Kazakhstan's economic development. In addition, the *rayon*-level pooling significantly hampered Kazakhstan's ability to restructure the health delivery system, introduce health purchasing reform and increase efficiency.

The third phase, starting in 2005, has been characterized by *oblast*-level pooling. The National Programme of Health Care Reform and Development and a strong legal basis designating the *oblast* as the level for budget consolidation combined to introduce and solidify *oblast*-level pooling. Equity has increased both within and across *oblasts* (see Table 3.2). Since 2005, according to the Budget Code of Kazakhstan, the budgets of all *oblasts* are consolidated at *oblast* level and *oblast* health departments operate as single payers in their respective *oblasts*. *Oblast* health departments plan the budget, contract providers, collect bills and finance providers according to the different payment methods. The health budget in the *oblasts* is formed from general tax proceeds coming to

the *oblast* budget and targeted transfers from the national (republican) budget generally aimed at the implementation of national priority lines of health care development. The implementation of the single-payer system in 2005 has helped to develop the management capacity at *oblast* level and has contributed to the development of information systems.

While there is strong support for *oblast*-level pooling, there has also been some opposition. Without increases in *oblast*-level staffing and capacity, it has been initially hard for *oblast* health departments to pool and purchase effectively. This is a concern that is being addressed through the ongoing health reforms. Another concern was related to opposition to *oblast*-level pooling from some parliamentarians and *rayon akims* (governors). Over the next few years, it will be important for the Government and the Ministry of Health to develop and communicate the advantages of *oblast*-level pooling, including increasing the country's ability to provide equitable and efficient health services for the entire population.

3.5 Purchasing and purchaser–provider relations

Although most providers are still public, they are obtaining greater autonomy by changing their status from state institutions to state enterprises. They are also obtaining greater autonomy through the nature of the new provider payment systems. The pooling of health funds at *oblast* level from 2005 onwards has strengthened the role of *oblast* health departments as single purchasers of health services on behalf of their respective populations. They enter into agreements with the public health care providers within their *oblast* and ensure the necessary funding.

3.6 Payment mechanisms

State budgets are determined at the republican level, while local budget formation is carried out at the *oblast* level. Of the general revenue collected within an *oblast*, some is retained and the rest transferred to the republic, which redistributes it to achieve some levelling on a per capita formula. Available resources determine the size of the health budget.

The health budgetary process involves negotiations between *oblast* and city administrations, the republican-level Ministry of Health and the Ministry of

Economy and Budget Planning. In the Soviet period, budgets were based on 38 line items with allocations based on past expenditure. In recent years, new formulae have been introduced, including capitation and case-based financing. At present, health care facilities (including those at primary care level) receive resources from the national budget based on three line items: services provided, capital investments, and the purchase of medical and nonmedical equipment.

The budgetary process has been undergoing substantial changes. A dual-payer system was in place between 1996 and 1998 with funding divided between the State (republic and territorial levels) and the Mandatory Health Insurance Fund. The Fund financed services mostly run by territorial administrations, such as most outpatient and inpatient care. The Committee of Health funded emergency care, specialty facilities (such as for TB), national programmes and public health.

The Ministry of Health has established a Task Force with the aim of improving financial allocation to public health care facilities. National health accounts have been developed and data have been collected for some health facilities for 2005–2006.

Paying for health services

According to the Law on Health Protection of 19 May 1997, primary health care facilities are paid for through capitation, specialized outpatient facilities by fee-for-service payments, and hospitals according to diagnosis-related groups (DRGs or, in the Kazakh context, KZG) (ZdravPlus 2004). These allocation mechanisms have been approved through Government Resolution No. 806 of 27 May 2000 on Approval of Rules for Reimbursement of Costs for Health Services, and reaffirmed by the Government Decree No. 965 on Approval of Rules on the Payment of Health Organizations from Budget Funds and the Delivery of Paid Services in Health Organizations and Order on the Use of Revenues from Paid Services Delivered by Public Health Organizations of 6 October 2006. Specialized care, such as for TB, however, continues to be paid according to traditional line items. Health service providers have been facing problems when working with the treasury and the payment of providers has been associated with significant inefficiencies.

Payment of hospitals

Under the Soviet model, hospitals were funded by their respective administrations (republican, *oblast* or *rayon*), based on the previous year's expenditure (for up to 18 budget categories), but mostly based on the number of staff and the number of hospital beds. There was little incentive to use resources efficiently, since funds

could not be transferred across line items and savings could not be retained. The budgetary incentive was to maximize admissions and keep patients for longer (not shorter) stays, paying no regard to outcomes and quality of care.

Between 1996 and 1998, contracts between the Mandatory Health Insurance Fund and hospital administrations were developed based on activity: number of treated inpatients for hospitals and number of patient visits for polyclinics. A price for a specified procedure was set which required an estimate of the unit prices. These payment mechanisms were in the early stages of implementation, with considerable variation across the system. Implementation was hampered by the lack of information on unit costs (Kulzhanov & Healy 1999).

Implementation of a case-based hospital payment system began with Government Decree No. 806 in 2000. A case-based system was designed with a classification structure based on DRGs, and piloted in Karaganda *oblast*. However, implementation faced the obstacle of decentralization of funding to the *rayon* level. In 2005, first steps were undertaken for the national implementation of case-based financing under a single-payer system at *oblast* level, using a refined hospital payment system. While, in principle, case-based financing rewards efficiency, in practice, one of the major challenges will be the administration of such a system (World Bank 2006b).

At present, hospitals are financed according to two forms of cost reimbursement. Inpatient facilities for patients with “socially significant and hazardous diseases”, as well as for certain groups of the population (including children, pregnant women and people with disabilities), are reimbursed on the basis of expenditure, without specifying particular health services. All other inpatient services provided by public or private facilities are either reimbursed according to the services provided or according to DRGs. For those inpatient care providers that are already financed according to DRGs, the payment system is based on two components. The first is coefficients for each DRG which is independent of the absolute budget level. The second component is a base rate which is dependent on the total budget and will fund or not fund recurrent costs depending on the budget level.

Payment of outpatient providers

In the 1990s, fees for the majority of diagnostic services were introduced. In addition, patients had to purchase outpatient pharmaceuticals and there was a significant reduction in outpatient services. At present, providers of primary care are generally paid on a capitation basis, while providers of outpatient specialty services are paid according to a fee schedule.

Per capita financing has been introduced for primary health care facilities and – in contrast to an earlier scheme of per capita financing – is adjusted according

to the age and gender distribution of the covered population and according to a consumer price index and salary levels. The per capita allocation for the services provided at primary care level covers the maintenance of the existing primary health care system. Public primary health care facilities also receive state funds for capital investments and the purchase of equipment. They have thus an economic advantage over the private sector, which has to rely for capital investments and the purchase of equipment on fee-for-service payments only (Ministry of Health 2004). The National Programme of Health Care Reform and Development for 2005–2010 envisages abolishing the line-item system of resource allocation and increasing the financial autonomy of public health care providers in its second stage of implementation (2008–2010).

According to Government Decree No. 965 of October 2006, provider reimbursement supports incentive-based provider payment systems (capitated payment for primary health care, case-based payment for hospitals, and a fee schedule for outpatient specialty services). This means that if primary health care facilities (mixed polyclinics, for example) provide some specialty services, they have additional funds according to the fee schedule.

Another approach to the payment of primary care providers that is currently envisaged is partial fundholding. In addition to the resources allocated for primary care services, it is envisaged that providers are to receive the right to manage resources for specified inpatient services. This is hoped to expand primary care services, improve access to outpatient services and increase competition in the health sector. Partial fundholding aims to offer a financial incentive to provide services to patients with diseases that are manageable at the primary care level, such as hypertension, and is expected to decrease the number of emergency care cases and hospitalizations. While this approach could result in a shift from inpatient to outpatient services, experience from the United Kingdom suggests that GP fundholding does not automatically increase the quality of care or the efficiency of health services, or lead to real and sustained change, partly due to additional administrative and transaction costs (Wyke, Mays et al. 2003; Baggott 2004). From 1999, all primary care professionals in England joined Primary Care Groups, which have now been transformed into Primary Care Trusts (Wilkin 2002), so that GP fundholding as such no longer exists in the United Kingdom, but has been replaced by local commissioning bodies (Baggott 2004). In Kazakhstan, Decree No. 563 of the Ministry of Health, adopted on 23 November 2006, established methods for the transition towards partial fundholding.

In Kazakhstan, payment for outpatient specialty services is currently based on an adapted case-based payment for hospital outpatient departments and a fee schedule for polyclinics and diagnostic centres.

Although the Ministry of Health has issued a recommendation to *oblasts* to pay ambulance services based on capitation, there are significant variations across *oblasts* on the legal status of ambulance services and payment methods.

Paying health care personnel

Salaried government health care workers are paid a salary set according to the detailed national pay scale drawn up by the Ministry of Labour and Social Protection. Pilot projects in some *oblasts* have begun to pay health personnel a salary based on three parts: a guaranteed basic salary, a bonus for the number of patients seen and a bonus for the types of procedures performed. Various physician payment mechanisms have been tested in pilot projects in *oblasts* including Semipalatinsk and Zhezkazgan. In 2007, differential payment for health care workers was introduced, taking account of qualifications and psycho-emotional stress. The introduction of payment according to results is also envisaged (Government of Kazakhstan 2007b).

Some primary care doctors used to work as partial fundholders under contracts with the Mandatory Health Insurance Fund when it was operational between 1996 and 1998. They were paid a capitation fee for their registered patients. The fee, however, was not adjusted for different risk groups and there were no checks on refusals to register patients or at the physician salary level (Kulzhanov & Healy 1999). At present, capitation payment is adjusted according to the age and gender distribution of the covered population and according to a consumer price index and salary levels. As mentioned earlier, the reintroduction of partial fundholding for primary care providers is currently envisaged for the future.

4 Regulation and planning

4.1 Regulation

The Kazakhstan executive style of government has ultimate control over policy-making. However, the frequent organizational changes of the Ministry of Health, which was only restored in 2002, have undermined its capacity to implement a comprehensive national health strategy. There were also frequent changes at the *oblast* health authorities level. Frequently changing management staff further undermined the capacity of national health management. Until recently, health policy and planning have been developed on an ad hoc basis in response to budgetary crises. Regulations are developed at national, *oblast* and facility levels by the President, Government, Ministry of Health, *oblast* health departments and head physicians, respectively.

The improvement of the health administration and management system is one of the priorities of health sector reform. The National Programme of Health Care Reform and Development for 2005–2010 envisages a revision of the health sector's administration and management system. For the first stage of its implementation (2005–2007), a redefinition of power is envisaged at national and local levels. At the second stage of implementation (2008–2010), the management of the health sector is planned to be improved through the introduction of information technologies (IT) and international quality standards.

The major drive to improve management in the health sector will take the form of a shift from administrative methods of regulation to a system of economic incentives. From 2005, a process of decentralization is envisaged, and local health authorities and health facilities are to receive more administrative and financial powers.

The Ministry of Health is responsible for:

- devising a unified national health policy;
- executive functions, such as ensuring equal access of the population in all areas of the country to the basic benefits package, setting standards for the provision of health services, planning health sector development and developing the legal framework of the health system;
- regulatory functions, such as controlling the implementation of national health policies and programmes, accreditation of health organizations and enforcing health legislation;
- general rules for provider payment systems.

Local health authorities are responsible for:

- the delivery of general health services;
- licensing of selected medical and pharmaceutical activities;
- centralized procurement of certain pharmaceuticals at local level (excluding, for example, vaccines and immunobiological pharmaceuticals);
- budget formation and provider payment.

Revalidation of medical specialists was introduced in 2006. Revalidation is performed by the Committee for Health Services Quality Control and serves as a prerequisite for medical practice in both public and private health organizations. Certificates are issued in accordance with specific medical specialties after completion of specialization training upon graduation from a medical academy (internship) or based on results of qualification exams for practising specialists (Katsaga & Zuez 2006, unpublished).

Quality control

A system of quality control has been developed in the health sector since 1996. As part of the implementation process for the mandatory health insurance in the period 1996–1998, a system was developed to assess the quality of health services. It was mainly punitive, stipulating fines and penalties for providers performing poorly. Although the system of penalties was discontinued, the analysis and evaluation of health services continued, with increased emphasis on patient satisfaction surveys and the compliance of health services with medical standards (Ministry of Health 2004).

The Ministry of Health Decree No. 898 of 28 December 2004 established new rules for the quality control of the services provided by health facilities. According to these new rules, the Ministry of Health is responsible for:

- developing national policies on quality assurance and accreditation;

- developing the legislative basis for the accreditation of health organizations;
- developing the legislative basis for quality control of health services including intra-hospital management and efficiency of health organizations;
- overseeing observance of licensing rules permitting medical practice.

The Committee for Health Services Quality Control was established with Government Decree No. 1327 of 15 December 2005. The Committee has branches at the *oblast* level that have a certain degree of independence and are directly accountable to the Ministry of Health. The main function of the Committee and its *oblast* branches is to identify where health services are inadequate and to take measures for their improvement. Overall, the Committee for Health Services Quality Control has the following responsibilities (Ministry of Health 2007c):

- ensuring implementation of the national policy on health care quality;
- accreditation of legal and physical entities involved in medical activity irrespective of forms of ownership and departmental affiliation;
- licensing of medical practice performed by national (republican) organizations and providers involved in private medical practice, as well as of organizations that work beyond their corresponding administrative-territorial unit (*oblast*) (medical licensing for other health care providers is carried out by *oblast* health authorities);
- revalidation of managers of state bodies and organizations working in the health sector;
- controlling the level and quality of delivered health care;
- defining compliance with existing licences of the provided types of health care;
- dealing with complaints from citizens about low-quality care.

The Committee aims to adopt a systematic approach and to use objective indicators and independent experts. The quality control system makes use of the following procedures:

- comprehensive planned investigations that are conducted not more than once a year, based on a schedule developed by the Committee for Health Services Quality Control;
- unplanned investigations based on citizens' complaints, conducted on the request of health care authorities, other state authorities or the Parliament;
- targeted investigations that are conducted continuously throughout the year based on specified goals;

- joint investigations conducted by several state authorities to ensure compliance of health service providers with health legislation.

The investigations use a variety of data sources, including the documentation regulating clinical activities at the respective health facility, current and past medical records of patients, specifically arranged medical examinations of patients and patient satisfaction surveys. Health service providers are required to provide all the documentation requested for quality control. Once the investigation is completed, the expert appointed by the Committee for Health Services Quality Control draws up an expert opinion, the content of which is shared with the health care provider. In cases in which the providers do not agree with the expert conclusions, they have the right to apply for independent expertise, which is to be drawn up by health professionals or members of an NGO or research institution who have the necessary medical knowledge and do not represent any of the parties concerned. The Committee for Health Services Quality Control holds a database of independent experts and identifies experts for the cases in question. The quality of health services is classified as high, average or low. Specific quality indicators have been identified for outpatient and inpatient services; and patient satisfaction surveys are also used.

The Committee for Health Services Quality Control aims to promote the development of independent medical expertise. With Government Decree No. 1033 of 31 October 2006, the Committee has been vested with the power to accredit physical or judicial persons with the status of independent experts. The Decree also established the rules and procedures for accreditations. The accreditation of health care organizations, independent experts and hospital management started in 2007 (Government of Kazakhstan 2007a).

The revalidation of health care workers has been regulated by Government Decree No. 60 of 21 January 2004. Revalidation encompasses the managers of state health organizations, medical and pharmaceutical health care workers irrespective of ownership of the health care organization, and other people involved in medical and pharmaceutical care. The revalidation has to be renewed every three years and revalidation committees are formed by the Ministry of Health and local health departments (Ministry of Health 2007c). Another aspect of quality control relates to audits within hospitals and this is an area the Committee for Health Services Quality Control aims to develop in the future.

The current quality control system faces a number of challenges. Health care workers and managers often have no incentive to improve their performance, and quality improvement proposals are not implemented. In addition, internal and external quality control measures are not interlinked, and the parallel health services linked to other ministries or agencies do not form part of the Ministry of Health system.

4.2 Planning and health information management

One of the key challenges for health policy-makers in Europe is the supply and distribution of health care workers (Rechel, Dubois et al. 2006). In Kazakhstan, there are no comprehensive mechanisms for human resource management and planning which take account of the distribution and allocation of staff to facilities. As a result, many graduating health professionals take up employment in areas or facilities in which there are no supply problems (Ministry of Health 2004).

Health technology assessment and capital investments

In the area of health technology assessment (HTA), the Ministry of Health is responsible for permitting new methods for diagnostics, treatment and rehabilitation. The Committee for Health Services Quality Control coordinates and controls the implementation of new methods of diagnostics and treatment and draws up diagnostic and treatment protocols. The Institute for Health Care Development develops clinical practice guidelines and, when requested by the Ministry of Health, evaluates the effectiveness of health technologies.

In terms of capital investment, both the Ministry of Health and the *oblast* health departments develop budget-funded investment projects. These public investment projects are coordinated by the Ministry of Economy and Budget Planning.

The Kazakh State has yet to set up any controls over the purchase of technology. Hospitals are able to buy new technology with the money made from charging for services and with donations from local businesses. Such technology attracts more paying customers/patients, but the overall effect is to increase health care costs. In 2001, the Ministry of Health estimated that 37% of medical equipment would need immediate replacement (Ministry of Health 2002). Since then, however, the Government has allocated significant funding for modernizing the equipment of health facilities in all *oblasts*. In addition, the necessary infrastructure has been gradually created for the use of mobile and telemedicine in rural regions.

Health impact assessment in Kazakhstan is not yet adequately developed and is not a compulsory procedure for the development of new projects. Nevertheless, some NGOs are working towards it and making efforts to attract public attention to potentially dangerous projects and industries. There are also some cases in which large companies assess the health impact of their work or

projects on a voluntary basis in order to influence public opinion and enlist the support of local authorities (Katsaga & Zuez 2006, unpublished).

Information systems

There are several parallel health information systems in Kazakhstan. Vital statistics are compiled by the National Statistical Agency (Goskomstat). Births and deaths are required by law to be reported to the local authorities who submit reports to the *rayon* authorities. *Rayon*-level data are then reported to *oblast* authorities who in turn submit data to Goskomstat, which maintains a computerized database. For each vital event recorded, the person's age, gender, residence, ethnicity, occupation, and educational level are noted. The main problems with mortality statistics at the time of writing are the proper identification and attribution of the cause of death under WHO International Classification of Diseases 10th edition (ICD-10), and estimates of the number and mortality of unregistered immigrants (Becker & Urzhumova 2005).

Data on births and deaths produced by Goskomstat originate from the medical birth and death certificates issued by health facilities under the Ministry of Health system. These medical certificates serve as a basis for obtaining the official certificates of birth and death, which are considered to be legal documents for inheritance, child benefits or for obtaining passports. As described earlier, the data undergo three levels of aggregation, at *rayon*, *oblast* and national levels (Meimanaliev and Prochorskas 2006).

The Sanitary-Epidemiological Surveillance Committee under the Ministry of Health collects data on infectious morbidity and mortality. According to the current legislation, all infectious cases must be reported to this agency by all health providers irrespective of the form of ownership. Specialized care subsystems, namely TB care services and AIDS centres, also collect and maintain morbidity and mortality databases on their respective diseases. There are patient registries on diabetes, cancer, TB and chronic renal insufficiency.

Parallel health services linked to other ministries or agencies do not form part of the Ministry of Health system, but they are required to report to the National Statistics Agency on general morbidity and mortality and to the san-epid service on infectious diseases morbidity. This is also meant to be the case for the expanding private sector, yet no studies on private health providers' reporting compliance have been conducted at the time of writing.

All information systems described so far are based on routine reporting by health providers, which in turn is based on referrals, that is, individual contact with the health system. Population-based surveys are conducted mainly by external agencies, although the National Statistics Agency and the Healthy

Lifestyle Centre also conduct health surveys. Demographic and Health Surveys were carried out in Kazakhstan in 1995 and 1999, the World Health Survey in 2002, and an MICS in 2006.

Under the first stage (2005–2007) of the National Programme of Health Care Reform and Development for 2005–2010, efforts have been made to set up a unified health information system in the country. A quasi-state information agency called “Medinform” was created to maintain and process the national health database. Medinform is responsible for the preparation of annual statistical publications, the delivery of operative information on demand from the Ministry of Health and for the compilation of national data for WHO. It is charged with the coordination of regional information systems and also develops and maintains software for the Ministry of Health’s internal purposes. In 2006, Health Information and Analytical Centres accountable to the Ministry of Health were set up at *oblast* level. These centres were co-financed from the republican budget, but will be managed by *oblast* health departments. The centres have started to collect and analyse medical and health care resource data, including the newly developed National Health Accounts data. One of their main purposes is to ensure the functioning of the new single-payer system. A national Health Information and Analytical Centre is planned to be established in 2008, which will be responsible for the development of national rules and standards and the methodological coordination of regional centres.

Implementation of a National Health Accounts system in Kazakhstan was launched in 2004 with technical support of USAID and the World Bank. The Regulation of the Prime Minister No. 307-p of 19 October 2004 on Establishment of a Working Group for Introduction of National Health Accounts in the Republic of Kazakhstan was issued for the purpose of ensuring intersectoral cooperation. The result of the work of the working group was that the National Health Accounts system received official status in 2006, departmental and non-departmental reporting forms were approved by respective orders of the Ministry of Health and the Agency on Statistics, and an institutional agency responsible for the development of National Health Accounts – the Committee for Health Services Quality Control – was defined (Katsaga & Zuez 2006, unpublished).

Kazakhstan provides information to the WHO Regional Office for Europe on the majority of indicators included in the European Health for All database. Information is submitted by Medinform Joint Stock Company on behalf of the Ministry of Health. Kazakhstan maintains joint statistical cooperation with EUROSTAT, EU Member States and different international organizations, including the International Labour Organization (ILO), IMF, the Organisation for Economic Co-operation and Development (OECD), the European Economic Community (EEC), the United Nations, the German Agency for Technical

Cooperation (GTZ), the World Bank and the Asian Development Bank, as well as with the CIS Interstate Statistical Committee (Katsaga & Zuez 2006, unpublished).

Research and development

The governance of health research in Kazakhstan takes place at several levels. At the national level, the Higher Scientific Technical Commission acts directly under the Government. Since 2006, the Prime Minister has been the head of this Commission. It is an advisory body, which defines state priorities for the development of fundamental and applied research, and develops recommendations for forming and improving governmental scientific policies. The Higher Scientific Technical Commission reports once every three years to the President about developments in science and technology (Ahmedov, Haan et al. 2007).

