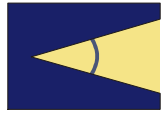


European

Observatory

on Health Care Systems



Health Care Systems in Transition

Kazakhstan



The European Observatory on Health Care Systems is a partnership between the World Health Organization Regional Office for Europe, the Government of Norway, the Government of Spain, the European Investment Bank, the World Bank, the London School of Economics and Political Science, and the London School of Hygiene & Tropical Medicine

Health Care Systems in Transition

Kazakhstan

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Target 19 – RESEARCH AND KNOWLEDGE FOR HEALTH

By the year 2005, all Member States should have health research, information and communication systems that better support the acquisition, effective utilization, and dissemination of knowledge to support health for all.
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Keywords

DELIVERY OF HEALTH CARE
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European Observatory on Health Care Systems

WHO Regional Office for Europe

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London School of Economics and Political Science

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With thanks for the support of the
United Kingdom Department for International Development

Foreword

The Health Care Systems in Transition (HiT) profiles are country-based reports that provide an analytical description of each health care system and of reform initiatives in progress or under development. The HiTs are a key element that underpins the work of the European Observatory on Health Care Systems.

The Observatory is a unique undertaking that brings together WHO Regional Office for Europe, the Governments of Norway and Spain, the European Investment Bank, the World Bank, the London School of Economics and Political Science, and the London School of Hygiene & Tropical Medicine. This partnership supports and promotes evidence-based health policy-making through comprehensive and rigorous analysis of the dynamics of health care systems in Europe.

The aim of the HiT initiative is to provide relevant comparative information to support policy-makers and analysts in the development of health care systems and reforms in the countries of Europe 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;
- describe accurately the process and content of health care reform programmes and their implementation;
- highlight common challenges and areas that require more in-depth analysis;
- 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 the different countries of the European Region.

The HiT profiles are produced by country experts in collaboration with the research directors and staff of the European Observatory on Health Care Systems. In order to maximize comparability between countries, a standard template and questionnaire have been used. These provide detailed guidelines

and specific questions, definitions and examples to assist in the process of developing a HiT. Quantitative data on health services are based on a number of different sources in particular the WHO Regional Office for Europe health for all database, Organisation for Economic Cooperation and Development (OECD) health data and the World Bank.

Compiling the HiT profiles poses a number of methodological problems. In many countries, there is relatively little information available on the health care system and the impact of reforms. Most of the information in the HiTs is based on material submitted by individual experts in the respective countries, which is externally reviewed by experts in the field. Nonetheless, some statements and judgements may be coloured by personal interpretation. In addition, the absence of a single agreed terminology to cover the wide diversity of systems in the European Region means that variations in understanding and interpretation may occur. A set of common definitions has been developed in an attempt to overcome this, but some discrepancies may persist. These problems are inherent in any attempt to study health care systems on a comparative basis.

The HiT profiles provide a source of descriptive, up-to-date and comparative information on health care systems, which it is hoped will enable policy-makers to learn from key experiences relevant to their own national situation. They also constitute a comprehensive information source on which to base more in-depth comparative analysis of reforms. This series is an ongoing initiative. It is being extended to cover all the countries of Europe and material will be updated at regular intervals, allowing reforms to be monitored in the longer term. HiTs are also available on the Observatory's website at <http://www.observatory.dk>.

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The HiT on Kazakhstan was written by Maksut Kulzhanov (Kazakhstan School of Public Health) and by Judith Healy (European Observatory on Health Care Systems). The assistance of Aikan Akanov (Deputy Chairman of the Kazakhstan State Committee of Health) is gratefully acknowledged. The following people also assisted: Naila Almagambetova (Kazakhstan School of Public Health), Kural Kuralbaev (Kazakhstan School of Public Health), and Alma Akinova Farmer (European Observatory on Health Care Systems).

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The current series of the Health Care Systems in Transition profiles has been prepared by the research directors and staff of the European Observatory on Health Care Systems.

The European Observatory on Health Care Systems is a partnership between the WHO Regional Office for Europe, the Government of Norway, the Government of Spain, the European Investment Bank, the World Bank, the London School of Economics and Political Science, and the London School of Hygiene & Tropical Medicine.