In July 2006, a Scientific Committee was created at the Ministry of Education and Science. It is planned that this Committee will become the administrator for all studies financed from the state budget, including fundamental sciences. The Scientific Committee is an executive part of the Higher Scientific Technical Commission. A step-by-step transition is foreseen, moving the financing of all studies conducted by different ministries through the Scientific Committee by 2010. The Ministry of Education and Science also plays a role in the provision of scientific and technical expertise to scientific programmes, and in the accreditation and licensing of research organizations. The Committee on Licensing and Supervision of Human Resources in Science plays an active role in the process of research quality assurance and has defined requirements for theses and dissertations in scientific degrees (Ahmedov, Haan et al. 2007).

The Ministry of Health provides scientific and medical expertise to research programmes, defines priorities for research, conducts applied studies and finances research. The Ministry has a Department of Education, Science and Human Resources and is the main administrator of the programme “Applied Health Research”. A total of 20 research organizations (14 centres and 6 institutes) function under the Ministry of Health, of which 15 are situated in Almaty. They provide highly specialized medical care and are leading specialized medical organizations. Substantial scientific capacity is concentrated at the five state medical academies: the Kazakh National Medical University, the nongovernmental Kazakh Medical University, a department of the university in Ust-Kamenogorsk city, the Kazakhstan School of Public Health and the Almaty Institution of Postgraduate Medical Education (Ahmedov, Haan et al. 2007).

The Ministry of Health monitors and evaluates its programmes on the basis of quarterly and annual reports submitted by contractors. After completing a programme, the contracted organization is required to present a final report to the Ministry of Health. The report is sent to the Scientific Committee of the Ministry of Education and Science. In addition, all governmental programmes must be registered at the Kazakh State Centre of Scientific and Technical Information (Ahmedov, Haan et al. 2007).

The Pharmaceutical Law of 13 February 2004 included instructions for the work of ethical commissions and ethical reviews of clinical trials. This facilitated the development of networks of local ethics commissions. An Ethics Commission was established under the Government, alongside local committees in research institutes, universities and research centres (Ahmedov, Haan et al. 2007).

At its meeting of 25 January 2006, the Scientific Council of the Ministry of Health approved the following list of health research priorities (Ahmedov, Haan et al. 2007):

- improving health management;
- development and improvement of diagnostics, treatment and preventive technologies to protect mother and child health;
- development and improvement of prevention, diagnostics, treatment and rehabilitation of diseases influenced by lifestyle factors such as smoking or alcohol consumption;
- evidence-based improvement of hygienic and epidemiological monitoring, surveillance and prevention;
- development of innovative technologies in health care.

The Institute of Health Care Development directly informs the Ministry of Health about the latest scientific developments. In 2006, the Scientific Centre of Economic and Medical Problems was reorganized and renamed Institute of Health Care Development. One of the aims of the Institute is to conduct relevant studies and closely collaborate with the Ministry of Health to keep it informed of new developments. The Institute of Health Care Development, the Kazakhstan School of Public Health and the National Centre on Healthy Lifestyles evaluate the impact of health policies on the health status of the population. Data are analysed by the relevant departments of the Ministry of Health (the Department of Education, Science and Human Resources, and the Department of Curative and Preventive Work) and reported to the Vice Minister. Two specialized newspapers (“News in Public Health” and “Pharmaceutical Herald”) are concerned with health and health research issues (Ahmedov, Haan et al. 2007).

The quality of scientific research in Kazakhstan remains poor, which is partly due to years of underinvestment in facilities and equipment (Ministry of Health 2004). The National Programme of Health Care Reform and Development for 2005–2010 envisages the development of medical science through the following activities:

- development and application of modern technologies for disease prevention, early detection, treatment and rehabilitation;
- fundamental and applied medical research in areas identified by the Ministry of Health;
- strengthening the links between medical research and its practical applications in the health sector;
- development of international partnerships;
- integration of medical science, education and practice;
- monitoring and evaluation of health reform initiatives;
- implementation of evidence-based medicine.

Kazakhstan has drawn up a draft Concept of Reforming Medical Science, intended to run until 2010. One of the main objectives of this draft Concept is increasing the competitiveness and quality of national research to meet international standards. To reach this aim, the following strategies are envisaged (Ahmedov, Haan et al. 2007):

- creating a supportive environment for the development of medical science through improvement of coordination and research management;
- increasing research effectiveness through introduction of modern management in medical organizations;
- integrating science, practical health care and professional education;
- assessing whether the quality of national research adheres to international standards.

In recent years, with increased funding for health care, modern equipment has been purchased for medical research centres in Astana. In 2007 the President announced a 25-fold increase of budgetary allocation for basic research. It is expected that health research and development will benefit from this initiative.

5 Physical and human resources

5.1 Physical resources

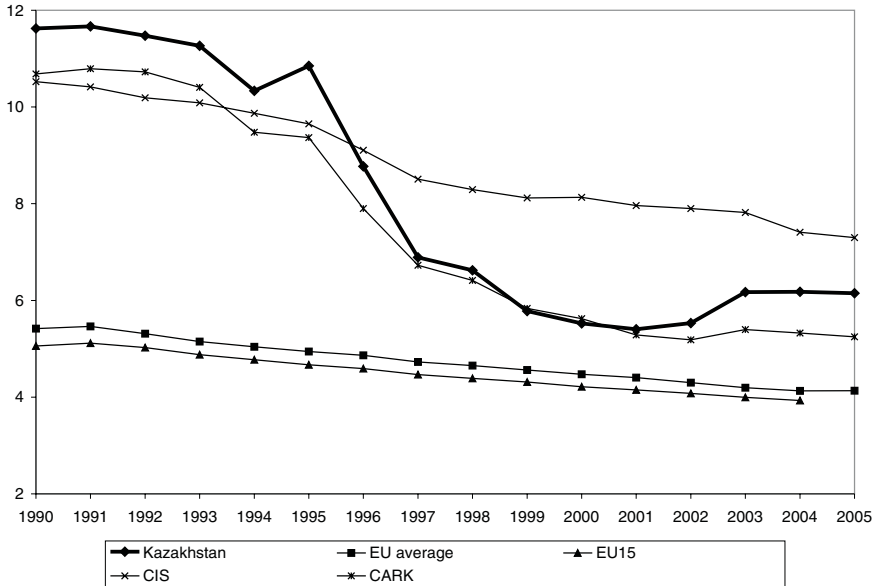
The distribution of health facilities and the provision of health services vary significantly across Kazakhstan's various regions, depending on the following points (Ministry of Health 2004):

- the amount of resources allocated to cover the state-guaranteed package of services
- the financing methods used
- the primary health care structure
- the organizational form of the health care facilities
- health services quality control systems.

In the second half of the 1990s, the hospital network of the country was significantly reduced, in particular in rural areas where many village hospitals were closed down. The number of hospitals in Kazakhstan declined from 1796 in 1991 to 845 in 2001 and has since increased again to 1065 in 2005 (WHO Regional Office for Europe 2007). The number of acute care hospital beds per 100 000 population has decreased from 1167 in 1991 to 541 in 2001 and has since increased to 615 in 2005, which was roughly 50% higher than the ratio in the EU15 in 2004 (WHO Regional Office for Europe 2007) (Fig. 5.1). Major reasons for excessive hospitalization are low levels of access to pharmaceuticals at outpatient level and the poor quality of primary care services (Ministry of Health 2004).

There has been a decline in the average length of stay in hospitals in recent years. The average length of stay in acute care hospitals in Kazakhstan stood at 13.7 days in 1991 and decreased to 10.2 days in 2005, which was very close to the CARK average, although higher than the EU15 average of 6.8 in 2003

Fig. 5.1 Beds in acute hospitals per 1000 population in Kazakhstan, CIS, CARK and EU15, 1990–2005



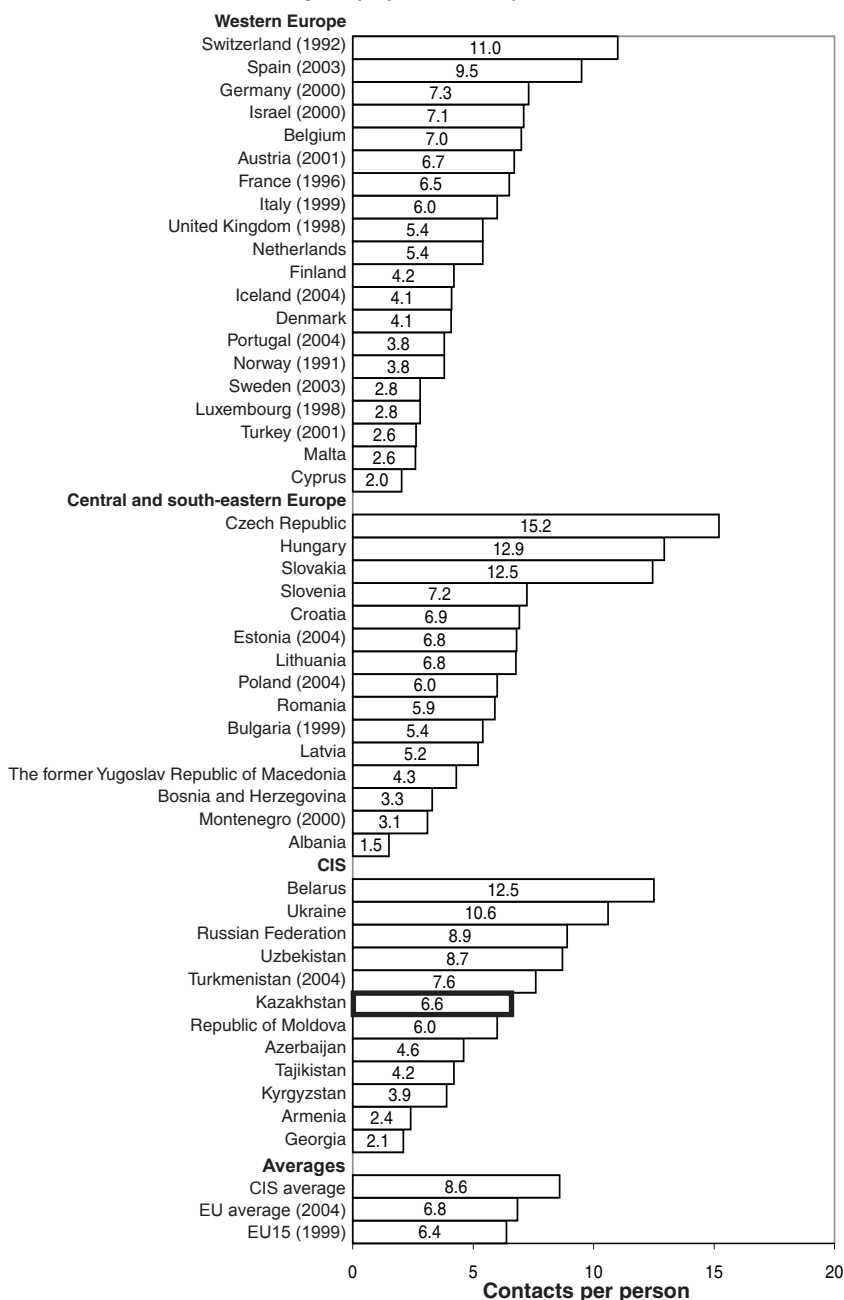
Source: WHO Regional Office for Europe, 2007.
 Notes: CIS: Commonwealth of Independent States; CARK: central Asian republics and Kazakhstan; EU: European Union; EU15: European Union Member States before May 2004.

(WHO Regional Office for Europe 2007). There are some noticeable differences in the average length of stay across regions: in 2004, the shortest average length of stay was recorded in Almaty city (10.1 days) and the longest in Aktobe *oblast* (14.9 days). Figure 5.2 shows details of outpatient contacts per person in the WHO European Region.

5.2 Human resources

Kazakhstan has traditionally had a high level of public sector employment. In the mid-1990s, the country had one of the highest levels of government employment in the world, when health personnel accounted for approximately 40% of government employees (World Bank 1996b). The number of active personnel is difficult to ascertain, as there is no accurate and comprehensive information system on the actual number of active health care workers. In addition, health care workers who have moved to the private sector, such as many dentists and pharmacists, are not counted in public figures.

Fig. 5.2 Outpatient contacts per person in the WHO European Region, 2005 or latest available year (in parentheses)



Source: WHO Regional Office for Europe, 2007.

Notes: CIS: Commonwealth of Independent States; EU: European Union; EU15: European Union Member States before May 2004.

The area of human resources in the health sector is mainly related through the Law on the Health System of 4 June 2003. According to this law, the Ministry of Health is responsible for:

- developing an overall human resources policy in the health sector;
- approving forms and training programmes for medical specialties, and developing and approving staffing standards of health organizations;
- conducting the revalidation of managers of health organizations and health departments;
- defining standards for the training of specialists with higher and postgraduate education, for continuous education and the retraining of health professionals.

Oblast health departments are responsible for:

- ensuring the provision of human resources in health organizations and assessing the expertise of health workers;
- planning the training and retraining of medical specialists;
- ensuring the continuous education and retraining of medical and pharmaceutical specialists.

Trends and distribution of health care personnel

In 2005, there were 55 509 medical doctors working in Kazakhstan's health system, equivalent to a ratio of 3.66 physicians (physical persons) per 1000 population, which was close to EU15 and CIS averages (WHO Regional Office for Europe 2007). In the same year, 28% of physicians were male, most were in the age group 30–50 years, and 7% were retired. As mentioned earlier, a growing share of physicians are working in the private sector, reaching 14% of all physicians in 2005.

The decline in the ratio of health care workers to population since 1990 is the result of a number of factors, including a shift to the private sector, health care workers leaving the health sector, the emigration of ethnic Russians, and the dismissal of health personnel. The ratio of most health care workers to population has shown a declining trend since 1990, with the exception of pharmacists (Table 5.1).

There are considerable regional variations in the provision of health care workers. In 2002, the ratio of physicians per 1000 population was highest in Almaty city (8.41) and lowest in Almaty region (2.09) (Table 5.2). Table 5.3 shows the situation regarding provision of nurses per 1000 population from 1998 to 2002 in the various regions.

Table 5.1 Health care personnel per 1000 population, 1990 and 2000–2005

	1990	2000	2001	2002	2003	2004	2005
Physicians (FTE)	4.45	3.38	3.36	3.31	3.40	3.47	3.53
Dentists (FTE)	0.35	0.13	0.13	0.08	0.08	0.09	0.09
Nurses (FTE)	12.43	6.84	7.16	7.51	7.56	7.70	7.83
Midwives (FTE)	0.87	0.42	0.52	0.53	0.37	0.37	0.39
Pharmacists (PP)	0.87	0.31	0.32	0.44	0.70	0.77	1.03

Source: WHO Regional Office for Europe, 2007.

Notes: FTE: full-time equivalent; PP: physical persons.

Table 5.2 Provision of physicians per 1000 population by region, 1998–2002

	1998	1999	2000	2001	2002
Akmola	2.78	2.67	2.66	3.06	2.94
Aktobe	3.77	3.59	4.23	4.38	4.47
Almaty city	2.24	2.22	1.97	2.04	2.09
Atyrau	2.83	2.85	3.01	3.06	3.08
East-Kazakhstan	3.46	3.60	3.46	3.53	3.67
Zhambyl	2.59	2.51	2.54	2.62	2.69
West Kazakhstan	3.28	3.24	3.24	3.21	3.29
Karaganda	4.03	4.29	4.16	4.28	4.29
Kostanay	2.43	2.44	2.39	2.47	2.47
Kyzyl-Orda	2.78	2.95	3.08	3.15	3.24
Mangystau	3.49	3.57	3.57	3.53	3.60
Pavlodar	3.07	3.40	3.35	3.54	3.66
North-Kazakhstan	2.63	2.33	2.30	2.31	2.33
South-Kazakhstan	2.51	2.58	2.61	2.82	2.89
Almaty	8.93	7.26	6.17	7.28	8.41
Astana	6.58	6.73	6.78	4.76	5.44
Kazakhstan	3.43	3.39	3.30	3.46	3.61

Source: Kuralbaev, Gavrilova & Kuschanova, 2002.

There is also a huge gap between rural and urban areas. In 2005, the ratio of physicians per 1000 population was 4.37 in urban areas, but only 1.21 in rural areas. The highest ratio of physicians in rural areas was in Karaganda *oblast* (3.09 per 1000 population), the lowest in Kyzyl-Orda *oblast* (0.62 per 1000). Of the total number of physicians, in 2005 only 15% were working in rural areas, where more than 40% of the population lives. Upon graduation, new doctors used to be required to work for three years in rural areas, but few remained beyond that time.

According to the WHO Regional Office for Europe Health for All database, 44.6% of physicians were working in hospitals in 2005, compared to 36.1% in 1991 (WHO Regional Office for Europe 2007). Primary health care facilities

Table 5.3 Provision of nurses per 1000 population by region, 1998–2002

	1998	1999	2000	2001	2002
Akmola	7.92	7.19	7.26	8.34	8.28
Aktobe	6.03	6.77	6.72	6.85	7.26
Almaty	6.71	5.95	4.67	4.89	5.22
Atyrau	6.87	6.42	6.75	6.82	7.23
East-Kazakhstan	7.71	7.47	7.15	7.38	7.42
Zhambyl	7.03	6.54	6.54	6.88	7.75
West-Kazakhstan	8.73	8.08	8.77	8.28	8.52
Karaganda	7.91	7.71	7.69	8.04	8.47
Kostanay	6.88	6.30	6.29	6.49	6.76
Kyzyl-Orda	9.68	9.58	9.44	9.45	10.08
Mangystau	8.85	8.63	8.71	8.78	8.61
Pavlodar	7.40	7.41	7.20	7.32	7.75
North-Kazakhstan	7.78	7.54	7.41	7.57	7.73
South-Kazakhstan	7.36	7.23	6.97	7.20	7.20
Almaty city	10.98	9.31	8.94	9.34	9.67
Astana	8.82	9.87	8.99	7.42	6.80
Kazakhstan	7.77	7.41	7.18	7.38	7.63

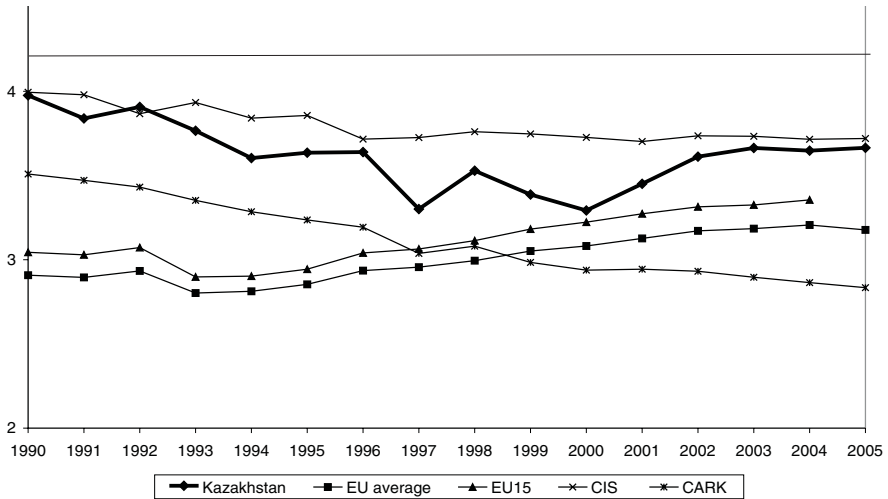
Source: Kuralbaev, Gavrilova & Kuschanova, 2002.

are facing problems in recruiting qualified staff, especially in remote and rural areas. This is in large part due to an insufficient number of new graduates. Enrolment to medical schools financed by state grants or credits has increased annually by approximately 10% since 1999, but the need in human resources is still high (Ministry of Health 2004). Kazakhstan is facing a serious problem with the ageing of health personnel and the understaffing of health facilities, in particular in rural areas.

There is also an urgent need for certain categories of health professionals, such as specialists in health management or health economics. The lack of properly trained managers translates into poor management and inefficient use of resources. Often, the manager of a health facility has a number of simultaneous functions: acting as manager, administrator and chief physician (Ministry of Health 2004).

The ratio of nurses and midwives to population dropped between 1990 and 2004. Some of the loss has been attributed to nurses leaving the occupation due to low salaries. In 2005, there were about twice as many nurses in urban areas as in rural areas. Figures 5.3, 5.4 and 5.5 show details of the numbers of physicians and nurses to population in Kazakhstan, CIS and CARK, along with various EU averages.

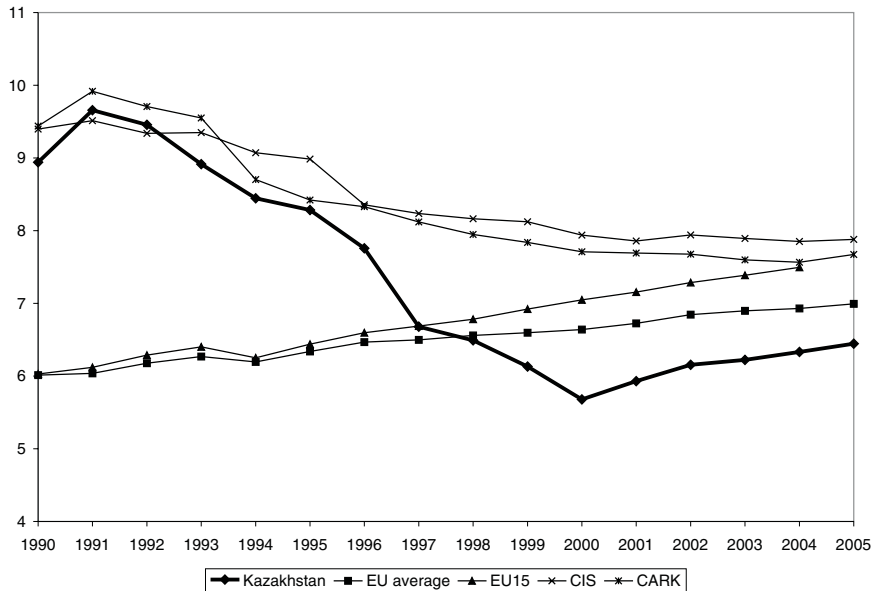
Fig. 5.3 Physicians per 1000 population in Kazakhstan, CIS, CARK and EU15, 1990–2005



Source: WHO Regional Office for Europe, 2007.