The Observatory team working on the HiT profiles is led by Josep Figueras, head of the secretariat and the research directors Martin McKee, Elias Mossialos and Richard Saltman. Technical coordination is by Suszy Lessof. The series editors are Anna Dixon, Judith Healy and Elizabeth Kerr.

The research director for the Kazakhstan HiT was Martin McKee.

Administrative support, design and production of the HiTs has been undertaken by a team led by Phyllis Dahl and comprising Myriam Andersen, Sue Gammerman and Anna Maresso. Special thanks are extended to the WHO Regional Office for Europe health for all database from which data on health services were extracted; to the OECD for the data on health services in western Europe, and to the World Bank for the data on health expenditure in central and eastern European (CEE) countries. Thanks are also due to national statistical offices that have provided national data.

Introduction and historical background

Introductory overview

Kazakhstan is an independent republic located in the central Asian steppe. Covering 2.7 million square kilometres (about the size of the fifteen European Union countries), it has a long border with Russia to the north, adjoins China to the east, and Kyrgyzstan, Uzbekistan and Turkmenistan to the south. Kazakhstan is a land-locked country with borders on two large inland seas: the Aral Sea and the Caspian Sea. The 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), from December 1997 moved to Astana (Aqmola) in the north. The population was estimated at 15.7 million in 1997 (Table 1). As well as geographic diversity, the country is ethnically very diverse (although estimates differ) with a higher proportion of Russians than in other central Asian republics. The main groups are Kazakhs (52%), Russians (31%), Ukrainians (4%), Germans (2%), with many groups in the 11% remainder (33). 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 which is used in everyday business. The Kazakhs were a nomadic society in the nineteenth century, but nearly 60% of the population now live in urban areas.

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) (27,28). In the early thirteenth 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 sixteenth 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

Fig. 1. Map of Kazakhstan¹

Source: Central Intelligence Agency, *The World Factbook*, 1997.

khanates were devastated in the early eighteenth 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 had 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.

Many thousands died in the region or fled after the Russian Revolution in 1917. A Kazakh nationalist group, Alash Orda, sided with the Bolsheviks during the Russian civil war but was then suppressed. 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 USSR in 1925, and a full Soviet Socialist Republic in 1936.

The nomadic Kazakh herdsmen were forced into settled collectives in the 1920s, where many died from disease or famine or fled to China. The population of Kazakhstan is said to have fallen by many thousands. In the 1930s and 1940s, more people from other parts of the USSR settled in the new industrial

¹ The maps presented in this document do not imply the expression of any opinion whatsoever on the part of the Secretariat of the European Observatory on Health Care Systems or its partners concerning the legal status of any country, territory, city or area or of its authorities or concerning the delimitations of its frontiers or boundaries.

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.

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

Demographic and health indicators

The Kazakhstan population has decreased during the 1990s. There is some uncertainty about population estimates, however, and the first census since independence conducted in early 1999, should produce more accurate figures. The population may have decreased by nearly 1.4 million between 1992 and 1997, mainly due to out-migration of ethnic Russian and other groups. The birth rate has dropped from 23.1 births per 1000 in 1989 to 14.8 in 1997 (Table 1). The total fertility rate (the number of children a woman is likely to bear in her lifetime) began to decline in the 1970s, particularly among ethnic Russian women (20). The total fertility rate is lower than many middle income countries (with 2.0 in 1997) but higher than the European Union (EU) average. The Kazakhstan population structure is slightly older than the other central Asian republics, nevertheless nearly 30% are below the age of 15 years. The recent demographic shifts mean that the Kazakh people are again a majority in most oblasts, while Russians and other ethnic minorities are concentrated in cities and towns (33).