Notes: CIS: Commonwealth of Independent States; CARK: central Asian republics and Kazakhstan; EU: European Union; EU15: European Union Member States before May 2004

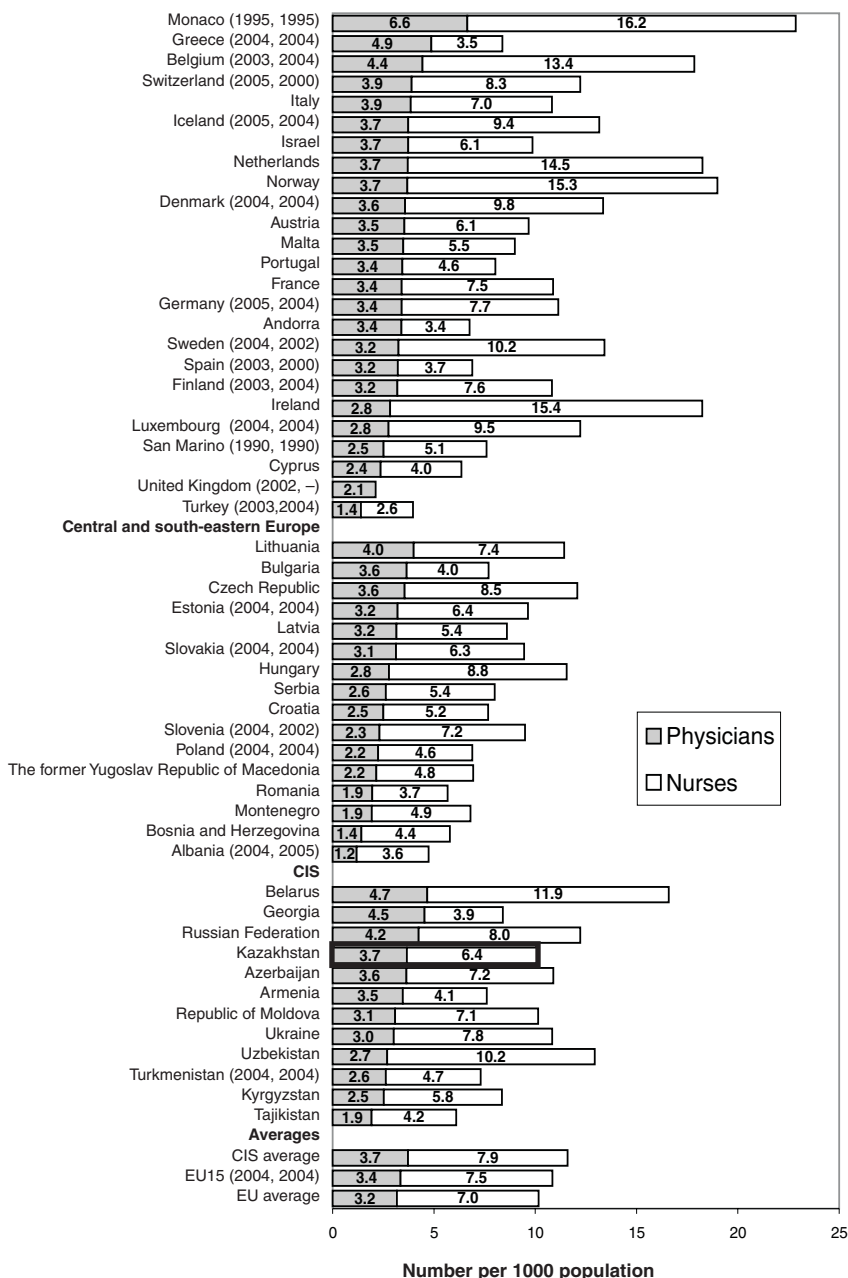
Fig. 5.4 Nurses per 1000 population in Kazakhstan, CIS, CARK and EU15, 1990–2005



Source: WHO Regional Office for Europe, 2007.

Notes: CIS: Commonwealth of Independent States; CARK: central Asian republics and Kazakhstan; EU: European Union; EU15: European Union Member States before May 2004.

Fig. 5.5 Number of physicians and nurses per 1000 population in the WHO European Region, 2005 or latest available year (in parentheses)



Source: WHO Regional Office for Europe, 2007.

Notes: CIS: Commonwealth of Independent States; EU: European Union; EU15: European Union Member States before May 2004.

Training of health care personnel

The training of health care personnel is one of the key challenges for Kazakhstan's health system (Government of Kazakhstan 2007a). Kazakhstan inherited the Soviet system of training and retraining of health professionals. Before 2004, there had hardly been any changes in this area during the years since independence (Ministry of Health 2004), although significant postgraduate training in family medicine and priority programmes including mother and child health and TB have taken place. The Ministry of Health noted in 2004 that, overall, the quality of training and retraining had remained poor. This was attributed to an underdeveloped regulatory system with regard to university entry and the quality of medical and pharmaceutical teaching, but also to years of underinvestment in educational buildings and facilities. In addition, the limited funds allocated to medical training in the public sector did not allow the purchase of up-to-date technical equipment or visual aids (Ministry of Health 2004).

In addition to state-funded students, universities tried to attract additional funds by accepting medical students who pay for the tuition themselves. The number of students paying for their studies has increased in recent years. In 1999, 1059 students were paying for their medical education, compared to 1245 on state scholarships. By 2001, the number of paying students increased to 2190, compared to 1345 on state scholarships. One of the problems associated with this development was that the entry requirements for self-funded students were considerably lower than for state-funded students, which threatened to undermine the quality of medical education even further (Ministry of Health 2004).

The Concept for the Educational Development of Kazakhstan until 2015 envisages changes to the training of all professionals with higher education that also have an impact on medical education. In line with this concept, new obligatory standards for medical and pharmaceutical education were introduced in 2003 that place greater emphasis on continuity between different educational levels. In 2003, management of medical education was transferred from the Ministry of Education and Science to the Ministry of Health. A concept for the reform of medical and pharmaceutical training for 2006–2010 has been drawn up and in 2007 new standards for the training of medical and pharmacy students were enacted.

With the exception of physicians, the ratios of graduating health professionals per population generally showed a downward trend since 1990, although there were significant fluctuations (Table 5.4).

In 2005, Kazakhstan had nine medical schools (three of which were private), 41 nursing colleges, a Postgraduate Medical Institute, a national School of Public Health and 65 research enterprises (Table 5.5). The Kazakhstan School

Table 5.4 Number of graduating health care professionals per 1000 population, 1990 and 2000–2005

	1990	2000	2001	2002	2003	2004	2005
Physicians	0.15	0.16	0.16	0.12	0.15	0.20	0.20
Dentists	0.02	0.01	0.01	0.01	0.01	0.02	0.01
Nurses	0.66	0.40	0.42	0.35	0.42	0.43	0.40
Midwives	–	0.07	0.05	0.05	0.05	0.05	0.06
Pharmacists	0.04	0.01	0.01	0.03	0.03	0.03	0.01

Source: WHO Regional Office for Europe, 2007.

of Public Health was established by the Ministry of Health together with the WHO Regional Office for Europe in 1997.

There are four streams in medical education. Physicians are trained for six years and specialize in their sixth year. Paediatricians are trained in an entirely separate course. San-epid service physicians are trained for five years in separate faculties. Dentists are also trained in a separate 5-year course.

Changes have been introduced from 1997 onwards in order to upgrade medical education to international standards. A 1-year internship based on six major specialties (residency), which in similar form existed in the Soviet period, has recently been reintroduced to improve the quality of medical graduates. Following the internship, physicians can specialize in more than 80 specialties with a training duration of 2–4 years.

A family practice specialty was introduced in 1995 as a 4-month short course at the Postgraduate Medical Institute and other short courses are being organized at approved sites. Training in general practice (both for undergraduates and for practising physicians) has been supported with both technical assistance

Table 5.5 Educational facilities in 2005 (absolute numbers)

	Public	Private
Medical schools		
Number of medical schools	6	3
Number of students at beginning of academic year (total)	22 358	1 939
Number of accepted students at beginning of academic year	3 828	509
Number of graduates at end of academic year	2 534	546
Nursing schools		
Number of nursing schools	25	16
Number of students at beginning of academic year (total)	28 131	10 029
Number of accepted students at beginning of academic year	9 369	4 460
Number of graduates	4 825	1 270

Source: Ministry of Health Information Unit, personal communication, 2006.

and funding from USAID, the United Kingdom DFID and the World Bank. In 2005, the Government spent 2% of the total health care budget on the training of GPs and health managers.

Further education is conducted at the Postgraduate Medical Institute or at one of the medical research institutes. Physicians must do a short retraining course every five years and clinical lecturers every three years. This requirement has faltered, however, with budget cuts and the difficulties of taking leave from employment.

A postgraduate course in public health commenced in 1997 at the Kazakhstan School of Public Health in Almaty. Management courses are also available at the Kazakhstan Institute of Management, Economics and Strategic Research and at the Centre for Medical and Economic Research. Table 5.6 shows enrolment details for postgraduate studies from 2001 to 2006. The number of new physicians graduating has continued to rise during the 1990s although there are few available jobs. Unemployment is said to be a problem among new medical graduates, and this is likely to continue, given the unwillingness of new graduates to work in rural areas.

In 2005, there were 41 medical colleges (16 of which were private) that train nurses and other mid-level health personnel. Nursing education consists now of two years' basic training, followed by one year of specialization in general medicine, emergency care, obstetrics, or management. However, the curricula are outdated and fail to reflect the requirements of health service provision and many nurses are poorly trained.

At present, nursing education is being reformed with the aim of upgrading it to postgraduate level, strengthening the status of nurses as an independent health profession, and providing continuous education. More attention is also paid to the training and retraining of managerial and administrative staff, including nurse managers, in line with the increased importance of primary health care, where most nurse specialists are expected to work in the future. At Almaty Medical College, for example, a 4-year training programme for nurse managers has been introduced.

Table 5.6 Enrolment to postgraduate studies (clinical residency, Master's degrees and doctoral programmes), 2001–2006

Academic year	2001–2002	2002–2003	2003–2004	2004–2005	2005–2006
Doctor candidate programmes	35	40	60	63	63
Doctoral programmes	16	20	30	30	33

Source: Ministry of Health Information Unit, personal communication, 2006.

Feldshers receive nurse/midwife training with additional training in diagnosis and prescribing. They carry out clinical responsibilities that are midway between doctors and nurses. In rural areas, feldshers work in effect as primary care physicians.

Ambulance feldshers are nurses who have received special emergency care training and work in ambulance cars, reflecting a Soviet model of organizing emergency care services. In 2006, there were 1495 feldsher ambulance teams in Kazakhstan (Ministry of Health 2007a).

Salary and working conditions

In the former Soviet Union, the health sector was not regarded as productive compared to other sectors, such as mining. Therefore, wages for health care personnel were set below the workforce average. Despite repeated increases in the salaries for health care workers in Kazakhstan, with an increase by 20% in 2004 alone, the official average salary in the health sector in 2004 was only half the national average for all sectors combined (Ministry of Health 2004). At present, the remuneration of health workers is regulated through Government Decree No. 41 of 11 January 2002 on the System of Labour Remuneration of Public Employees who are not Civil Servants. Health workers are remunerated according to seniority and qualification, with no regard to outcomes or the quality of services provided. However, as mentioned earlier, it is envisaged that payment will be introduced, taking account of results, in 2008.

The prestige and financial reimbursement of nurses continues to be very low. While the official salary of physicians is not much higher than that of nurses, they can gain various official bonus payments and informal “under-the-table” payments from patients. Physicians might also be appointed to more than one position, with a respective increase in income.

The skill mix of health care workers is being adjusted in many European countries with the aim of increasing the number of trained nurses in relation to the number of doctors (Rechel, Dubois et al. 2006). In Kazakhstan, doctors often perform tasks that in western European countries would be performed by nurses, while nurses perform many tasks that elsewhere would be performed by auxiliary or support staff. The difference in Kazakhstan is that the salary differential is not as large and that nurses receive far less training than doctors.

6 Provision of services

The provision of health services in Kazakhstan today has evolved on the basis of the legacy of the Soviet Semashko system of health care, with its overemphasis on hospital services and its neglect of primary care and health promotion. While in terms of relations between the State and individuals the main responsibility for health protection has now been shifted to individuals themselves, health services in Kazakhstan tend to maintain their emphasis on treatment rather than prevention.

The organization of health care differs between rural and urban areas. In rural areas, primary care is delivered through FPs and rural physician clinics (rural ambulatories) (SVAs), and secondary care is delivered by polyclinics, small rural village hospitals (SUBs) and CRBs. In urban areas, primary care is delivered by new primary care practices called family group practices (FGPs), mixed polyclinics and polyclinics, while secondary care is delivered by polyclinics, basic secondary care by CRBs, more specialized secondary care in *oblast* or city hospitals, and tertiary care in national (republican) specialist institutes. Throughout the system the tendency has been to refer patients to higher levels of care. This delivery system is in the process of being reorganized, with the intention that primary care will eventually be delivered by family physicians, and consequently many small hospitals have been closed.

At present, health services are fragmented and do not ensure continuity of care. There are no strong linkages between primary and secondary care as yet, and many services are organized along parallel vertical structures, such as TB services, san-epid services, or the health system operated by other ministries and government agencies. The poor horizontal integration of services leads to duplication of effort and inefficient use of the limited resources available for the health sector.

6.1 Public health

Public health has been defined as the science and art of promoting health, preventing disease, and prolonging life through the organized efforts of society. It can be understood as a social and political concept aimed at improving health, prolonging life and improving the quality of life among whole populations through health promotion, disease prevention and other forms of health intervention. In Kazakhstan, these functions are performed by different agencies, including the san-epid service, the HIV/AIDS centres, the National Centre for Healthy Lifestyles, primary health care providers, NGOs and international agencies. The biggest challenge of the country's health sector in the domain of public health lies in clarifying, coordinating and streamlining the roles and responsibilities of different agencies responsible for public health and health promotion activities.

In the area of public health, the Ministry of Health is in charge of:

- developing the national policy on public health;
- establishing rules for the registration of infectious, parasitic, occupational and other diseases and poisoning;
- establishing rules for implementation of san-epid monitoring;
- ensuring intersectoral coordination, as well cooperation with public organizations, on implementation of national and sectoral programmes relating to health protection and healthy life style promotion.

The Committee on Sanitary-Epidemiological Surveillance under the Ministry of Health:

- regulates all issues related to infectious diseases control;
- executes state registration of child food products, food and biologically active supplements, genetically modified sources and staining agents;
- oversees the organization and implementation of preventive vaccinations of the population against infectious diseases;
- registers infectious, parasitic, occupational and other diseases and poisoning.

The National Centre for Healthy Lifestyles:

- ensures implementation of the national policy on healthy lifestyle promotion;
- develops the regulatory framework for health promotion;
- is responsible for cooperation with the mass media and public organizations on healthy lifestyle promotion.

The Committee on Environmental Control under the Ministry of Environmental Protection is responsible for:

- controlling observance of ecological norms by industrial enterprises;
- regulating issues related to the use of surface and ground waters;
- monitoring atmospheric air;
- drafting limits for environmental pollution.

Sanitary-epidemiological service

An extensive system of san-epid stations was developed in the Soviet era with a successful record of controlling communicable diseases. The san-epid service remains administratively separate from the rest of the health care system. It is administered in a vertical hierarchy of control from the republican level to the *oblast/city* level, and then to the *rayon* level. At the level of the Ministry of Health, a Committee on Sanitary-Epidemiological Surveillance has been established, with two subdivisions, for:

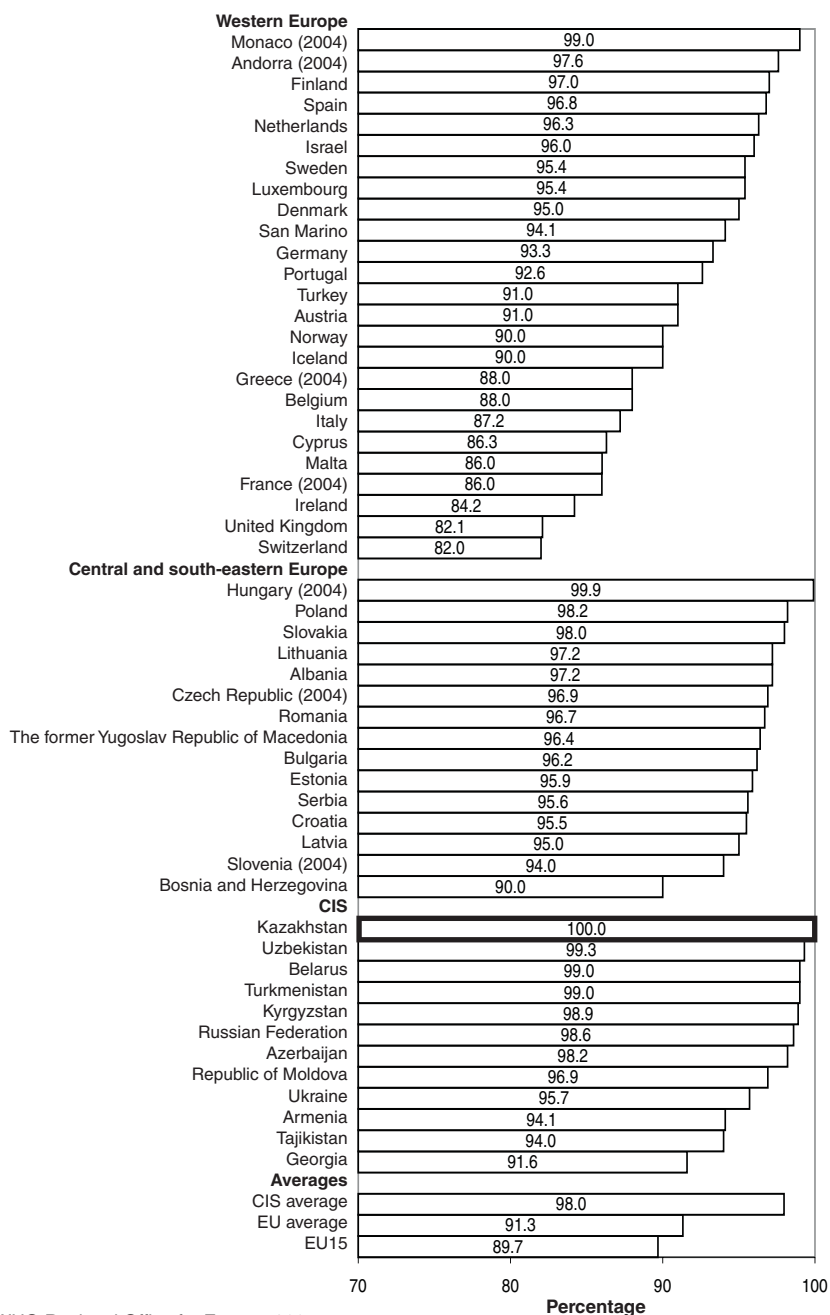
- control and surveillance;
- san-epid expertise and laboratory tests.

In addition, a network of subdivisions with the aim of preventing the entry of dangerous infections from abroad has been established in recent years, as well as quarantine posts along major transportation routes and border posts (Ministry of Health 2004). The san-epid system is responsible for preventing and controlling communicable diseases, environmental health, investigating epidemics, monitoring the safety of working conditions and monitoring food and water safety. With the return of previously controlled communicable diseases such as TB, the degradation of clean water supplies and worsening sanitation, the traditional tasks of this service have become more important once again. At higher levels the san-epid system has laboratory capacities and also carries out most bacteriology tests for the hospital system. The san-epid service, in conjunction with *rayon* health departments, is also responsible for immunization campaigns. After a collapse of immunization services in the early 1990s, high immunization rates for common childhood infections have now been re-established (Fig. 6.1).

San-epid physicians are trained in their own medical faculties, which also conduct national-level research and monitoring. In recent years, staffing has been cut significantly and many laboratories are in poor condition, with outdated equipment and a severe shortage of essential materials.

At present, the san-epid service faces a number of challenges. It is poorly integrated with primary care services, and lacks coordination with other

Fig. 6.1 Levels of immunization for measles in the WHO European Region, 2005 or latest available year (in parentheses)



Source: WHO Regional Office for Europe, 2007.

Notes: CIS: Commonwealth of Independent States; EU: European Union; EU15: European Union Member States before May 2004.

surveillance services, such as those for environmental protection or veterinary purposes, as well as with vertical infectious disease systems, such as for TB and HIV/AIDS. Laboratory services are often substandard in terms of equipment and compliance with international standards, and surveillance and testing are mainly carried out at national and *oblast* levels, while the *rayon* level is underdeveloped (Ministry of Health 2004).

Environmental health issues, although recognized as a major problem in Kazakhstan, remain neglected in terms of government action and also in direct health interventions. Although there was extensive environmental and occupational health monitoring in the Soviet and post-Soviet era, very little systematic research was conducted in Kazakhstan into the health effects of environmental degradation and pollution. The Kazakhstan Government has declared three areas as ecological disaster areas: the Aral Sea region with its degraded soil and water, the Semipalatinsk former nuclear region, and East Kazakhstan which is badly polluted with heavy metals.

As in other countries of the region, the san-epid system in Kazakhstan has so far not been subjected to significant health reforms and will need to be restructured in order to form part of comprehensive and integrated public health services (Meimanaliev, Ibraimova et al. 2005; Ahmedov, Azimov et al. 2007). The National Programme of Health Care Reform and Development for 2005–2010 envisages the integration of san-epid services into the primary care sector, in particular where health promotion activities are concerned, and the coordination of activities on infectious diseases (including TB, STIs and HIV/AIDS) through the san-epid services.

Tuberculosis programmes

Kazakhstan is experiencing a serious TB epidemic with the highest incidence rate for TB in the WHO European Region. Kazakhstan has a national TB control programme based on the DOTS strategy recommended by WHO. The Kazakhstan Tuberculosis Research Institute endorsed WHO treatment protocols (including DOTS treatment) with standardized outpatient pharmaceutical treatment and less recourse to long-term hospitalization in 1998 (Ministry of Health 2002). Coverage of the DOTS strategy was extended to the whole country in 2000. However, the WHO strategy is not entirely adhered to – hospitalization and treatment schemes are longer than recommended by WHO, while sputum smear detection is coupled with fluorography.

The national TB programme (2002–2006) was supported by WHO, World Bank, USAID and the CDC. A US\$ 32 million grant proposal was submitted to the GFATM in response to which the GFATM approved a maximum of US\$

5.4 million for TB programmes, although the grant agreement had not yet been signed in February 2007 (GFATM 2007).

Procurement of TB pharmaceuticals has generally been centralized at the national level. However, in 2007, TB drug procurement was decentralized to the *oblast* level, although this is likely to be reassessed. The Scientific Research Institute for Tuberculosis is responsible for the implementation and coordination of the DOTS strategy. Most TB services are provided by TB dispensaries and hospitals which are administered by *oblast* health departments.

Inter-agency coordination efforts have been strengthened to ensure continuity of care and surveillance. At the policy level, a High-Level Working Group on Tuberculosis was set up. At local level, multisectoral working groups on TB are also operational. In particular, the penitentiary system health facilities closely collaborate with the *oblast* TB dispensaries that coordinate TB activities at local level.

An electronic surveillance case-based management system for TB was developed with assistance from the CDC and became fully operational throughout the country in 2000. By 2003, the system was suspended due to the revision of data collection forms. A new form was approved to feed into the national electronic system for TB (also called national TB register). It has been integrated with the MedInform database. At present, work is under way to develop a more efficient data analysis application for use by *oblast* health managers.

X-ray mass screening was still carried out excessively in 2001, covering approximately two-thirds of the entire adult population (Godinho, Novotny et al. 2004). There also seems to be a continued overutilization of hospital facilities, with an average length of stay of 92 days in 2001 (Godinho, Novotny et al. 2004).

Four pilot sites to deal with MDR TB using the WHO strategy DOTS-Plus were established in 2000. The pilot project was subsequently extended to more *oblasts*, and the Government envisaged to cover the whole country in 2003 (Godinho, Novotny et al. 2004). These efforts are under way with plans to set up and equip drug-susceptibility testing laboratories in each *oblast*.

So far, there are very few registered cases of co-infections with TB and AIDS. The risk groups of combined infection are injecting drug users (particularly in prisons) and sex workers. Treatment protocols for the combined infection comply with the WHO standards.

Overall, Kazakhstan exceeds the WHO target of a 70% case detection rate for TB ($\geq 79\%$ and $< 93\%$ in 1999–2004), but falls short of the 85% cure rate target ($\leq 79\%$ in 1999–2004) (WHO Regional Office for Europe 2007).

In February and March 2007, Kazakhstan launched a month-long nationwide prevention campaign under the slogan “Tuberculosis is Easier to Prevent than Cure”. The campaign, which followed similar campaigns in recent years, focused on raising awareness, with an emphasis on early detection among children. Instructions for spotting the disease have been issued to parents and medical staff, and schools have held special classes (IRIN 2007b).

HIV/AIDS programmes

The Government of Kazakhstan has shown commitment at the highest level to fight against HIV/AIDS. Kazakhstan established an Interministerial Coordination Committee on AIDS in 1995, and adopted a National Strategic Programme on HIV/AIDS Prevention for 2001–2005 and for 2006–2010.

The national programme for 2001–2005 had three main objectives:

- to stabilize HIV prevalence by preventing the virus from spreading to the general population;
- to reduce the growth of vulnerable population groups (especially youth);
- to ensure that at least 80% of people living with HIV are covered by medical and social programmes (Godinho, Novotny et al. 2004).

A Law on HIV/AIDS Prevention was adopted on 5 October 1994. It provided for:

- the provision of free-of-charge treatment to HIV/AIDS patients and for their social protection;
- the provision of prevention activities and information campaigns;
- the right to voluntary, confidential and anonymous testing in public health facilities;
- the obligation to undergo medical testing “should there exist sufficient grounds for presuming that patients may be infected by HIV/AIDS”.

In 2002, two major positive amendments in legislation on medical examination for HIV infection were adopted: compulsory testing of selected population groups (including the prison population) and contact tracing were abolished; and anonymous and confidential testing for everyone was introduced (WHO 2005b).

Decree No. 988 on Additions and Modifications to the Law on HIV/AIDS Prevention of 27 September 2003 outlined a series of changes, including:

- anonymous testing;
- free antiretroviral treatment;
- mandatory HIV testing only for blood and organ donations;

- guaranteeing the human rights of people living with HIV/AIDS.

National antiretroviral therapy protocols based on guidelines of the WHO Regional Office for Europe for countries that are members of the CIS were adopted by a Decree of the Ministry of Health on 12 February 2004 (WHO 2005b).

The Ministry of Health coordinates the multisectoral response to the epidemic, provides the legal and policy framework, and strengthens partnerships among all stakeholders. UNAIDS provides support to the Government on policy issues. The National Centre for AIDS Prevention and Control provides overall management and coordination of the health sector response to HIV/AIDS, including prevention, care and treatment services.

The country has 21 centres for AIDS prevention and control operating in all *oblasts* and major cities. The public HIV/AIDS service comprises the National Centre for AIDS Prevention and Control, and *oblast* and city branch centres (Almaty, Astana, Temirtau, Zhezkazgan and others). As a rule, each AIDS Centre includes departments for epidemiological surveillance, treatment and counselling, and monitoring and evaluation, as well as a laboratory. The AIDS Centres and NGOs have established 98 trust points, which provide injecting drug users with syringes, condoms, brochures and pre-test and post-test counselling. Hospitals, TB centres and oncological dispensaries are expected to provide treatment for HIV/AIDS and opportunistic diseases, and palliative care for terminal cases. The National AIDS Coordination Committee is a committee within the National Health Council, chaired by the Minister of Health (Godinho, Novotny et al. 2004; WHO 2005b).

A number of international agencies have been supporting HIV/AIDS control efforts in Kazakhstan. The United Nations Thematic Group for Kazakhstan on HIV/AIDS, Drugs and Vulnerable Groups supports various government ministries in developing strategic HIV/AIDS prevention programmes. In 2004, UNESCO implemented a regional project supported by UNAIDS Programme Acceleration Funds aimed at establishing regional corps of trainers for expanding voluntary counselling and testing among vulnerable population groups and helping eligible people living with HIV/AIDS to adhere to antiretroviral therapy. All UNAIDS co-sponsors have assisted the Government of Kazakhstan technically and financially in implementing HIV/AIDS prevention activities. A joint project between United Nations agencies and the Soros Foundation/Open Society Institute has invested in harm-reduction programmes, helping to support several trust points. The Knowledge Hub for the Care and Treatment of HIV/AIDS in Eurasia (supported by the German development agency GTZ and the WHO Regional Office for Europe, in conjunction with the American International Health Alliance) supports capacity-building efforts in Kazakhstan.

The USAID Regional Mission for Central Asia is allocating US\$ 13 million through the Capacity Project, under which technical assistance will be provided to five central Asian countries over five years. Approximately 35% of the funding will be allocated to Kazakhstan (WHO 2005b).

Despite the HIV/AIDS control efforts, the country's ability to effectively confront the epidemic is still limited. One of the challenges, like in other countries of the former Soviet Union (Bernitz & Rechel 2006), relates to the provision of antiretroviral treatment. Although the revised Law on HIV/AIDS Prevention provides for the free treatment of people living with HIV/AIDS, in practice, state and local budgets do not usually allow such costly medicines to be procured. As a result, most people do not have access to antiretroviral therapy due to its high cost (WHO 2005b). In 2004, only children under 15 years of age and infected pregnant women had free access to antiretroviral treatment in the public health system (Godinho, Novotny et al. 2004). In 2006, only 236 of the 3956 registered patients with HIV/AIDS in Kazakhstan were receiving antiretroviral treatment (Bagchi 2007). One of the reasons for the lack in antiretroviral treatment is the gap between envisaged and disbursed funds. While the Government had allocated US\$ 2.5 million for the implementation of the national programme for 2001–2005 in 2001 and US\$ 2.7 million in 2002, by 2004 this funding had not been disbursed (Godinho, Novotny et al. 2004).

In many European countries, members of the population groups at highest risk of HIV infection are exposed to social exclusion, stigmatization and criminalization. In the countries of the former Soviet Union, including Kazakhstan, punitive approaches are only slowly giving way to approaches that guarantee human rights, while harm-reduction measures are generally absent (Bernitz & Rechel 2006). In Kazakhstan, substitution maintenance therapy programmes aimed at supporting the adherence of drug-dependent people to antiretroviral therapy are not widely available in the public sector, but only as a pilot for 50 injecting drug users in Pavlodar *oblast*, with support from the second round of grants from the GFATM (WHO 2005b).

The availability of free and anonymous testing is a major challenge in most countries of the former Soviet Union (Bernitz & Rechel 2006). In Kazakhstan, the annual number of tests shows a downward trend. The number of HIV tests performed per year decreased from 1 074 000 tests in 2002 to 926 000 in 2003 and to 894 000 in 2004 (WHO 2005b).

A problem related to the organization of the Kazakh health system is that HIV/AIDS control activities are not yet coordinated with dispensaries for STIs or with reproductive health services and family practice centres (Godinho, Novotny et al. 2004).

A recent HIV scandal in South Kazakhstan *oblast* revealed that HIV control measures lacked adherence in the general health facility network. By October 2006, 76 children had been infected at hospitals in Shymkent, six of whom had died (Ministry of Health 2006b). The HIV outbreak was caused by the repeated use of non-sterile medical equipment and the unsafe use of blood and blood products. Allegedly, the children received multiple and unnecessary blood transfusions (Bagchi 2007). This case suggests that compliance with safety requirements needs to be strengthened and that it is necessary to make every effort to make resource allocation and use more efficient.

Diabetes centres

Faced with the growing epidemic of diabetes, Kazakhstan has established diabetes centres, as well as 98 training centres for patients with diabetes. Insulin is purchased centrally by the Ministry of Health and then distributed to patients (Ministry of Health 2002). The National Programme of Health Care Reform and Development for 2005–2010 envisages placing an endocrinologist in every *rayon* to improve the early diagnosis and treatment of endocrinal diseases such as diabetes (Ministry of Health 2004). It is, however, arguable whether this measure is the most effective approach to tackling the rise in diabetes (World Bank 2004a).

Healthy Lifestyle Service

During the Soviet period, active programmes of health promotion and disease prevention hardly existed and were mainly the responsibility of primary health care services. This neglect continued to exist in the early years of Kazakhstan's independence. Since then, the importance of public health measures has increasingly been recognized at the highest political level. The President's 1997 message in *Kazakhstan 2030*, which set out a 30-year welfare strategy for the country, emphasized the importance of public health and health promotion as a long-term priority. The strategy called for the prevention of diseases, the promotion of healthy lifestyles, a reduction in drug abuse and trafficking, a reduction in the consumption of tobacco and alcohol, protection of mother and child health, improved nutrition and a cleaner environment (Government of Kazakhstan 1997; Ministry of Health 2002).

The National Centre for Healthy Lifestyles was established in December 1997 with its own vertical structure. An intersectoral Health Promotion Council was set up in 1997. Subsequent national Healthy Lifestyle Strategies were approved by Government Decrees in 1999, 2002, 2003, and 2006 (for 2006–2008). In 2006, the structure of the National Centre for Healthy Lifestyles comprised its head office, 14 *oblast*, 10 urban and 10 *rayon* Healthy Lifestyle Centres, and

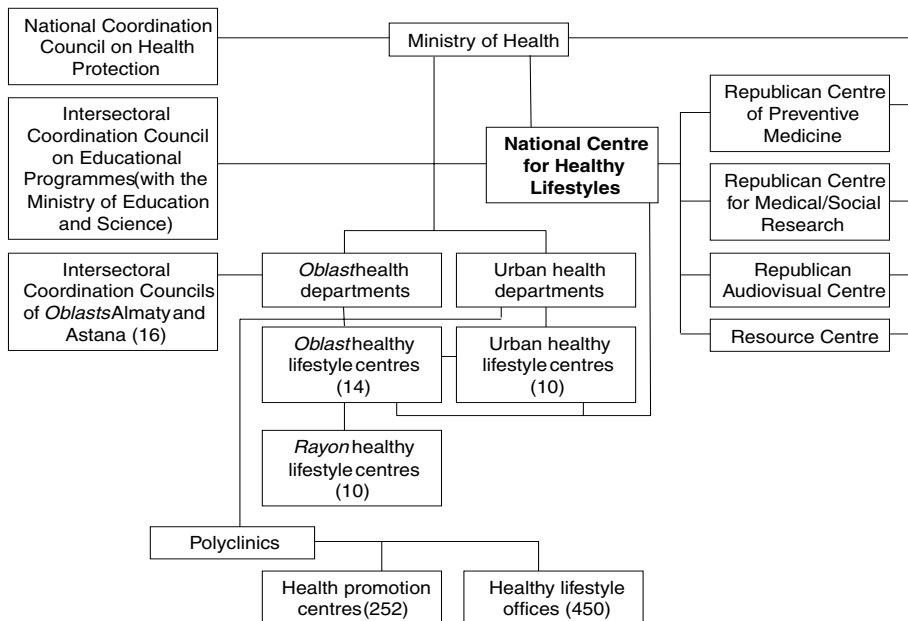
252 Health Promotion Centres, with an overall staff of 1600 people. Figure 6.2 shows the structure of the Healthy Lifestyle Service.

The Healthy Lifestyle Service is coordinated by the Board of Directors which is headed by the Director General of the National Centre for Healthy Lifestyles. The governing body of the service is the Directorate, which meets quarterly and discusses issues related to the implementation of national Healthy Lifestyle Programmes. The National Centre for Healthy Lifestyles has established branches in four medical academies with the aim of providing technical and methodological assistance to *oblast* Healthy Lifestyle Centres for the development of preventive programmes at *oblast* level. The branches in the medical academies also provide support to Healthy Lifestyle Programmes.

The Healthy Lifestyle Service is responsible for national guidance on the promotion of healthy lifestyles and for the initiation of preventive interventions at national and local levels.

Funding for the Healthy Lifestyle Service has increased substantially in recent years and amounts now to approximately 1% of the total state health budget.

Fig. 6.2 Structure of the Healthy Lifestyle Service



Source: National Centre for Healthy Lifestyles, personal communication, 2006.

Table 6.1 Financing sources of the Healthy Lifestyle Service (in million KZT), 1999–2006

	1999	2000	2001	2002	2003	2004	2005	2006
Local level	55.2	81.6	83.4	122.4	138.0	149.0	196.0	168.3
National level	6.6	14.2	16.5	40.5	32.0	33.5	40.0	43.0
Other sectors	–	–	–	–	–	–	–	44.0
Total	61.8	95.8	99.9	262.9	170.0	182.5	206.0	256.8

Source: National Centre for Healthy Lifestyles, personal communication, 2006.

The Healthy Lifestyle Service is financed from several sources (Table 6.1). In general, the National Centre for Healthy Lifestyles is financed from the national budget and the local Healthy Lifestyle Centres are financed from local budgets. Financing at national level includes funds from international agencies. In addition, the most recent national Healthy Lifestyle Programme received funding from all ministries involved, which amounted to KZT 44 million in 2006.

The activities of the Healthy Lifestyle Service include:

- the development of national and regional programmes on healthy lifestyles, disease prevention and health education;
- collaboration with ministries, local authorities and organizations to develop and implement evidence-based programmes;
- research in the area of healthy lifestyles, as well as health economics, health management and health reforms;
- training of health professionals in healthy lifestyle issues and health services management;
- health promotion and health education activities addressed towards the general population, preschool children, schoolchildren, organizations and enterprises;
- organizing sport and cultural events that promote healthy lifestyles;
- publication of health promotion materials and working with the mass media.

In 2002, the Almaty State Institute of Postgraduate and Continuous Medical Education established the Department of Health Promotion and Disease Prevention that is based at the National Centre for Healthy Lifestyles. The Department provides training to medical doctors working in healthy lifestyle organizations, heads of health promotion centres and physicians working on healthy lifestyle issues. It provides 15–17 training courses annually, for up to 300 people. The training of mid-level primary health care professionals is

provided in 22 nursing colleges, where training-of-trainer courses have been established.

One of the main activities of the Healthy Lifestyle Service is the provision of health education to children and adolescents in the state school system. In 1998, the Ministry of Health and the Ministry of Education jointly issued a decree introducing a course on healthy lifestyles (“valeology”) in schools and institutions of higher education. By 2006, this course had been introduced in 74.6% of all general schools, covering more than 3.5 million pupils, as well as in 72.2% of professional colleges and 62.3% of institutions of higher education. In total, the course reached more than 5 million pupils and students. Selected evaluations of the impact of the course showed a considerable improvement of health knowledge and a reduction in risky lifestyles. Since 1999, the National Centre on Healthy Lifestyles has conducted a number of research projects in line with the overall objectives of the Healthy Lifestyle Programme.

Preventive programmes are another important area of activity, with a particular focus on children, adolescents and youths. In 2006, the following programmes were being implemented at national and regional levels:

- prevention of alcohol and tobacco consumption
- prevention of drug abuse
- prevention of STIs and HIV/AIDS
- protection of reproductive health
- prevention of TB
- prevention of communicable diseases
- healthy nutrition
- physical activity
- prevention of behavioural risk factors associated with major diseases
- prevention of chronic diseases, accidents and poisonings.

In terms of antismoking activities, the Law on Preventing and Reducing Tobacco Smoking was adopted in 2002. It provides for measures to limit tobacco advertising, the prohibition of smoking in some public places, the prohibition of selling tobacco products to underage children, and measures to increase the awareness of consumers about the harmful effects of tobacco smoking.

Smoking is prohibited in the following public places (Katsaga & Zuez 2006, unpublished):

- educational organizations and leisure facilities for underage children;
- health organizations;
- public catering points without separate rooms for smokers;

- cinemas, theatres, circuses, observation and exhibition halls, sport arenas and other covered constructions destined for mass recreation;
- museums and libraries;
- local and long-distance trains, aeroplanes, sea and river transport as well as passenger compartments of city and long-distance buses, taxis and city transport;
- airport buildings, railway and riverboat stations;
- public agencies and other organizations.

The national coalition “Towards a Kazakhstan free of tobacco smoke” was established in 2004. Its members include associations of health professionals, research institutes, educational institutions, journalists, and lawyers. The coalition has supported the implementation of the national antismoking legislation and promoted ratification of the WHO Framework Convention on Tobacco Control. Kazakhstan signed the Framework Convention on 21 June 2004 and ratified it on 22 January 2007.

One of the main outcomes of public hearings was the adoption of the local programme “Almaty free of tobacco” by the local parliament (*Maslikhat*) of Almaty. It is the first antismoking programme in Kazakhstan that receives targeted funding from the local budget. Implementation of the programme started in 2006 and KZT 41 million is planned to be allocated from the local budget for the first three years of the programme.

The National Centre on Preventive Medicine has been based at the National Centre on Healthy Lifestyles since 2002. It coordinates activities of the leading research institutes, national centres and health care organizations with regard to the implementation, monitoring and evaluation of screening programmes, and manages the national database on screening activities.

The National Centre on Medical and Social Research, which is also based at the National Centre on Healthy Lifestyles, conducts regular research projects on different aspects of health promotion, as well as national surveys every three years.

The Healthy Lifestyle Service pays great attention to intersectoral partnerships in the implementation of its programmes. In 2003, more than 5 million people were motivated to pursue aerobic exercise at the same time, an event that was registered in the Guinness Book of Records. The event was supported by the President and involved the Ministry of Health, Ministry of Education, Ministry of Defence and Ministry of Internal Affairs, as well as other local authorities. Large-scale activities within the “Health Festival” are conducted annually, in order to attract attention to healthy lifestyle issues.

The Healthy Lifestyle Service also collaborates with a number of international organizations, including WHO, UNICEF, UNDP, USAID, the Know How Fund, CDC, UNFPA, GFATM, Open Society Institute and the International Anticancer Union. In 2005, the National Centre on Healthy Lifestyles received the status of a WHO Collaborating Centre on Healthy Lifestyle Promotion. The Healthy Lifestyle Service disseminates health promotion materials through a variety of channels, including national and regional television and radio stations. In the national media, 8 television and 2 weekly radio programmes have been developed, while 20 local stations are broadcasting 15 television and 16 radio programmes on health promotion. The National Centre on Healthy Lifestyles has its own press centre and has introduced an annual award to journalists with the title “Healthy lifestyle – everybody wins”. The national centre also publishes its own national journal and special journals and articles are published in three *oblasts*.

The National Centre for the Development of Audiovisual Education Materials based at the National Centre on Healthy Lifestyles develops and disseminates more than 40 items of visual aids and educational materials annually. The total circulation of materials in Russian and Kazakh reaches more than 12 million copies. Overall, the National Centre on Healthy Lifestyles has developed more than 48 monographs, manuals and guidelines on all aspects of health protection and promotion.

The National Centre on Healthy Lifestyles in Kazakhstan has attracted the attention of neighbouring countries and similar services are now being established in Kyrgyzstan, Tajikistan and Uzbekistan. However, these countries are not establishing similar vertical structures for healthy lifestyles, partly because they do not have the same financial resources as Kazakhstan.

6.2 Primary/ambulatory care

Although the Alma-Ata Declaration of 1978 was adopted in Kazakhstan, emphasizing the centrality of primary care to the operation of effective, efficient and equitable health services (WHO 1978), as in other countries of the former Soviet Union, primary health care in Kazakhstan has for a long time been neglected and funded according to the residual principle, with a higher priority allocated to inpatient facilities. State-owned primary health facilities have therefore suffered from years of underinvestment, although this situation is rapidly changing in recent years. In the beginning of the transition, however, there were no significant capital investments in the health sector and this particularly applied to primary health facilities. As a result, the material

base of facilities is still poor, in particular in rural areas. The 1990s have seen a dramatic reduction of outpatient services, following the introduction of user fees for a majority of diagnostic services, and as a result of the necessity to purchase pharmaceuticals.

In addition, primary health facilities are not fully staffed with qualified personnel. Financial incentives for primary care staff are insufficient and the profession is not considered to be prestigious. Primary care staff also have a heavy workload. In some regions, visits to outpatient facilities exceed workload standards by more than 50% (Ministry of Health 2004). At present, primary health care physicians very often refer patients to specialists (Ministry of Health 2004).

There have been a number of efforts to reform primary health care in Kazakhstan, but, on the whole, these were contradictory and inconsistent and lacked sustained political leadership. The Law on Health Protection of 1997 determined that primary health care should be free of charge and accessible to all (Ministry of Health 2002). Primary health care reform was endorsed by the Ministry of Health (at the time called Committee of Health) in Orders (*prikazes*) 500 and 501 which also allowed independent status for family practices.

International agencies involved in the reform of primary care in Kazakhstan have included the World Bank, USAID (Zdrav Reform, now ZdravPlus) and the United Kingdom DFID. These agencies supported the Government's strategy to improve urban and rural primary care in the two pilot *oblasts* of Zhezkazgan and Semipalatinsk. This included the reorganization of existing feldsher-midwifery posts (FAPs) and SVAs, the creation of FGPs, the training of GPs capable of providing basic services and upgrading the facilities in which they work (World Bank 2002).

Some FGPs have been developed as a first step towards promoting general practice. The eventual intention was to merge physician primary health care, which was provided by internists for adults, paediatricians for children and gynaecologists for women's reproductive health. In some rural areas, several FAPs, SVAs and an SUB have formed territorial medical centres or primary care centres. In urban areas, some FGPs have been set up, comprising groups of physicians (internists, obstetricians/gynaecologists and paediatricians) and located in facilities either separate from or within polyclinics. In 1997, there were 172 family medical centres in rural areas and 87 in urban areas (UNDP 1997). The regulatory framework was later changed to establish mixed polyclinics as the basic model of primary care, although FGPs are also accepted and expected to be the long-term primary health care model.

The Government resolution No. 1304 on Methods to Improve Primary Health Care for the Population of the Republic of Kazakhstan, which was adopted

on 28 December 2005, envisages the staged introduction of general practice throughout the country.

As mentioned earlier, the delivery of primary care differs in urban and rural areas. In urban areas, primary care is provided by FGPs, mixed polyclinics and specialized polyclinics, and secondary care is delivered by polyclinics. In rural areas, primary care is provided by FAPs and SVAs, and primary and basic secondary care by SUBs.

Urban areas

Urban polyclinics provide both primary and secondary ambulatory care. They are either stand-alone clinics or attached to hospitals. City polyclinics are large medical facilities with approximately 10–20 types of professionals and diagnostic and laboratory services. There are three kinds of polyclinics: for adults, children and reproductive health services for women. Many families therefore must visit different polyclinics in different locations. Primary care physicians based at polyclinics (mainly internists, paediatricians and gynaecologists) cover a geographic catchment area of 1500–1800 patients. In the Soviet period, patients registered with the doctor who covered their home address.

Although there are still many specialized polyclinics, mixed polyclinics (in the sense of serving a mixed population of adults, women, and children) are encouraged, and in some cities there are significant numbers of mixed polyclinics. The number of GPs and FGPs has also significantly increased in recent years (Table 6.2).

Rural areas

In 2006, there were 6941 rural settlements covering a population of 7.78 million people. Primary health care in these settlements was provided by 4782 health

Table 6.2 Primary health care institutions, 2004–2006

	2004	2005	2006
Number of family group practices	120	155	210
Number of GPs	639	730	991

Source: Ministry of Health, personal communication, 2006.

Note: GP: general practitioner.

centres staffed with feldshers, medical assistants and/or midwives, 1282 family practice clinics, 231 SUBs and 179 CRBs.

In the Soviet period, the FAP was the first point of contact for the rural population with health professionals. These posts were usually small centres with a few rooms and one, two or three staff: feldsher, midwife and nurse. The staff provided simple curative care, antenatal and postnatal care (deliveries were referred to the nearest hospital), undertook basic disease prevention activities such as immunization and health education, and dispensed medication prescribed by doctors. Doctors visited these posts regularly from the nearest SVA, polyclinic or CRB. The FAPs served populations of approximately 700–1000 people. This system is now in a very poor state. Many FAPs are in poor condition, lack even basic equipment or medication, and not all posts are fully staffed. Many have no running water, power or sanitation. The number of FAPs declined in the mid-1990s, but in recent years, many FPs and FAPs have been restored (Ministry of Health 2004).

Since 2006, the Ministry of Health introduced a new type of rural health institution based on the FAPs: medical posts. Medical posts are larger than FAPs and encompass a wider range of services.

SVAs in rural areas usually consist of an internist, a paediatrician, a nurse and a midwife, and sometimes a surgeon and dentist, who provide ambulatory care. They are accountable to *rayon* health administrations. Physicians working in these clinics visit and receive referrals from the FPs and provide basic primary health care. Table 6.3 gives details of the numbers of these different types of facilities that were operational in 2005–2006.

Rural primary care issues

The provision of high-quality health care in rural areas is one of the main challenges facing the Kazakh health system. Rural health care has suffered disproportionately from severe budget cuts in the transition years. Furthermore,

Table 6.3 Rural primary health care facilities, 2005–2006

	2005	2006
Number of FAPs	1 287	1 013
Number of FPs	2 738	1 813
Number of medical posts	0	1 229
Number of rural nurses and/or feldshers without buildings	804	611

Source: Ministry of Health, personal communication, 2006.

Notes: FAP: feldsher-midwifery post; FP: feldsher post.

with the dissolution of many state collective farms and enterprises, rural health services (including SUBs) can no longer count on their support, including contributions in kind, such as food and building maintenance, which in the past were considerable (Ensor & Savelyeva 1998). Until recently, some rural facilities were not supplied at all with pharmaceuticals and levels of maintenance and repair of medical equipment were poor.

Other problems related to access to health services in rural Kazakhstan are the lack of public and private transport between dispersed villages and the central town of the district, and the shortage of physicians in rural areas which is worsening due to a combination of low salaries and physicians retiring and not being replaced. In 1999, over 1200 villages and small settlements did not have resident health care facilities. The Decree on Measures for Improving Primary Health Care for the Rural Population of 26 April 1999 established minimum standards for the public provision of rural health services. By 2002, the provision of primary health care had been expanded to encompass the whole population (Ministry of Health 2002). Following the recommendations of this law, 88 rural districts of 8 *oblasts* established health care departments.

Many primary health care facilities are located in buildings that do not satisfy sanitary and hygiene requirements, a figure that exceeded 70% in rural areas in 2004. In the same year, less than 50% of primary health care facilities were equipped with modern medical equipment and means of transportation, and only 36% of primary health care facilities in rural areas had telephone lines installed. In addition, 447 health facilities located in seismic areas of the country did not comply with building regulations and required reinforcement or demolition (Ministry of Health 2004).

Rural health care has suffered from understaffing and ageing of health personnel. Unless a serious revision in the remuneration package is carried out with the aim of attracting and retaining young health specialists, the situation with health staff is likely to continue to worsen.

6.3 Secondary/inpatient care

Secondary and tertiary care facilities can be divided into the types listed here.

Polyclinics are stand-alone facilities or are located in hospitals as outpatient departments and offer both primary care and secondary care through a range of specialists. City polyclinics have their own manager and usually their own staff, separate from the hospital system. Most polyclinics are in the public sector and many have beds that can be used for day hospital visits or longer admissions.

The number of polyclinics was reduced in the 1990s, partly due to hospital closures but also due to primary care being moved out of polyclinics.

Small rural village hospitals (SUBs) with approximately 20–25 beds were used for simple emergency care, basic secondary care and maternity care. They formed the inpatient base for the rural health care system and also provided outpatient care. Many of these buildings have deteriorated badly and have little equipment and few pharmaceuticals. Between 1991 and 1997, the number of SUBs decreased from 830 to 208 (Kulzhanov & Healy 1999). These closures have reduced the access of the rural population to health care.

Central rayon hospitals (CRBs) are located in the largest town of the *rayon* and have approximately 100–300 beds. They are staffed by a range of specialists and many also house a polyclinic.

Oblast/city hospitals (regional and urban hospitals) have approximately 600–1000 beds and offer a wider range of specialty services and more advanced technology. These are usually located in the main town in the *oblast*.

Specialized hospitals are very numerous, since many disease categories and population groups are treated in separate hospitals, including children's hospitals, cardiology, TB, psychiatric hospitals, neurology, oncology, skin-venereal dispensaries and maternity hospitals.

National (republican) hospitals and research institutes provide tertiary care, conduct research, coordinate relevant vertical programmes and serve as clinical bases for students of medical institutes and postgraduate trainees. They are mostly located in Almaty, although their numbers are increasing in the capital of Astana, and include research institutes for cancer, obstetrics and gynaecology, paediatrics, psychiatry and TB. Six new medical centres are being built in Astana at the time of writing (Government of Kazakhstan 2007a).

Secondary care issues

The standard of care in many hospitals is poor given their poor state of repair and lack of essential medical supplies such as antiseptics. With the exception of republican facilities, inpatient care has not been standardized and the quality control system is inadequate (Ministry of Health 2004).

As noted previously (see Chapter 5), the average length of inpatient stay in Kazakhstan has been reduced since 1991, but remains significantly higher than in western European countries. According to WHO recommendations, the vast majority of diseases/conditions of five-year-olds can be treated in outpatient facilities. However, in Kazakhstan, approximately 60% of children in this age group are referred to inpatient facilities. So far, only a small number of pilot areas apply integrated paediatric case management methods with the aim of

reducing hospitalizations (Ministry of Health 2004). An assessment of hospital care for children in Kazakhstan, the Republic of Moldova and the Russian Federation in 2002 concluded that unnecessary and lengthy hospital stays were common and that most children received excessive and ineffective treatment (Duke, Keshishiyan et al. 2006). In Kazakhstan, there are more than 200 decrees related to child health, which result in widely varying practices rather than standardization of care. In addition, many of these decrees are outdated and do not correspond to international standards (Duke, Keshishiyan et al. 2006).

There are several reasons for the high rates of hospitalization. One of the main reasons is that many patients cannot afford pharmaceuticals at the outpatient level (Ministry of Health 2004). Another reason for high rates of hospitalization is the existence of outdated treatment protocols, which require longer stays in hospitals than in many western European countries, such as for maternity or TB patients. Finally, the poor quality of primary care services is another incentive to seek hospital care.

The National Programme of Health Care Reform and Development for 2005–2010 envisages a number of measures to improve inpatient services (Ministry of Health 2004), including:

- upgrading of physician and nursing staff;
- material and technical improvements of health facilities;
- specifying the guaranteed benefits package for inpatient care;
- standardizing health services by introducing evidence-based diagnosis and treatment protocols.

The programme also envisages the development of telemedicine and the use of aviation to improve health services in remote and inaccessible areas (Ministry of Health 2004).

6.4 Emergency care

Emergency posts provide a 24-hour on-call service in stand-alone or hospital-based ambulance stations. The staff team consists of physicians, feldshers and nurses, with specialist backup professionals, such as cardiologists. Patients call an emergency telephone number and a physician attends, except in simple cases, and decides whether the patient can be treated at home, taken to a polyclinic or to a hospital. Post-treatment information is sent to the patient's primary care physician. The emergency posts have insufficient or poorly maintained ambulances, sometimes lack petrol to get people to hospitals, and also lack medicine and equipment. In an emergency, patients may have to be transported

some distance since not all hospitals provide emergency care, or else they have different emergency duty schedules.

Efforts are being undertaken at the time of writing to modernize emergency services in Kazakhstan. In Almaty, emergency services have been equipped with new IT and computerized dispatchers, based on the Specialized Medical Information System for Emergency Care (“MISS-Emergency”) software developed in the Russian Federation. This upgrading has resulted in a reduction of 4–5 times the duration of call times (reduced to less than one minute on average), an increase in the number of calls answered and an overall improvement in the quality of emergency services. At the time of writing, a unified information network for all health care facilities is envisaged to be established in Almaty.

6.5 Pharmaceutical care

At present, Kazakhstan is heavily dependent on imports of pharmaceuticals. The State has relatively weak regulatory and control functions over the quality of imported pharmaceuticals and medical equipment. This results in the purchase of overpriced equipment and the use of low-quality pharmaceuticals or equipment (Ministry of Health 2004). The monitoring of side-effects, quality control, pharmaceutical utilization, prices and accessibility is inadequate (Ministry of Health 2004). There are also increasing problems of drug falsification and aggressive advertising of pharmaceuticals. There is no state control over the availability of prescribed pharmaceuticals and domestic producers do not meet international manufacturing standards (Ministry of Health 2004). It is estimated that about half of all pharmaceuticals are imported illegally.

In recent years, a Concept of Drug Policy was approved and a vertical structure for state regulation of the pharmaceutical sector restored, in the form of a newly established Committee on Pharmacy and Pharmaceutical and Medical Industry and its territorial divisions.

Manufacturing and distribution

There was considerable disruption in supplies after independence in 1991, but these shortages have now been overcome. Between 1992 and 1994, a pharmaceutical market was established in Kazakhstan, accompanied by the liberalization of prices. Private pharmaceutical businesses were legalized between 1995 and 1999. The pharmaceutical distribution industry has mostly been privatized and the state company, Pharmacia, broken up. The annual

turnover of the pharmaceutical market is approximately US\$ 300 million. Price limits for pharmaceuticals have only recently been introduced.

Since 2000, the Government has actively promoted the development of the pharmaceutical market and Kazakhstan has now become one of the most dynamic pharmaceutical markets in the former Soviet Union. This development is driven by the high speed of economic development, value-added tax (VAT) exemption for pharmaceuticals and a low political risk for investors.

In recent years, the distribution system for pharmaceutical and medical products has been revised. It has been decentralized and shifted to a system based on contracting.

The main actors in the pharmaceutical market are the Ministry of Health, the Committee on Pharmacy and Pharmaceutical and Medical Industry with its 16 territorial divisions, the National Centre of Pharmaceutical Expertise with its 15 territorial divisions, 28 bodies for the certification of pharmaceuticals, pharmaceutical companies, pharmacies, public and private health facilities, and the population.

With regard to pharmaceutical care, several regulatory agencies are in place (Katsaga & Zuez 2006, unpublished). The Ministry of Health has the following responsibilities:

- setting out the national drug policy;
- approving the essential drugs list;
- pursuing sectoral and intersectoral coordination in the area of pharmaceutical provision;
- approving a list of conditions and individual population categories for which pharmaceuticals are provided free of charge or on an exemption basis at outpatient level;
- approving standards for pharmaceutical activity, including pharmaceutical education;
- approving state pharmacopoeia and the state registry of pharmaceuticals.

The Committee on Pharmacy and Pharmaceutical and Medical Industry under the Ministry of Health is responsible for:

- implementing national policy on the distribution of pharmaceuticals;
- executing state registration, re-registration and withdrawal of decisions on state registration of pharmaceuticals, and granting permission for use of pharmaceuticals in medical practice;
- executing control and surveillance of the pharmaceutical activity of legal and physical entities in the field of pharmaceuticals distribution;

- granting licences for types of activity subject to licensing, and executing state control of the observance of legislation by licence holders;
- granting permission for advertisement of pharmaceuticals;
- coordinating the import and export of pharmaceuticals, medical equipment and medical supplies;
- overseeing international cooperation in the field of distribution of pharmaceuticals.

The National Centre on Expertise on Drugs, Medical Supplies and Medical Equipment under the Ministry of Health has the following responsibilities:

- certification of pharmaceuticals;
- control of quality and bioequivalence of pharmaceuticals;
- keeping records of side-effects.

The Committee on Control of Drug Trade and Trafficking under the Ministry of Interior is responsible for:

- implementation of state policy on drug trade and trafficking;
- licensing of activities related to narcotic drugs;
- coordinating the control of the illegal use of narcotic drugs, psychotropic substances and precursors;
- identifying the needs of Kazakhstan in terms of narcotic drugs for approval by the International Committee on Drugs Control.

In 2005, approximately 80 representative offices of pharmaceutical companies were located in Kazakhstan, with more than 350 distributors, and among them such companies as “Medservice plus”, “Stopharm”, “Amity International”, “Komba”, “Alpharma”, “Inkar”, “MT-pharm”, each providing more than 3000 pharmaceutical products.

A number of NGOs have been established in the pharmaceutical sector, representing professional and business interests of foreign and domestic pharmaceutical producers and other actors involved in Kazakhstan’s pharmaceutical market. These include the Association of Representatives of Foreign Pharmaceutical Companies in Kazakhstan, with 38 members; the association of pharmaceutical and medical producers “Medpharm Kazakhstan”, representing 39 companies; the Association for Support and Development of Pharmaceutical Activity which consists of 205 companies and has territorial branches; and the Association of Importers of Pharmaceutical Products that involves distributors.

In 2005, there were 8426 pharmacy organizations, including 3800 pharmacies, 1401 pharmacy posts, 1683 pharmacy kiosks and 591 pharmaceutical warehouses. The distribution and sale of pharmaceuticals have been largely

privatized and the share of the state sector was reduced to 4.2% in 2006 (Ministry of Health 2007b). There is a higher density of pharmacies in urban areas (Table 6.4). In 2006, the ratio of retail pharmacies per 10 000 population was 6.8 in urban areas and 3.6 in rural areas (Ministry of Health 2007b). The highest ratio of pharmacies, at 10.5 per 10 000 population, was recorded in Almaty city and the lowest, at 2.3 per 10 000 population, in rural *rayons* of Pavlodar *oblast*.

At the beginning of the 1990s, the domestic pharmaceutical industry in Kazakhstan only consisted of a limited number of enterprises producing a small number of pharmaceuticals. The share of domestic pharmaceuticals accounted for 2% in 1997 and 4% in 1998. In 2001, domestic pharmaceutical production only covered 6% of the annual domestic consumption, which amounted to US\$ 300 million (Ministry of Health 2002).

As is the case in neighbouring Uzbekistan (Ahmedov, Azimov et al. 2007), Kazakhstan is promoting the development of domestic pharmaceutical production. The Law on State Procurement, adopted in May 2002, contains provisions whereby domestic producers and small businesses receive preferential treatment during the procurement process. In line with this legislation, the share of domestic pharmaceuticals and medical products in the total amount purchased

Table 6.4 Retail pharmacy network (pharmacies, pharmacy posts, and kiosks), January 2005

Oblast	Absolute number			Ratio per 10 000 population		
	Total	Urban	Rural	Total	Urban	Rural
Akmola	442	194	248	6.20	10.70	4.40
Aktobe	336	274	62	5.00	7.40	2.00
Almaty	616	273	343	3.95	8.06	2.82
Atyrau	248	156	92	5.30	5.40	4.80
East-Kazakhstan	949	534	415	7.60	7.98	7.01
Zhambyl	423	279	144	4.00	6.00	3.00
West-Kazakhstan	223	133	90	7.80	5.50	2.30
Karaganda	688	570	118	5.20	5.10	5.50
Kostanai	452	303	149	4.98	6.07	3.65
Kyzyl-Orda	226	140	86	3.36	3.29	3.46
Mangistau	149	128	21	4.57	5.30	2.40
Pavlodar	338	292	46	4.54	6.00	1.78
North-Kazakhstan	419	149	270	6.30	6.10	6.40
South-Kazakhstan	689	344	345	3.09	6.08	2.12
Almaty city	1096	1096	–	9.00	9.00	–
Astana	324	324	–	5.40	5.40	–
Total	7 618	5 189	2 429	5.39	6.46	3.22

Source: Collected articles of the National Agency of Statistics, from the year 2005.

by the state health sector is expected to increase to 25%, which will involve a significant increase in domestic production.

In 2005 there were 115 domestic pharmaceutical producers, including “Chimpharm” (with an annual turnover of KZT 2.5 billion) which is exporting its products to other former Soviet republics and western Europe. By the end of 2005, 6918 pharmaceutical products from 873 producers of 59 countries had been registered in Kazakhstan. Most of the imports from CIS countries came from the Russian Federation. The share of pharmaceutical products produced in Kazakhstan in the overall list was 19.4%. However, in terms of the value of pharmaceutical products, Kazakhstan continues to rely heavily on imports from abroad, which covered 94% of consumed pharmaceuticals in 2005. The development of a domestic pharmaceutical industry is constrained by the lack of modern technologies satisfying the WHO Good Manufacturing Practices (GMP) standards. A number of external agencies are currently working with pharmaceutical producers in Kazakhstan on the introduction of western technologies. These agencies include the German development agency GTZ, the EU Technical Aid for CIS (TACIS) programme, USAID and WHO.

Rational drug use

Under the Soviet health care system, pharmaceuticals were freely available and their use was encouraged. There was a very long list of registered pharmaceuticals, but many were not identifiable under international categories. In the course of the 1990s, all countries in central Asia drew up essential drug lists, as recommended by WHO. In Kazakhstan, an approved list of essential pharmaceuticals was drawn up in 1995 by the Committee of Health, based on WHO categories. In 1998, this list included 290 items. The most recent essential drug list following WHO recommendations was approved by the Ministry of Health in December 2004. With the exception of the essential drugs list, however, there is no state regulation of the pharmaceuticals that can be imported and sold, and therefore a great variety of pharmaceuticals are available.

Access to pharmaceuticals

The privatization of the pharmaceutical market, the liberalization of prices, and the lack of mark-up limits and price regulation mechanisms have led to steep increases in the prices of pharmaceuticals and many of them are not affordable to large numbers of the population. The reform of the pharmaceutical sector has resulted in deteriorating access to pharmaceuticals, in particular for vulnerable groups of the population (Ministry of Health 2004). Many patients must purchase their own pharmaceuticals even when staying in hospital, although

the official policy is that these should be supplied by the hospital. A survey of prices and availability of 85 medications in 21 pharmacies in Karaganda city in 2000–2001 found a reasonable availability of pharmaceuticals. However, prices varied widely across pharmacies, and pharmaceutical prices were generally higher when compared to international prices from the International Drug Price Indicator Guide (Hafner, Nurghozin et al. 2002). In the meantime, a new pharmaceutical policy has been adopted that regulates the prices of pharmaceuticals and provides outpatients with benefits for a specified list of pharmaceuticals, so that they can purchase these pharmaceuticals cheaper than was previously the case.

An issue of concern is the availability of antibiotics. Like in many other countries of the former Soviet Union, it is common practice for these to be sold freely to the public. While in Kazakhstan, Decree No. 118 of the Committee of Health of 5 March 1999 prohibits the sale of antibiotics without prescription, in practice, this Decree does not seem to be comprehensively enforced. This easy availability of antibiotics is problematic, as it contributes to the spread of antibiotic resistance (Hafner, Nurghozin et al. 2002).

6.6 Rehabilitation and long-term care

Long-term care was poorly developed in the former Soviet countries, including Kazakhstan, since much nonmedical care was administered in hospitals or was the responsibility of families. Health sector policy in most European countries aims to shift non-acute care previously provided in hospitals to community-based care. This can be provided in nursing or residential homes, in day centres, or by domiciliary services (such as meals or nursing) taken to a person's own home. Since long-term care is not well developed in Kazakhstan, many patients are cared for in hospitals, and also stay longer because community-based services are not available. The closure of many SUBs means that families will have to care for people who previously were cared for in hospitals.

Long-term care in Kazakhstan is provided by the Ministry of Health, the Ministry of Labour and Social Protection, the Ministry of Education, as well as by NGOs and public associations. The legislative basis for long-term care in Kazakhstan is constituted by the Law on Social Protection of Handicapped and Disabled of 21 June 1991, the Law on Health Protection of 19 May 1997, and the Law on Social, Medical, and Pedagogical Support for Children with Limited Capabilities of 11 July 2002. Article 15 of the Law on Health Protection defines medical and social care as falling within the remits of the health services provided to the population. The law stipulates that:

Medical and social care includes systematic measures aimed at the creation and development of a network of medical and social organizations, the provision of benefits for housing and living conditions, health promotion activities by employers, and the provision of adequate nutrition and working conditions.

Article 16 of the same Law provides that medical and social care for citizens suffering from “socially significant and hazardous diseases” is provided free of charge or with benefits.

A list of “socially significant and hazardous diseases” has been defined by Government Resolution No. 468 of 30 March 2000. The list identifies diseases in the following disease categories as “socially significant”: oncology, oncohaematology, psychiatric diseases, narcological diseases, diabetes (sugar and non-sugar), rheumatism, lupus erythematosus, localized conjunctive tissue diseases, Bekhterev disease, cerebral spastic infantile paralysis, inherited degenerative diseases of the nerves and muscles, demyelinating nervous system disease, epilepsy, chronic hypocorticism, Addison’s disease, mucoviscidosis, phenylketonuria, psoriasis, weeping eczema, inborn ichthyosis, rachitis, iron deficiency anaemia, bronchial asthma, myocardial infarction (first six months), and conditions after surgery on vital organs. The list of “hazardous diseases” includes TB, psychiatric and venereal diseases, leprosy, HIV/AIDS, and quarantine infections. Patients who fall in either of these categories are eligible for free-of-charge outpatient pharmaceuticals. Infants up to one year of age who are on mixed or artificial feeding, and children up to three years of age who have special nutritional needs are eligible for paediatric and therapeutic nutrition products.

Kazakhstan has some residential homes for older people run by *oblast* administrations, but few nursing homes. The voluntary sector (NGOs) grew during the 1990s but is not very active in social care, which is seen as the responsibility of families. The long-term mentally ill are cared for in *oblast* psychiatric hospitals.

According to the Law on Health Protection, disabled people have the right to free-of-charge or subsidized provision of modern prosthetic and orthopaedic products and shoes. Resolution No. 88-P of the Ministry of Labour and Social Protection of 2 April 1998 identified the categories of the population eligible for pharmaceuticals free of charge, along with prosthetic and orthopaedic products and hearing aids.

There are currently three prosthetic and orthopaedic centres in the country, located in Almaty, Petropavlosk and Semiplarinsk, and they are financed through the national budget. They provided services to 16 000 people in 2004. A study of the needs of people with disabilities, however, revealed that more than

94 000 people with hearing problems were in need of hearing aids and more than 18 000 people with impaired vision were without vision aids. The provision of mobility aids is financed from local budgets. In 2002, 1798 wheelchairs were purchased, which seems to fall far short of the need.

In July 2003, there were 409 000 people registered as disabled, which was approximately 3% of the population. About one third of the people with disabilities belonged to the working-age population. Although the number of new disability cases per 100 000 population declined from a peak of 170.3 in 1992 to 65.5 in 2005 (WHO Regional Office for Europe 2007), the total number of disabled children remains high, at 471 per 100 000 in 2003.

Care of children with learning disabilities is the responsibility of the Ministry of Education. Children with physical or mental disabilities are often confined to specialized facilities and much of the legislative basis remains declaratory and without financial support by the State. In 2004, there were 75 medical boarding schools with a total of 17 000 children, and 103 correctional schools with a total of 19 000 children. Home-based education was provided for 3448 children with disabilities. First steps towards inclusive education are currently being undertaken in kindergartens and elementary schools in the cities of Semipalatinsk and Karaganda. At 1776 children per 100 000 population aged 0–17, however, Kazakhstan still had a very high rate of children in residential care in 2005 (UNICEF 2007).

The National Research and Practice Centre of Social Adaptation and Professional Rehabilitation of Children and Adolescents with Developmental Deficiencies (Centre SATR) has been working for over 13 years on the provision of medical and social aid to children with developmental deficiencies.

In many *oblasts*, NGOs provide assistance to parents of children with special needs, in collaboration with teachers, health professionals and psychologists. In 2004, there were approximately 38 NGOs working with disabled children. These included Special Olympics Kazakhstan, the Association of Parents of Children with Disabilities (ARDI), the support centre for deaf children “Umit”, the centre for social integration “Kenes” and the “Ak-Bota” League of Guardianship over Children with Developmental Deficiencies.

There are also a number of public associations of people with disabilities, such as the Kazakh Society of the Deaf, the Kazakh Society of the Blind, the Society of People Disabled in the Afghan War, the association of disabled women “Shirak”, the society of disabled women having children “Bibi-Ana”, the association of disabled people with higher education “Namys” and the Asian society for the rights of the disabled “Zhan”.

6.7 Palliative care

Palliative care has been defined as care that aims to relieve pain and suffering and to improve the quality of life of patients facing life-threatening illness and that of their families (WHO 2007a). There is no systematic approach and/or national policy on palliative care in Kazakhstan, and there is hardly any information available on palliative care services, or any projects on palliative care in Kazakhstan (EOLC-Observatory 2002). In 2005 there were five hospices, two home palliative care teams (at hospices in Pavlodar and Almaty) and five day centres in Kazakhstan (EOLC-Observatory 2007). As mentioned earlier, hospitals, TB centres and oncological dispensaries are expected to provide treatment for HIV/AIDS and opportunistic diseases, and palliative care for terminal cases (WHO 2005b). Some TB programme managers are lobbying to achieve the setting up of special hospices for patients with severe forms of TB, such as chronic forms of TB and MDR TB.

6.8 Mental health care

At the WHO European Ministerial Conference on Mental Health, held in Helsinki in January 2005, the Mental Health Declaration for Europe and the Mental Health Action Plan for Europe were signed and endorsed on behalf of ministers of health of the 52 Member States in the WHO European Region, including Kazakhstan. These documents give impetus to the development of mental health care in the WHO European Region. Among the priorities identified by the action plan is to “design and implement comprehensive, integrated and efficient mental health systems that cover promotion, prevention, treatment and rehabilitation, care and recovery” (WHO 2005a).

Kazakhstan formally guarantees access to a wide range of services, including “consultation and diagnosis, treatment, preventive mental health care and rehabilitation under out- and inpatient conditions” (Appelbaum 1998). With the aim of reintegrating mentally ill people into productive employment, Kazakh law requires the State to establish “special production units, shops or sections with easier working conditions for labour therapy, vocational training, and employment for persons suffering from mental disorders” (Appelbaum 1998), along with mandatory quotas for employment of mentally ill people (Appelbaum 1998). These legal provisions, however, have not been put into action comprehensively.

Psychiatric diseases have been included in the list of “hazardous diseases” defined by Government Resolution No. 468 of 30 March 2000 and mental

health patients are eligible for free-of-charge outpatient pharmaceuticals. As mentioned earlier, children with physical or mental disabilities are often confined to specialized facilities and much of the legislative basis remains declaratory and without financial support by the State.

6.9 Dental health care

As mentioned earlier, much like in the rest of the former Soviet Union, most dental care in Kazakhstan is now provided in the private sector. In 2004, there were approximately 3000 dental clinics in Kazakhstan, 95% of which were privately owned and 5% were government owned. The largest and best-equipped dental clinics are located in Almaty and Astana, including the government-owned republican facilities, and some privately owned clinics (Daris TTE, Denta Lux, and BAVI). Major domestic oil and gas companies also have their own dental centres, most of which provide a full range of dental services and possess relatively sophisticated equipment (Commercecan 2004). However, data on the access of the general population to dental health care or on the prevalence of decayed, missing and filled teeth at age 12 (DMFT-12 index) are not available.

Kazakhstan's Government requires that all dental products imported into the country are registered with the Ministry of Health. After registration, the products are entered into the state register of medicines of the Republic of Kazakhstan ("List of Medical Products, Registered and Permitted for Medical Use in the Territory of Republic of Kazakhstan"). The registration is valid for 3–5 years depending on the type of product, after which the product must undergo a re-registration process (Commercecan 2004).

Total imports of dental equipment and supplies to Kazakhstan reached an estimated US\$ 8 million in 2004. Local production is limited and mostly consists of locally produced dental cements and fillings. The quality of domestically produced laboratory products is regarded as poor and all sophisticated equipment, instruments and supplies are imported (Commercecan 2004).

A professional union of dentists, the Kazakhstan Dental Association, was founded in 1991 with the aim of representing and protecting the professional interests of dentists. The Association includes associations of surgeons, dentists, pharmaceutical chemists and others. It collaborates with similar organizations abroad and became a member of the World Dental Federation in 1997. The Kazakhstan Dental Association has its head office in Almaty and regional branches in all *oblasts*. It has organized several international conferences, including a conference on dental care in rural areas in 2001, an International

Research Forum Kazakhstan Dentistry in 2002, the Kazakh International Dental Exhibition (KIDE) in 2002, and the International Dental Exhibition and Scientific Conference, KIDE 2006, in Almaty.

6.10 Alternative/complementary medicine

Alternative/complementary medicine was formally recognized as a specialization in the Soviet Union in 1977 and is permitted as part of medical rehabilitation. After Kazakhstan gained its independence in 1991, practice of various complementary therapies has grown rapidly there, including Korean medicine in its many forms. Apart from the most traditional treatment practised at the Korean-Kazakh clinic in Almaty, two other newly invented modifications of Korean medicine are *soo-jok* and *soo-ji* (Penkala-Gawecka 2002). A conference on “Electromagnetic Fields and Human Health” took place in Almaty from 4 to 12 September 2003.

The growing popularity of alternative/complementary medicine in Kazakhstan is the result of the generally supportive attitude of government authorities to complementary medicine, the drastic deterioration of the state health care system, and the extremely difficult economic conditions which have made people search for cheaper treatment (Penkala-Gawecka 2002).

7 Principal health care reforms

As mentioned earlier, Kazakhstan commenced some reform activities before independence from the Soviet Union at five health reform demonstration sites under the Soviet-wide NEM programme in 1989. These projects were cancelled in 1990 and health care reforms were delayed in Kazakhstan until the mid-1990s. Given the severe economic crisis resulting from the dissolution of the USSR in 1991, the reform of the economy received priority. The human development agenda was only prioritized once the main economic reforms had been implemented.

Health care reforms in Kazakhstan were driven by several factors: the deteriorating health of the population; a collapsing health care budget and increasing out-of-pocket payments by users; the overemphasis on hospital care; and a dissatisfied public. The reforms have also been driven by external donors and agencies. Health reforms often lacked leadership and continuity. The reform process was also characterized by considerable fragmentation, since implementation at *oblast* level was extremely varied, and also because many projects were conducted at *oblast* level without the benefit of any national policy coordination.

Private practice was permitted from 1991 onwards. Although many dentists and pharmacists have moved into private profit-making practice, only a small proportion of physicians have done so.

A Ministry of Health document in 1992, *The Concept of Health Care Reform*, called for the following reforms:

- establishment of a health insurance scheme
- decentralization of administration
- reduction of hospital beds
- priority for primary health care

- the right to private practice for health care professionals
- the patient's right to choose a doctor
- improved training for health care professionals.

However, major health reforms have only been pursued since the second half of the 1990s. Between 1995 and 1999, health system strengthening in Kazakhstan was largely characterized by the introduction and then cancellation of health insurance, as well as by health reforms in pilot *oblasts*. The primary pilot *oblasts* were Zhezkazgan and Semipalatinsk *oblasts* which encompassed some of the most profound health reforms in central Asia until these *oblasts* were merged in 1998 into Karaganda and East Kazakhstan *oblasts*, respectively. Over time, Karaganda *oblast* incorporated and expanded the Zhezkasgan *oblast* health reforms and became the leading pilot *oblast* in Kazakhstan. East Kazakhstan was less welcoming of the Semipalatinsk *oblast* reforms, although some aspects were incorporated and Semipalatinsk city worked hard to maintain the primary health care reforms. In 1999–2000, an attempt was made to expand to national level the health reforms piloted in Zhezhgaskan and Semipalatinsk *oblasts*. Although some success was achieved, in general the attempt was too rapid and without sufficient foundation in terms of its legal, technical, capacity and advocacy aspects. This led to a radical swing of the health policy pendulum, typical of the Kazakh environment, and a roll-back of many of the health reforms, particularly in primary health care.

The President's 1997 message *Kazakhstan 2030* set out a broad social policy agenda (President of Kazakhstan 1997), including health policy aims such as the development of a healthy lifestyle and other areas of health promotion and disease prevention. The Government set up the National Centre for Healthy Lifestyles and has endorsed National Healthy Lifestyle Programmes since December 1998.

The May 1998 Presidential Decree (No. 3956) *The Health of the Nation* (President of Kazakhstan 1998) comprised an extensive overview of health issues for the country, priorities for change, and ways of achieving these goals by the year 2008. Strategies and more than 20 quantifiable goals were set across a large number of population health areas, although in broad rather than specific terms.

A Mandatory Health Insurance Fund was introduced in 1996, but abandoned again in 1998. The Fund incurred large deficits, since payroll tax-based contributions amounted to much less than expected, *oblast* administrations did not transfer payments for socially vulnerable groups, and the Fund defaulted on contracts with health care providers. Following the Russian economic crisis in 1998, social benefits for all groups of the population were abolished, a strict financing scheme was reintroduced according to state budgets, and

extrabudgetary funds such as the Mandatory Health Insurance Fund were discontinued. Since 1999, the national budget has become the single public source of health care financing.

Between 2001 and 2004, the environment was not supportive of further health reform. The rolled-back primary health care reform and decentralization of funding to the *rayon* level seriously hampered health reform. It was the Government of Kazakhstan itself and the newly established Ministry of Economy and Budget Planning that triggered a new phase of health reform. The Government planned to increase the health budget substantially and pressured the health sector to reform itself in order to more efficiently invest the increased budget. The National Programme of Health Care Reform in the Republic of Kazakhstan for 2005–2010 was developed in 2004.

7.1 Ongoing and future reforms

The National Programme of Health Care Reform and Development for 2005–2010 was adopted by Presidential Decree on 13 September 2004. The programme has been developed as part of the broader development strategy “Towards a competitive Kazakhstan, a competitive economy and a competitive nation”, adopted by the Government on 19 March 2004, and has been confirmed in the government programme for 2006–2008 (Government of Kazakhstan 2007b).

Contrary to a number of earlier attempts to develop a broad health sector strategy or plan, an extensive and participatory process characterized the development of the national programme. A number of working groups were established and enough time was allowed for intensive policy dialogue and development. Donor representatives from WHO, USAID, World Bank, UNICEF and other international organizations participated actively. An open review process was used with separate review meetings for donors, NGOs and educational institutions. The programme significantly contributed to stabilizing health reform in Kazakhstan. It is a comprehensive document covering all the main components of the health system.

The programme includes a critical discussion of the current status of population health and the health care system, along with a proposal for phased implementation, and identifies sources of funding. The overall objective of the National Programme on Health Care Reform and Development for 2005–2010 is the creation of an effective health care delivery system based on the principles of solidarity and individuals assuming responsibility for health protection, and on the development of primary health care. The national programme

envisages the development of primary care services based on the model of general practice and the development of general profile hospitals at the level of secondary services.

After the national programme was adopted, *oblast* and city programmes of health system development and reform were subsequently developed for all *oblasts* (16 programmes in total). These programmes were approved by the heads of local government authorities, coordinated with the Ministry of Health and duplicate almost entirely the priorities and political directions of the national programme.

The national programme aims to improve access to and quality of health services, and to make them more socially oriented and efficient. The National Programme of Health Care Reform and Development identified the following priority tasks:

- a shift towards primary health care and from inpatient to outpatient care;
- achievement of international standards, and use of new technologies, advanced treatment methods and medical services;
- strengthening of maternal and child health;
- creating a system of independent expertise based on independent experts;
- training of health professionals and health managers;
- prevention, diagnosis and treatment of “socially significant diseases”;
- improving buildings and equipment of health facilities.

Health sector financing will be based on the single-payer principle. The Ministry of Health will have increased functions and powers, in particular in financial matters. A new entity within the Ministry of Health will be established to manage and distribute resources and to purchase health services from providers.

The major tasks of the National Programme on Health Care Reform and Development for 2005–2010 were set out as follows:

- defining the joint responsibility of State and population for health protection;
- creating a new health management system supported by an integrated health information system;
- strengthening maternal and child health;
- reducing the incidence of diseases that take a large toll on society;
- reforming the medical education system.

Implementation is envisaged in two stages. In the first stage (2005–2007), the following main activities were envisaged:

- defining the joint responsibility of State and population for health protection;
- setting up minimum standards for the state-guaranteed benefits package;
- promoting healthy lifestyles;
- shifting the focus from inpatient to primary health care;
- separating primary health care from inpatient services, both financially and administratively;
- strengthening the structural and technical foundations of health facilities, primarily primary health care facilities;
- rationalizing inpatient and emergency care services;
- strengthening maternal and child health;
- strengthening preventive, diagnostic, treatment and rehabilitation measures related to diseases that take a large toll on society;
- establishing a system of independent medical audit to improve the quality of health services;
- introducing competition between health facilities;
- training health managers and improving health resource management;
- improving the quality of training and retraining systems for medical and pharmaceutical staff, taking account of the needs of the new primary health care system;
- improving the legal and regulatory framework of the health system;
- improving the health system so that it meets international standards;
- developing and implementing modern IT.

For the second stage (2008–2010), implementation of the following main activities is envisaged:

- transforming primary health care through the systematic and phased strengthening of general practice;
- reorganizing and strengthening inpatient and emergency care and improving the continuity of health service delivery;
- improving the quality of health services through the introduction of international standards and the development of competition between different providers;
- introducing a fundamental reform of the medical education system;
- shifting the focus of health services from the treatment of patients to the prevention of diseases and the strengthening of the health of healthy people;

- making health protection the joint responsibility of State, employers and population.

Financing

The programme envisages gradually increasing public spending on health to 4% of GDP by 2010. In the first stage of programme implementation (2005–2007), a new health financing policy is planned to be developed and adopted. Implementation of the new policy is envisaged for the second stage of implementation (2008–2010). It will aim to improve efficiency in health spending, attract additional funds to the health system and ensure equitable resource allocation to the country's regions.

The core element of the new health financing system is budget consolidation or pooling of funds at the *oblast* level, with the *oblast* health department serving as the single health purchaser or single payer for all state health funds, and with continued implementation and refinement of new output-based provider payment systems nationally. The legal framework for budget consolidation or pooling, the single-payer system and health purchasing were finalized in 2004–2005 and consists primarily of the Budget Code (*oblast*-level budget consolidation) and the Law on State Procurement (health purchasing and new provider payment systems). National implementation was introduced in 2005–2006. The Ministry of Health and the Ministry of Finance, supported by USAID/ZdravPlus, are working together intensively to implement this new system at the *oblast* level, including developing regulations, regional seminars and operating systems. Challenges that remain include periodic efforts to fragment the *oblast* pooling (decentralizing funding to the *rayon* level again, health insurance, medical savings accounts, etc.), the legal status of the *oblast* single-payer institutional structure, operating new provider payment systems through the Treasury system, building *oblast*-level operational capacity, the legal status of health care providers and the ability of health care providers to exercise autonomy.

For primary care facilities, the capitation rate will be adjusted for the required volume of health services, the sex and age distribution of the covered population, and the geographical specifics of the territory served. The per capita rate is planned to be increased every year until 2010. In 2005, KZT 15 billion was envisaged to be allocated for the financing of primary care facilities. With regard to hospital services, resource allocation will no longer be based on existing capacities, but rather on DRGs. The programme envisages that in 2005, new mechanisms for the financing of specialized health facilities will be developed, including for capital investment and purchase of equipment.

The principle of differentiated payment of health professionals was planned to be introduced in 2005, taking account of qualifications and performance, and further salary increases were envisaged for 2006.

The national programme envisages for 2005 the improvement of the system of accounting for health care providers, in order to increase transparency in the use of state funds for the guaranteed benefits package. It also provides for public information campaigns about the list and volume of free-of-charge services. By 2010, the development of a mechanism for the levelling of allocations for the state benefits package across regions will be developed, taking account of factors such as the morbidity structure of the respective populations. The programme further envisages measures to encourage the development of VHI, covered jointly by employers and employees. The introduction of National Health Accounts is envisaged for 2006–2007, with the aim of obtaining comprehensive information about financial flows in the health sector, including private providers. By 2008, it is also planned to have reconsidered the introduction of mandatory health insurance.

Most of these plans have been implemented thanks to the continuous financial backing of the health reform. Between 1999 and 2005, public expenditure on health care has grown almost 5-fold, or tripled in real terms.

Competition

The National Programme on Health Care Reform and Development takes the view that “only elements of real competition can significantly increase the efficiency of the health care system [...] and improve the quality of health services” (Ministry of Health 2004).

For 2007, the introduction of a new payment mechanism for providers was envisaged. It will take account of the costs for maintaining the assets of health care facilities. The programme envisages for the second stage of its implementation (2008–2010) to abolish the current line-item system of resource allocation, which is hoped to increase the financial autonomy of public health care providers and to improve the competitiveness of the private sector. It also provides for the leasing of costly medical equipment to state-owned and private health care providers.

Furthermore, the programme envisages the following measures to increase competition in the health sector:

- the introduction of a clearer distinction between purchasers and providers of health services;
- training of health care managers, in particular at the local level, in 2005–2006;

- ensuring that state-owned and private health care providers have the same entitlement to providing the state-guaranteed basic package of services;
- facilitating the transition of certain public providers into government enterprises and joint-stock companies;
- increasing the capitation rate for primary health care services and a shift towards partial fundholding;
- encouragement of a private primary care sector.

Health care delivery

Primary health care

The National Programme on Health Care Reform and Development envisages a new primary health care model which will be based on the principles of general practice and consist of primary health care centres accountable to local health authorities. In this model, patients are envisaged to be free to choose their physician and primary care providers will be paid on a capitation basis, with performance-based incentives. This is hoped to improve the accessibility of health care, improve the quality of health services and increase the motivation of health care workers.

Primary health care reform has been taking place in several stages. From approximately 1994 to 1999, the development of new primary health care practices proceeded fairly rapidly. In the period 2000–2004, progression in the development of primary health care stagnated. From 2005, the process of prioritizing, developing and strengthening primary health care continued again. In addition, the provision of pharmaceuticals has started to improve as a result of pharmaceutical benefits to people in certain disease categories and certain groups of the population.

In rural areas, it is intended that the existing primary care system will be maintained, although dialogue on the legal status of primary health care entities and their relationship with the rest of the health system continues. The main direction of reform is at present a widening of responsibilities of general practice physicians who will become responsible for the management of staff at FPs and FAPs (including feldshers, obstetricians and nurses) and the coordination of activities with social workers. Feldshers and obstetricians are anticipated to receive training in general practice.

The national programme envisages the construction or reconstruction of rural health care facilities as part of the national and regional development programmes for rural areas for 2004–2010 and the provision of equipment and vehicles. For the first stage of the National Programme on Health Care Reform

and Development (2005–2007), the construction of 90 rural health facilities and the reconstruction/renovation of 450 rural health facilities are envisaged. The programme also provides for an expansion of mobile medicine and telemedicine and envisages mechanisms to attract medical and pharmaceutical staff to rural areas, such as the provision of housing or publicly funded studentships, provided that health care workers stay for at least three years in rural areas. In 2005–2006, it was planned that SVAs, SUBs and *rayon* polyclinics would be granted the status of government facilities, separating them financially and administratively from CRBs.

The primary care reform is expected to gradually introduce the principles of general practice in urban areas. In the first stage of the national programme, the outpatient facilities and polyclinics in urban areas will be replaced with mixed polyclinics (serving a mixed population) that provide general medical practice and specialized care. Development of existing independent primary health care practices or FGPs would also be supported. Over time, it is expected that more FGPs would be established and the combination of mixed polyclinics and independent FGPs would characterize the urban primary health care sector. Some specialized polyclinics or diagnostic centres would remain, although specialized care in *rayon* centres and cities and inpatient services would only be provided upon referral by primary care physicians.

In addition to this restructuring, targeted investments for the construction, reconstruction or repair of primary care facilities were planned to take place, in particular in those regions of the country that have poor capacity.

During the first stage of reform implementation (2005–2007), the following activities were envisaged:

- continued restructuring of the primary health care and outpatient specialty sectors;
- intersectoral collaboration with other state agencies, such as those for social protection, and with NGOs;
- review of the morbidity structure of the population enrolled in primary care facilities and development and implementation of preventive activities and activities to decrease the burden of disease;
- preventive examination of certain categories of the population;
- immunoprophylaxis;
- expansion of activities that improve prevention, diagnosis, treatment and rehabilitation of patients under “dispensarization” (patients registered with dispensaries) and patients with “socially significant diseases”;
- expansion of treatment methods that avoid hospitalization;

- introduction of the outpatient provision of free-of-charge pharmaceuticals to specified categories of the population and patients with certain diseases;
- strengthening of laboratory services, including fast-track diagnostic methods;
- improvement of primary care services with an increased focus on final performance outcomes;
- enrolment of the population into primary care facilities based on free choice of facilities and physicians.

Implementation of the above-mentioned activities is expected to lead to a significant increase in outpatient services and a decrease in inpatient services. For 2005, an increase in the capitation rate was planned, to take account of the increased range of primary care services and expected quality improvements.

The National Programme on Health Care Reform and Development envisages for the second stage of primary care reforms (2008–2010) that the primary care system will embrace the principle of family medicine, and that independent primary care centres will be established. These independent centres are planned to be contracted by the State based on capitation with some fundholding elements. The range of services provided is expected to increase significantly, with complementary improvements of buildings and equipment and the retraining of primary care staff.

A process of accreditation of health facilities is envisaged and health care workers are expected to prove their professional competence every three years. By 2010, the primary care sector is expected to account for at least 40% of public health care resources allocated for the implementation of the state-guaranteed package of services.

In terms of inpatient services, the increased emphasis on primary health care is expected to result in the rationalization of hospital services. A shift is envisaged towards general hospitals with specialty departments, although hospitals for TB or infectious diseases are expected to continue to function separately.

Emergency care

In parallel to the reform of primary health care, the programme envisages the following restructuring of emergency care:

- rationalization of emergency services by redirecting patients to ambulatory outpatient facilities and primary care services;
- material and technical improvements of emergency services;
- coordination of emergency medical services with other emergency services, such as police, traffic police and fire services.

In the second stage of the programme (2008–2010), primary care facilities that provide emergency care are envisaged to become independent entities.

Public health services

Sanitary-epidemiological services

The National Programme on Health Care Reform and Development envisages the following activities for the strengthening of san-epid services:

- integration of san-epid services into the primary care sector, in particular where health promotion activities are concerned;
- coordination of activities on infectious diseases (including TB, STIs and HIV/AIDS) through the san-epid services;
- ensuring diagnostic services for infectious diseases at *rayon* level;
- gradual modernization of san-epid laboratory services (at national level in 2005, at *oblast* level in 2006–2007, and at *rayon* level in 2007–2009);
- improving san-epid services related to infectious diseases, border controls and bioterrorism, such as through the strengthening of sanitary-quarantine posts at national borders;
- updating san-epid protocols to ensure compliance with international standards, including those from the WTO;
- collaborating with other state agencies in disaster management.

The strengthening of disease prevention activities of the san-epid services at the primary care level is encompassed through two measures: a shift from control and administrative activities to the promotion of health and safety, and the delegation of functions and authorities from the national to the *oblast* level and from the *oblast* to the city/*rayon* level.

Disease prevention and promotion of healthy lifestyles

A number of public health programmes are envisaged to encourage healthy lifestyles. They are planned to be implemented jointly by primary care facilities, specialty service providers and san-epid services. The financing of health promotion and disease prevention programmes is envisaged to be delegated to *rayon* level, in order to increase the coverage of the population. The National Programme on Health Care Reform and Development also envisages increasing the number of mid-level health personnel dealing with health promotion and disease prevention and re-establishing the network of medical posts in all educational institutions, so as to allow the preventive examination of children and young people.

The national programme calls for a strengthening of intersectoral collaboration, in close collaboration with international organizations. The following elements of intersectoral collaboration are envisaged:

- collaboration of state agencies on health, demography and migration in the development of comprehensive demographic policies;
- collaboration with state agencies for labour and social protection on issues of disease prevention, health, social services and rehabilitation, as well as on the differentiated payment of health professionals;
- collaboration with state agencies for environmental protection on environmental health protection issues;
- collaboration with state agencies for education, domestic affairs, sport, defence, culture and information on health promotion and disease prevention in children and adolescents;
- collaboration with national and local authorities on addressing the needs of the rural population in terms of access to drinking water, telecommunications, transport infrastructure, ambulances and san-epid services;
- further integration of TB services with law enforcement and other state agencies;
- increased collaboration for the promotion of physical activities and sports;
- wide use of the mass media for health promotion and disease prevention;
- coordination with specialized services in case of disasters;
- development of services for rehabilitation and palliative care, including establishment of hospices providing nursing care, with the involvement of relevant state agencies, international organizations and NGOs;
- collaboration with state agencies for transportation and communication on issues related to road safety and environmental health.

Tackling diseases that take a heavy toll on society

The following actions are envisaged by the National Programme on Health Care Reform and Development for reducing the burden of specified diseases:

- prevention and reduction of STIs;
- provision of antiretroviral treatment for patients with HIV/AIDS;
- programmes for the treatment and rehabilitation of patients with physiological and behavioural diseases;
- improving the prevention of drug addiction and the provision of rehabilitation services to drug users;

- introduction of the position of endocrinologist in as many health facilities at *rayon* level as is sustainable, in order to improve the early diagnosis and treatment of patients with endocrinal diseases, including diabetes;
- strengthening TB control efforts with the involvement of primary care services;
- establishment of a national register of TB patients;
- improving compliance with treatment protocols for TB;
- establishment of specialized divisions in *oblast* dispensaries to treat patients with “chronic forms” of TB and for the mandatory treatment of patients with MDR TB;
- further development of social support to TB patients and medical staff;
- continued training of TB specialists;
- improved diagnostics for the early detection of malignant neoplasms (cancer);
- improving the prevention and treatment of bronchial asthma, arterial hypertension, ischaemic heart disease and other cardiovascular diseases;
- provision of new equipment to forensic services with the aim of improving the identification of causes of death;
- revision of the list of pharmaceuticals provided to patients with certain diseases.

Maternal and child health

The National Programme on Health Care Reform and Development envisages the improvement of maternal and child health services through the following activities:

- integration of services into primary health care;
- ensuring maternal and child health care within the state benefits package;
- provision of regular examinations for children and women of reproductive age;
- completing the construction of the Republican Centre for Maternal and Child Health in Astana in 2005;
- provision of specified free-of-charge drugs to pregnant women and children under five years of age from 2005; provision of specified free-of-charge drugs to children registered with dispensaries from 2006;
- staffing of maternal and child health care facilities with sufficient numbers of specialists by 2007;

- funding of maternal and child health care programmes and their monitoring and evaluation;
- provision of maternal and child health care facilities with up-to-date medical equipment by 2008;
- ensuring the provision of comprehensive antenatal care to all pregnant women by 2007;
- improvement of screening programmes for antenatal diagnostics of congenital and inherited disorders using modern technologies;
- developing highly specialized care for children receiving organ transplants (including bone marrow transplantation), neurosurgery, cardiosurgery, surgery, neurology, and resuscitation of neonates;
- encouragement of healthy lifestyles to prevent excessive alcohol consumption, drug use, and smoking among children, young people and women;
- introduction of curricula recommended by WHO for promoting children's health in secondary schools.

Pharmaceuticals

In 2005, a new outpatient pharmaceutical benefit programme was established. During the first year it supported outpatient pharmaceuticals for children under five years, and it is currently being expanded to other ages and conditions, with an added patient co-payment. The National Programme on Health Care Reform and Development envisages the following activities to improve the provision of pharmaceuticals to the population:

- ensure equitable and affordable access to essential drugs;
- limit the provision of drugs to the list determined by the Ministry of Health and subject to prescriptions from physicians;
- improve the quality and safety of pharmaceuticals;
- improve the rational use of pharmaceuticals;
- further develop the domestic pharmaceutical industry within the Industrial Development Strategy for 2003–2015.

For the first stage of programme implementation (2005–2007), the following activities are envisaged:

- improved access of the population to the guaranteed package of services, based on the essential drugs list and the introduction of a formulary (a list of licensed drugs) in organizations at all levels, in particular in rural areas;
- prepare the introduction of international standards into the domestic pharmaceutical industry and start their implementation in 2007;

- improve the efficiency of state procurement through revision of the state procurement legislation, to ensure the quality of procured pharmaceuticals;
- monitor the side-effects, quality, applications, prices and availability of pharmaceuticals;
- establish a National Centre for the Testing of Drugs, Medical Goods and Equipment at the Ministry of Health;
- establish and equip immunobiological and regional laboratories for pharmaceutical quality control;
- improve the national control system for pharmaceutical distribution, in order to prevent the influx of counterfeit products and decrease the threat of “pharmaceutical terrorism”;
- training and retraining of specialists at national and regional levels;
- ensure data collection on pharmaceuticals within the newly established health information system.

In the second stage of programme implementation (2008–2010), the following activities are envisaged to be achieved:

- the domestic pharmaceutical industry to gradually reach international quality standards;
- the accreditation of testing laboratories to reach international standards;
- a system to be established to inform the public about safety and efficiency of pharmaceuticals.

Medical science

The national programme envisages the development of medical science through the following activities:

- development and application of modern technologies for disease prevention, early detection, treatment and rehabilitation;
- fundamental and applied medical research in areas identified by the Ministry of Health;
- strengthening the links of medical research with practical applications in the health sector;
- development of international partnerships;
- integration of medical science, education and practice;
- monitoring and evaluation of health reform initiatives;
- implementation of evidence-based medicine.

Training and retraining of health care workers

The National Programme on Health Care Reform and Development envisages a revision of the training and retraining of health care workers, in order to improve the quality of health services and meet staffing demands for the reformed primary care services. It also provides for the introduction of a comprehensive system of human resource planning in the health sector. The following activities are envisaged in the first stage of programme implementation (2005–2007):

- beginning in 2005, physicians are to be trained and retrained to become GPs;
- implement the training of professional managers and health economists;
- equip the Ministry of Health with the power to accredit institutions of higher education for the provision of medical and pharmaceutical education;
- increase entrance requirements for institutions providing medical education;
- gradually increase the fees for medical and pharmaceutical training;
- strengthen the material and technical basis of educational institutions for medical education by establishing clinical training centres among the state institutions for higher medical education;
- introduce new specialties, starting with the training of health managers and the retraining of economists in health economy in 2005;
- introduce a problem-based learning approach, a stronger focus on practical training and intensified training in foreign languages in medical curricula;
- improve the training programmes for GPs through the introduction of practical training in “*internatura*” (residency);
- introduce the regular testing of medical teaching staff, to be conducted every five years;
- develop and implement new standards for the continuous education of medical staff and allocate funds from local budgets for retraining and continuous education courses for staff in rural areas;
- implement distance learning courses;
- beginning in 2005, attract international specialists to conduct training courses in Kazakhstan and support medical staff in receiving training abroad.

In the second phase of programme implementation (2008–2010), the following activities are envisaged:

- introduction of Bachelor’s Degree programmes for health management and health economy;

- implement an independent quality control system for medical education in Kazakhstan.

It is envisaged that the requirements for health managers are to be revised in the future, so as to ensure that they have more appropriate qualifications.

Organizational structure and management

The National Programme on Health Care Reform and Development envisages a revision of the health sector's centralized administrative management system. For the first stage of its implementation (2005–2007), a clearer distinction of functions is envisaged, with a redefinition of powers at national and local levels. In the second stage of implementation (2008–2010), management of the health sector is planned to be improved through the introduction of IT and international quality standards.

Rational split of functions

The major means of improving management in the health sector will be a shift from administrative methods of regulation to a system of economic incentives. From 2005 onwards, a process of decentralization is envisaged and it is planned that local health authorities and health facilities are to receive more administrative and financial powers.

From 2005 onwards, the Ministry of Health is envisaged to be responsible for:

- ensuring a unified national health policy;
- executive functions, such as ensuring equal access of the population in all areas of the country to the basic benefits package, setting standards for the provision of health services, planning health sector development and developing the legal framework of the health system;
- regulatory functions, such as controlling the implementation of national health policies and programmes, accreditation of health organizations and enforcing health legislation;
- overall health financing policy and setting of rules, including where provider payment is concerned.

Local health authorities are to be responsible for:

- the delivery of general health services;
- licensing of selected medical and pharmaceutical activities;
- centralized procurement of certain pharmaceuticals at the local level (excluding for example vaccines and immunobiological pharmaceuticals);

- budget formation and provider payment operations.

In order to avoid a deterioration in the quality of services provided as a result of the process of decentralization, quality indicators are to be introduced in the second stage of the national programme (2008–2010). In addition, targeted transfers from national to local budgets are to take place for a certain period of time.

It is also envisaged in the first phase of the national programme (2005–2007) to promote the development of professional associations and trade unions and to involve them in accreditation and quality control activities. During the second stage of programme implementation (2008–2010), a new Law on Health Care and Health of Citizens of Kazakhstan is planned to be adopted. This Law is expected to serve as the main regulatory document for the health system in Kazakhstan.

Health services quality control system

The following activities are envisaged to improve the quality of health services:

- adoption of evidence-based treatment protocols and clinical guidelines (in 2008–2010);
- introduction of a quality management system for all levels of health care (in 2008–2010);
- licensing and accreditation of health facilities;
- training and retraining of health care workers, including the introduction of courses on evidence-based medicine;
- creation of a single health information system;
- use of administrative and financial sanctions;
- establishment of priorities for a more efficient use of resources;
- introduction of a differentiated payment system that takes account of the quality of services provided;
- publication of ratings of health care providers in the mass media.

In 2005, a government body for health services control was established. This new agency is expected to draw on independent expertise and establish a database of independent experts. It is also to make use of patient satisfaction surveys. Beginning in 2006, the legislative basis for patient rights is planned to be strengthened and civil liability of health care institutions for errors in diagnosis and treatment is planned to be introduced.

Health information system

The National Programme on Health Care Reform and Development envisages the introduction of a unified health information system in the first stage of programme implementation (2005–2007). This will form part of the wider Computerization Programme for the Republic of Kazakhstan. It is planned to establish a national Information and Analytical Centre accountable to the Ministry of Health which will determine basic standards, classifications and terminology.

The main objectives of the introduction of a unified health information system are:

- to use uniform methods for the collection, processing and storage of information on the health status of the population, the health services provided and the use of pharmaceuticals;
- to provide better information to health facilities and government agencies;
- to establish a directory and reference system, as well as a central database that includes information on each health care facility and public management body;
- to develop digital patient records and data that allow better monitoring of health and demographic indicators and the volume of health services provided to the population;
- to develop a personalized digital record that facilitates continuity of care and accounts for social benefits and allowances while ensuring patient confidentiality;
- to start pilot projects in 2007 on the introduction of electronic patient cards.

By 2010 the following activities are envisaged to have been implemented:

- introduction of computerized quality management of health care providers at all levels;
- modernization of existing information systems;
- introduction of electronic patient cards.

Expected outcomes and programme indicators

The National Programme on Health Care Reform and Development identifies a number of measurable outcomes expected from its implementation by 2010:

- a decrease in hospital admissions by 10–15% in the first stage (2005–2007) and a decrease by 25–30% in the second stage of implementation (2008–2010);

- an increase in the volume of preventive services;
- an expansion of free-of-charge services at primary care level;
- provision of primary health care facilities with qualified doctors and nurses and adequate equipment;
- a significant reduction of out-of-pocket payments by patients;
- increased volume of domestic pharmaceutical production;
- a reduction of maternal mortality to 30 deaths per 100 000 live births and a reduction of infant mortality to 10 deaths per 1000 live births (based on official statistics);
- a decrease in morbidity rates for infectious and noninfectious diseases;
- a decrease in TB incidence to 135 per 100 000 population;
- a decrease in the incidence of STIs by 10% annually.

7.2 Reform implementation

A detailed action plan for reform implementation was adopted on 13 October 2004, identifying responsible agencies, time frames, expected costs and financial sources. In 2005, a new unit was to be established at the Ministry of Health with the following main functions:

- monitoring and evaluation of programme implementation;
- provision of logistic and methodological support to the programme;
- data collection and analysis in support of the reform process;
- evaluation of new technologies and of the efficiency of reform measures;
- coordination of information campaigns for health professionals and the public.

The programme envisages that total funding for implementation is to reach KZT 165 659 billion, including KZT 134 610 billion from the national budget and KZT 31 049 billion from local budgets, with adjustments for each fiscal year.

By February 2007 a number of reform objectives had been achieved, as listed here.

- Nationwide budget consolidation (pooling) at the *oblast* level, establishment of an *oblast*-level single-payer system and introduction of new provider payment systems had been achieved.

- A state-guaranteed package of free-of-charge health services for the years 2005–2007 and rules for the provision of these services have been drawn up.
- Regional health system reform and development programmes for 2005–2007 have been developed.
- A list of essential drugs has been established.
- A new outpatient pharmaceutical benefit scheme has been established, including a list of population groups and disease categories that are eligible for free-of-charge outpatient pharmaceuticals when prescribed by physicians.
- Rules and regulations have been drawn up for the provision of outpatient health services, as well as for continuous education and retraining of health professionals in Kazakhstan and abroad.
- A maximum average length of stay for inpatients by province has been set, and day surgery and day care units are being expanded.
- The specialty “health manager” has been introduced.
- A revised medical and pharmaceutical education curriculum has been submitted to the Government for approval.
- A methodology for the pooling of funds at *oblast* level has been developed.

Health financing

In 2005, the following steps were taken to improve health financing as part of the National Programme on Health Sector Reform and Development.

- Budget consolidation or pooling at *oblast* level and establishment of an *oblast*-level single-payer system were achieved.
- A methodology for the reimbursement of providers for the provision of the state-guaranteed package of services was developed and initial implementation steps began.
- Suggestions for differentiated labour remuneration for health care professionals in the public sector were drawn up.
- Rules and regulations were developed for the provision of a fee-for-service scheme in publicly owned health facilities and for the use of these additional funds.
- Suggestions were compiled for alternative financing mechanisms for tertiary care providers and the introduction of new technologies.

- A new methodology for the allocation of national budget resources to the health sector was developed.
- A unified reporting policy for all health organizations was established.
- The uptake of VHI was encouraged.
- The implementation of National Health Accounts has been prepared.
- A methodology for revised capitation payment for primary care providers was developed that includes performance-related incentives.
- A new system of reimbursement of primary care providers was developed that takes account of expenditure on facility management as well as the renewal of assets.

State benefits package

With Government Resolution No. 1296 of 28 December 2005, a guaranteed package of basic health services provided free of charge was approved for the period 2005–2007. The basic benefits package covers specified health services which are paid from the national state budget. Health services which are not included in the basic benefits package have to be paid from:

- out-of-pocket payments
- VHI
- employers
- other sources.

The basic benefits package includes emergency care, and outpatient and inpatient care, and it is envisaged that it will be revised every two years. Decree No. 815 of the Ministry of Health of 17 November 2004 specifies rules for the provision of the guaranteed benefits package and establishes limits on volumes of free-of-charge inpatient services.

Pharmaceuticals benefits package

An outpatient pharmaceuticals benefits package was initiated in 2004. The budget for this programme has more than tripled between 2005 and 2006, from KZT 1269 million to KZT 4369 million. The coverage of the programme has been considerably expanded and an increasing range of disease categories and population groups has been covered. The Ministry of Health has also added a 50% discount for patients suffering from any of five common diseases (arterial hypertension, ischaemic heart disease, chronic obstructive lung disease, pneumonia and ulcers) (ZdravPlus 2006).

Provision of health services

Government Resolution No. 1304 on Methods to Improve Primary Health Care for the Population of the Republic of Kazakhstan of 28 December 2005 aimed to implement the National Programme on Health Care Reform and Development for 2005–2010 and established new guidelines for the public network of health facilities. These guidelines define all types of health facilities and identify their functions, organizational set-up, staff, and population coverage.

The Resolution requires all *oblasts* to:

- harmonize by January 2008 the existing by-laws and regulations of primary health care with the new national guidelines;
- establish primary health care centres on the basis of existing polyclinics (except in urban areas), ambulatories and SUBs;
- establish ambulatories on the basis of existing rural and urban family practices, SUBs and health centres;
- establish health posts on the basis of existing health centres, health offices and for district health professionals that do not have premises to work from;
- complete the procurement of the required medical equipment, medical supplies and means of transportation by January 2008, in line with the guidelines developed by the Ministry of Health;
- gradually substitute district internists and paediatricians with trained family practitioners, achieving a replacement of 20% in 2008 and 30% by 2009;
- implement principles of general practice in the newly established primary health care facilities.

Urban areas will have mixed polyclinics, with a gradual evolution to FGPs and the maintenance of some specialized polyclinics and diagnostic centres.

The new national guidelines identify four types of primary health care facilities in rural areas:

- health posts (for settlements located at least 5 km from the nearest primary health care facility and with a population of 50–1000);
- physician ambulatories (for settlements with a population of 2000–5000);
- primary health care centres (for settlements with a population of 5000–10 000);
- polyclinics (for settlements with more than 10 000 people and in district centres).

8 Assessment of the health system

8.1 Access

In the years since Kazakhstan's independence, access to health facilities at all levels has deteriorated. The major challenges relate to reduced access to pharmaceuticals, informal payments for health care, and regional inequities.

Under the Soviet health care system, the population had free access to a wide variety of pharmaceuticals. This situation changed with the dissolution of the Soviet Union. The privatization of the pharmaceutical market, the liberalization of prices, and the lack of mark-up limits and price regulation mechanisms led to steep increases in the prices of pharmaceuticals, so that many became unaffordable for large parts of the population. This particularly applies to outpatient services, where pharmaceuticals had to be purchased by patients, providing an incentive for excessive hospitalization. Although formally free in hospitals, in reality, many patients also had to purchase their drugs when staying in hospital. A new pharmaceuticals policy has now been adopted that regulates the prices of pharmaceuticals and provides outpatients with benefits for a specified list of pharmaceuticals, so they can purchase these pharmaceuticals cheaper than was previously the case.

Informal payments for health care that should be free for patients constitute another factor that limits population access to health services. While difficult to measure, surveys indicate that the majority of households make substantial informal out-of-pocket payments for health care and that these constitute an important share of overall health expenditure. Informal payments generally have a greater impact on poorer and rural parts of the population who might defer treatment or self-medicate. They also lead to inefficient service provision, as patients are forced to buy pharmaceuticals at retail rather than wholesale prices.

A number of factors contribute to the existence of informal payments. These include the inability of public health services to meet the needs of the population, the low official salaries of health care staff, and the lack of a clear definition of the services that have to be paid by patients. However, recent increases in budgetary funding could have resulted in decreasing informal payments and more data are needed on this issue through nationally representative surveys.

One of the major challenges for the Kazakh health system is regional inequities in terms of per capita allocations for health services. In 2003, the amount allocated per capita for guaranteed health care services varied between different regions from KZT 3500 to KZT 10 400 (UNDP 2004). There are also huge regional differences with regard to a range of other health care aspects. The distribution of health facilities and the provision of health services vary significantly across regions, depending on the following factors (Ministry of Health 2004):

- the amount of resources allocated to cover the state-guaranteed package of services
- the financing methods used
- the primary health care structure
- the organizational form of health care facilities
- the coverage of pharmaceuticals
- health services quality control systems.

There are some noticeable differences in the average length of stay across regions. In 2004, the shortest average length of stay was recorded in Almaty city (10.1 days) and the longest in Aktobe *oblast* (14.9 days). There are also considerable regional variations in the provision of health care workers. In 2002, the ratio of physicians per 10 000 population was highest in Almaty city (84.1) and lowest in Almaty *oblast* (20.9). There is also a huge gap between rural and urban areas. In 2005, the ratio of physicians per 10 000 population was 43.7 in urban areas, but only 12.1 in rural areas. Of the total number of physicians, in 2005 only 15% were working in rural areas, where more than 40% of the population lives. Furthermore, the rural shortages are starting to be exacerbated by the accelerating retirement of primary health care workers.

Problems with access to health services in rural Kazakhstan include the lack of public and private transport between widely dispersed villages and the central town of the district and the lack of health care facilities. Between 1991 and 1997, the number of SUBs decreased from 830 to 208. In 1999, over 1200 villages and small settlements did not have resident health care facilities. The Decree on Measures for Improving Primary Health Care for the Rural Population of 26 April 1999 established minimum standards for the public provision of

rural health services, and by 2002, the provision of primary health care had been expanded to encompass the whole population (Ministry of Health 2002).

The implementation of a new health financing policy that ensures equitable resource allocation to the country's regions is ongoing at the time of writing. Following similar reforms in Kyrgyzstan (Meimanaliev, Ibraimova et al. 2005), the health budget has been consolidated at *oblast* level and the *oblast* health authority has become the single payer in each *oblast*. This is hoped to facilitate the levelling out of per capita expenditure and fee-for-service payments across *oblasts* and to improve the quality control of health services.

8.2 Efficiency

The ambitious national health reform programme will require more than simply building facilities and buying equipment in order to succeed. Emphasis needs to be placed on improving the efficiency and quality of health services (World Bank 2006a). One of the current inefficiencies in the Kazakh health system is a continued reliance on inpatient care. Allocations to and the importance of the primary care sector are slowly increasing and it is hoped that this will result in more efficient use of resources. However, substantial excess capacity in the hospital sector remains, due to overspecialization and geographic duplication or overlapping. It is hoped that budget consolidation at the *oblast* level will enable the duplication between the *oblast* and city levels – one of the biggest causes of hospital excess capacity – to be addressed. The new output-based provider payment systems are also expected to drive significant efficiency increases.

Another challenge is related to fragmented health services that do not ensure continuity of care. There are no strong links between primary and secondary care, and many services are organized along parallel vertical structures, such as TB and san-epid services, or parts of the health system operated by other ministries and government agencies. The poor horizontal integration of services leads to duplication of effort and inefficient use of the limited resources available for the health sector.

There is also urgent need for certain categories of health professionals, such as specialists in health management or health economics. The lack of properly trained managers is manifesting itself in poor management and inefficient resource use. Managers of a health facility often have a number of simultaneous functions, as managers, administrators, and chief physicians (Ministry of Health 2004). The current health reform programme aims to address this issue through the training of health managers, and one of the aims of the envisaged health financing policy is more efficient resource use. A national monitoring system

for rational resource use has been established, as well as a system of financial incentives and punitive measures.

9 Conclusions

Since the country's independence, Kazakhstan has embarked on a number of major health care reforms. It has revised health care financing, introduced new provider payment methods, carried out some initial rationalization of its network of health care facilities, started strengthening primary health care, and introduced the safe motherhood approach, the DOTS treatment strategy for TB, and healthy lifestyle activities, as well as other priority programmes.

After 1991, the country faced a number of challenges. Kazakhstan inherited from the Soviet Union a health system based on outdated norms and practices, delivered through an oversized network of publicly-owned facilities with an overemphasis on inpatient care and managed through direct control rather than regulation or contracting and with few incentives for efficiency or quality. A key challenge after independence was the drop in health care funding from public sources. In 2002, public allocations to the health sector amounted to only 1.93% of GDP. As in much of the rest of the former Soviet Union, population health indicators showed a dramatic decline in the early 1990s. Life expectancy in Kazakhstan has still not reached its 1991 level, adult and infant mortality remain high, and communicable diseases such as TB are raging. As in other countries of the region, the rapid spread of HIV/AIDS presents another major challenge. The Kazakh health system has so far been unable to respond effectively to these population health challenges. Several inequities have emerged during the 1990s, associated with the fiscal crisis. As the government health budget shrank, people increasingly had to pay for health services and pharmaceuticals, which disadvantaged those on subsistence income. Rural areas have suffered more than urban areas from health budget cuts and hospital closures. Continuing variations in health status and in health resource allocations across *oblasts* remain a key issue.

Until 2002, health reforms were often inconsistent, lacked a clear evidence base and the allocation of appropriate resources. They remained at the conceptual stage and had little impact on the health of the population. One of the reasons for this was the lack of leadership and continuity, which seems to have been greater than in other central Asian countries. In Kazakhstan, there were frequent changes of leaders, priorities and the organizational set-up of the Ministry of Health, with the dissolution of the Ministry of Health between 1997 and 2002. Another serious problem was the existence of uncoordinated reform activities at local and national levels. Some effective pilot projects were running far ahead of the policy agenda at the time. In order to achieve more sustained reforms, it is necessary to strengthen health care management and the capacity of the Ministry of Health.

With the economic boom of recent years, and the decision of the Government to use some of the country's oil revenue for the social sector, an opportunity for large-scale reforms of Kazakhstan's health sector has arisen. In 2004, the Government adopted the National Programme of Health Care Reform and Development for 2005–2010. The programme is comprehensive, sets ambitious goals and suggests a sensible reform path. Since 2002, budgetary allocations to the health sector have increased significantly both in absolute figures and as a share of GDP, and the national reform programme envisages gradually increasing budgetary allocations to 4% of GDP by 2010.

However, increased financial allocation to the health sector does not automatically solve all of Kazakhstan's health system challenges. Substantial changes are required in the organization, management and provision of health services. The inpatient sector continues to consume the majority of health funding and more attention will therefore have to be devoted in the future to the development of the primary care sector. There is also a continued reliance on specialized services, such as those for maternal and child health, as evidenced by the recent completion of a new maternal and child health hospital in Astana. The parallel health systems operated by some ministries or the railways continue to operate and their existence is not addressed by the current health reform programme.

Overall, there appears to be the need to integrate services for the provision of modern medical care and evidence-based medicine that allows for multidisciplinary teamwork and avoids duplication. Intersectoral coordination is vital as an interim measure to manage this process. Overall, increased emphasis needs to be placed on the quality and efficiency of services. A system of monitoring and evaluation, which is in the early stages of development, as well as the establishment or revision of clinical practice guidelines, could play an important role in achieving these aims.

Health care workers will play a paramount role in any reforms. The current reforms envisage an overhaul of the training of health care professionals and the introduction of financing mechanisms that encourage health professionals to perform well. Too often, health is still considered as a nonproductive sphere, and it will be important to overcome this traditional misperception to ensure sustained investment in the health sector. The involvement of professional associations in health policy-making could substantially enhance the effectiveness and sustainability of reforms.

Kazakhstan has ambitious goals for the future. With rapid economic growth fuelled by the oil revenue, the country has embarked on a comprehensive national health reform programme, but it is still too early to assess its effectiveness. Now that the second stage of the programme is just about to begin, health policy-makers need to carefully assess the successes and failures of its first stage, in order to feed this information into the second stage of reforms.

10 Appendices

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10.2 Further reading

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10.3 Useful web sites

European Bank for Reconstruction and Development (EBRD) Kazakhstan homepage	http://www.ebrd.com/country/country/kaza/index.htm
European Observatory on Health Systems and Policies	http://www.euro.who.int/observatory
Global Fund to Fight AIDS, Tuberculosis and Malaria (GFATM) (country web site)	http://www.theglobalfund.org/programs/countrysite.aspx?countryid=KAZ&lang=en
Government of Kazakhstan	http://www.government.kz
International Institute of Modern Policy	http://www.iimp.kz/default.aspx
Kazakhstan Institute of Management, Economics and Strategic Research	http://www.kimep.kz/
Kazakhstan Revenue Watch	http://www.kazakhstanrevenuewatch.org/
Kazakhstan Stomatological Association	http://www.ksa.kz/
Medinform	http://www.medinfo.kz/
Ministry of Finance	http://www.minfin.kz/
Ministry of Health	http://www.mz.gov.kz
National Resource Centre for nongovernmental organizations (NGO) in Kazakhstan	http://www.npo.kz/
National School of Public Health	http://www.ksph.kz/
National Statistical Agency of the Republic of Kazakhstan (Goskomstat)	http://www.stat.kz
Organization for Security and Co-operation in Europe (OSCE) Centre in Almaty	http://www.osce.org/almaty/
President of Kazakhstan	http://www.akorda.kz/
Soros Foundation Kazakhstan	http://www.soros.kz/
The World Bank's Mission in Kazakhstan	http://www.worldbank.org.kz/
United Nations system in Kazakhstan	http://www.un.kz/
United States Agency for International Development (USAID) (country website)	http://www.usaid.gov/locations/europe_eurasia/car/kzpage.html
World Health Organization (WHO) (country web site)	http://www.who.int/countries/kaz/en/
ZdravPlus Project	http://www.zplus.kz/

10.4 Principal legislation

Laws and regulations may be enacted by Presidential Decree, by an Act of Parliament, by a Government Executive Order or by Ministerial Orders. The following is a list of some of the key initiatives.

1991	Law on Protection of the People's Health
21 June 1991	Law on Social Protection of Handicapped and Disabled
1992	Executive Directive "The concept of health care reform"
1992	Law on National Budget
9 April 1993	Law on Trade Unions
1994	Law on Sanitary-epidemiological Welfare
5 October 1994	Law on HIV/AIDS Prevention
19 June 1995	Law on State-run Enterprises
1995	Law on Local Self-government
1995	Presidential Decree on Compulsory Medical Insurance
1995	Presidential Edict on Privatization
1996	Law on Pharmaceutical Aid
1996	Law on Psychiatric Care and Entitlement of Citizens
1996	Law on Supplemental Measures to Decrease Infections
1996	Law on Prevention of AIDS
28 March 1996	Decree No. 369 on Financing of Medical Protection of Citizens
1996	Government Decree (No. 246) on Privatization and Restructuring of State Property
1997	Government Decree (No. 65) on Sectoral Programmes for Privatization and Restructuring
1997	Government Decree on Measures for Public Administration Restructuring
1997	Decree (No. 1387) on Reorganization of the Mandatory Health Insurance Fund
1997	President's Message "Kazakhstan 2030"
12 March 1997	Government Resolution No. 1678 on the National Healthy Life Style Centre of the Ministry of Education, Culture and Health
19 May 1997	Law on Health Protection
12 August 1997	Order No. 470 of the Ministry of Education, Culture and Health on the National Healthy Life Style Centre of the Ministry of Education, Culture and Health
1998	Law on Family Practice
18 May 1998	Presidential Decree on Urgent Measures to Improve the Health Status of the Population of the Republic of Kazakhstan

16 November 1998	Presidential Decree No. 4153 on the State Programme “Health of the Population”
31 December 1998	Government Decree No. 1387 on the Reorganization of the Compulsory Medical Insurance Fund
31 December 1998	Government Decree No. 1382 on Urgent Measures to Improve the Organization of Medical and Sanitary Assistance to the Population for the Prevention and Resolution of Extraordinary Situations
26 April 1999	Decree on Measures for Improving Primary Health Care for the Rural Population
30 June 1999	Government Resolution No. 905 on the Healthy Lifestyle Programme for the period 1999–2010
1999	Decree No. 70 on the Guaranteed Benefits Package
3 December 1999	Regulations on the Agency for Health
10 December 1999	Law on Compulsory Treatment of Patients with Infectious Tuberculosis
27 January 2000	Government Decree No. 135 approving a Guaranteed Level of Free Medical Assistance
3 May 2000	Government Decree No. 650 on the Fundamentals of Privatization of Health Care Institutions for the years 2000–2005
5 May 2000	Government Resolution No. 674 on the Provision of Drugs by Disease Type and Specialized Nutrition Products for Children and Certain Population Categories
25 May 2000	Government Decree No. 790 on the Fundamentals of the Further Development of Health Care in the Republic of Kazakhstan in the years 2000–2005
27 May 2000	Government Resolution No. 806 on Approval of Rules for Reimbursement of Costs for Health Services
11 July 2000	Government Decree No. 1052 approving the Rules of Privatization of Health Care Institutions
14 May 2001	Government Decree No. 630 approving the Programme of Health Protection of Mothers and Children in the Republic of Kazakhstan for the years 2001–2005
7 June 2001	Government Decree No. 767 on Approval of Rules of Licensing of Medical Activity
2002	Law on Preventing and Reducing Tobacco Smoking
January 2002	Government Decree No. 93 on the Sectoral Programme on Drinking Water for 2002–2010
11 January 2002	Government Decree No. 41 on the System of Labour Remuneration of Public Employees who are not Civil Servants
16 May 2002	Law on State Procurement
29 May 2002	Government Decree No. 584 on the Fundamentals of Medical Policy
11 July 2002	Law on Social, Medical and Pedagogical Support for Children with Limited Capabilities

13 July 2002	Government Decree No. 773 on the Fundamentals for the Improvement of the Financing of the Health System
25 July 2002	Government Decree No. 828 approving the Rules on Payable Medical Services in Organizations of the State Health System
1 August 2002	Resolution No. 174 of the Ministry of Labour and Social Protection on Implementation of Legal Acts on the Issue of Social Protection for Disabled and Handicapped
4 December 2002	Law on Sanitary-epidemiological Well-being of the Population
2003	Ministry of Health Decree on Mandatory Standards for Medical and Pharmaceutical Education
15 January 2003	Presidential Decree No. 1016 to amend and supplement the Presidential Decree No. 4153 of 16 November 1998, amending the State Programme "Health of the Population" with regard to medical assistance and financing sources
7 February 2003	Government Resolution No. 138 on Approval of Rules for State Procurement of Health Services Based on Fixed Tariffs
4 June 2003	Law on the Health Care System
27 September 2003	Decree No. 988 on Additions and Modifications to the Law on HIV/AIDS Prevention
14 October 2003	Law on Prevention of Iodine-deficiency Conditions
8 January 2004	Government Decree on Approval of Accreditation Rules in the Health Sector
13 January 2004	Law on Pharmaceuticals
21 January 2004	Government Decree No. 60 on the Establishment of Rules for Conducting Certifications in the Health Sector
16 February 2004	Government Decree No. 184 on Standardization in the Health Sector
19 March 2004	Adoption of the development strategy "Towards a competitive Kazakhstan, a competitive economy, and a competitive nation"
8 April 2004	Law on Quality and Safety of Food Products
24 April 2004	Budget Code
16 June 2004	Law on Reproductive Rights
13 August 2004	Governmental Decree No. 850 on the Programme on Strengthening of Tuberculosis Control in the Republic of Kazakhstan for 2004-2006
13 September 2004	Presidential Decree No. 1438 on the National Programme of Health Care Reform and Development for 2005–2010
13 October 2004	Government Decree No. 1050 approving the Action Plan for Implementation of the National Programme of Health Care Reform and Development for 2005–2010
28 October 2004	Government Decree No. 1117 on Issues of the Ministry of Health
29 October 2004	Government Decree No. 1124 on Issues of the Pharmacy Committee

29 October 2004	Government Decree No. 1125 on Issues of the Committee on Sanitary-Epidemiological Surveillance
17 November 2004	Decree No. 815 of the Ministry of Health on Rules for the Provision of the Guaranteed Benefits Package
28 December 2004	Ministry of Health Decree No. 898 on Rules for the Quality Control of Services Provided by Health Facilities
3 February 2005	Government Decree No. 99 on the creation of a National Coordination Council for Health Care
26 April 2005	Protocol decision on the Concept for Legislative Reform of Environmental Health Protection
7 July 2005	Government Decree No. 708 on Approval of Rules for the Compulsory Fortification of Extra and First Class Wheat Flour Produced in the Republic of Kazakhstan
27 August 2005	Government Decree No. 889 on Approval of Rules of Free and/or Exempt Provision of Drugs to Specified Population Categories
15 December 2005	Government Decree No. 1327 establishing the Committee for Health Services Quality Control
28 December 2005	Government Resolution No. 1296 on the Provision of the Basic Package of Guaranteed Free-of-Charge Health Services for 2005–2007
28 December 2005	Government Resolution No. 1304 on Methods to Improve Primary Health Care for the Population of the Republic of Kazakhstan
21 March 2006	Ministry of Health Decree No. 124
24 April 2006	Governmental Decree No. 317 on the Concept on the Reform of Medical and Pharmaceutical Education in the Republic of Kazakhstan
7 July 2006	Law on Protection of Population Health
6 October 2006	Government Decree No. 965 on Approval of Rules on the Payment of Health Organizations from Budget Funds and the Delivery of Paid Services in Health Organizations and Order on the Use of Revenues from Paid Services Delivered by Public Health Organizations
31 October 2006	Government Decree No. 1033
10 November 2006	Sectoral Programme on Actions on Further Development of the Cardiology and Cardiosurgery Service in the Republic of Kazakhstan for 2007–2009
23 November 2006	Decree of the Ministry of Health on Methods for the Transition towards a Model of Partial Fundholding
4 December 2006	Government Decree No. 586 on Establishing Minimal Standards (Specifications) of Equipment and Medical Products for Tuberculosis Hospitals (Dispensaries) at <i>Oblast</i> , City and <i>Rayon</i> Level
4 December 2006	Government Decree No. 588 on Establishing Minimal Standards (Specifications) for the Infrastructure of Public Health Organizations carrying out Activities for Formation of a Healthy Way of Life

10.5 HiT methodology and production process

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

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

In addition to the information and data provided by the country experts, the Observatory supplies quantitative data in the form of a set of standard comparative figures for each country, drawing on the European Health for All (HFA) database. The HFA database contains more than 600 indicators defined by the WHO Regional Office for Europe for the purpose of monitoring Health for All policies in Europe. It is updated for distribution twice a year from various sources, relying largely upon official figures provided by governments, as well as health statistics collected by the technical units of the WHO Regional Office for Europe. The standard HFA data have been officially approved by national governments. With its January 2007 edition, the HFA 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, especially if there are concerns about discrepancies between the data available from different sources.

A typical HiT profile consists of 10 chapters:

1. **Introduction:** outlines the broader context of the health system, including geography and sociodemography, economic and political context, and population health.
2. **Organizational structure:** provides an overview of how the health system in a country is organized and outlines the main actors and their decision-making powers; discusses the historical background for the system; and

describes the level of patient empowerment in the areas of information, rights, choice, complaints procedures, safety and involvement.

3. **Financing:** provides information on the level of expenditure, who is covered, what benefits are covered, the sources of health care finance, how resources are pooled and allocated, the main areas of expenditure, and how providers are paid.
4. **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 (HTA) and research and development.
5. **Physical and human resources:** deals with the planning and distribution of infrastructure and capital stock; the context in which information technology (IT) systems operate; and human resource input into the health system, including information on registration, training, trends and career paths.
6. **Provision of services:** concentrates on patient flows, organization and delivery of services, addressing public health, primary and secondary health care, emergency and day care, rehabilitation, pharmaceutical care, long-term care, services for informal carers, palliative care, mental health care, dental care, complementary and alternative medicine, and health care for specific populations.
7. **Principal health care reforms:** reviews reforms, policies and organizational changes that have had a substantial impact on health care.
8. **Assessment of the health system:** provides an assessment based on the stated objectives of the health system, the distribution of costs and benefits across the population, efficiency of resource allocation, technical efficiency in health care production, quality of care, and contribution of health care to health improvement.
9. **Conclusions:** highlights the lessons learned from health system changes; summarizes remaining challenges and future prospects.
10. **Appendices:** includes references, useful web sites and legislation.

Producing a HiT is a complex process. It involves:

- writing and editing the report, often in multiple iterations;

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

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

10.6 About the authors

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

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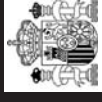
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Key

All HiTs are available in English.
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- ^a Albanian
- ^b Bulgarian
- ^c French
- ^d Georgian
- ^e German
- ^f Romanian
- ^g Russian
- ^h Spanish
- ⁱ Turkish
- ^j Estonian



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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.