Table 1. Demographic indicators

Indicators	1989	1990	1991	1992	1993	1994	1995	1996	1997
Population (millions) ^a	16.5	16.7	17.0	17.1	16.9	16.6	16.5	15.9	15.8
% population under 15 years ^a	31.8	31.5	31.3	31.1	30.9	30.7	30.1	29.8	29.5
Crude death rate per 1000 ^a	7.6	7.7	8.0	8.1	9.1	9.5	10.2	10.4	10.2
Live births per 1000 population ^a	23.1	21.8	20.9	19.8	18.7	18.5	16.7	15.9	14.8
Total fertility rate ^b	2.9	2.7	–	2.5	2.3	–	2.3	2.0	2.0

Source: ^a WHO Regional Office for Europe health for all database; ^b UNICEF TransMONEE database 3.0

Health status indices generally improved in Kazakhstan from the 1950s but have deteriorated since the 1980s (19) (Table 2). Male life expectancy at birth fell from 63.9 in 1990 to 59.4 in 1997 (compared to 74.2 in the European Union in 1996); female life expectancy at birth dropped from 73.4 in 1990 to 70.6 in 1997 (compared to 80.8 in the EU in 1996). Life expectancy has fallen in Kazakhstan against a continuing rise in EU countries. Life expectancy is higher than might be expected from a lower middle-income country, however, and higher than regional neighbours such as Turkey.

Rates of various noncommunicable diseases have risen since the 1980s, as in most of the newly independent states (NIS), and may be associated with unhealthy behaviours such as a high fat diet, smoking, and alcohol abuse. The age-standardized male death rate from ischaemic heart disease has worsened dramatically during the 1990s (Table 2). In 1997 this was 207 per 100 000 population compared to the EU average of only 45. The incidence of alcohol-related diseases and accidents, which is high in the Russian Federation (17), is also high among the ethnic Russian population in Kazakhstan (20). Age-adjusted cancer mortality rates also are the highest among the central Asian republics, especially for oesophageal and lung cancer.

Communicable diseases, previously controlled, have returned to Kazakhstan, including those associated with poverty. The increase in poverty among the population (discussed later) underlies many of these deteriorating health indices. Kazakhstan has very high notification rates for pulmonary tuberculosis and also a high mortality rate. The incidence of TB (all forms) per 100 000 population in Kazakhstan was 91.4 in 1997 compared to an average of 67.4 in the newly independent states (NIS) and 13.2 in the European Union (Table 2). The incidence of other communicable diseases such as diphtheria and hepatitis has also increased.

Infant mortality, at 25.3 deaths per 1000 live births in 1997, is over four times the EU average of 5.7. However, Kazakhstan still uses definitions established by the former Soviet Union, which did not count as live births premature and low birthweight babies who died within seven days (2,20). Infant mortality rates, therefore, would be much higher if international definitions were used. The under-five mortality rate was 35.2 in 1996 (five times the EU average). Major causes of death include respiratory diseases, diarrhoea and accidents, which are mostly preventable deaths.

Maternal mortality rates are very high in Kazakhstan with 59.0 deaths per 100 000 live births in 1997 (more than eight times the EU average). Maternal mortality has not been reduced during the 1990s. Virtually all births take place in hospital.

Table 2. Health indicators

Indicators	1990	1991	1992	1993	1994	1995	1996	1997
Female life expectancy at birth ^a	73.4	73.1	73.0	71.6	71.1	70.4	70.3	70.6
Male life expectancy at birth ^a	63.9	63.7	63.6	61.0	60.5	59.3	58.9	59.4
SDR ischaemic heart disease 0–64 per 100 000 males	143	143	150	178	187	215	220	207
TB incidence per 100 000 (all forms)	65.8	64.4	64.4	60.9	62.4	67.1	87.6	91.4
Infant mortality rate (per 1000 live births) ^a	26.7	27.6	26.3	28.8	27.4	27.9	25.9	25.3
Under 5 mortality rate (per 1000 age group) ^b	34.9	35.6	34.2	38.1	36.2	38.4	35.2	–
Maternal mortality (per 100 000 live births) ^a	54.8	48.0	56.9	49.6	48.3	57.4	52.9	59.0
Abortions per 100 live births ^a	70.2	74.8	102.0	91.9	85.4	80.9	76.7	67.4

Source: ^a WHO Regional Office for Europe health for all database; ^b UNICEF TransMONEE database 3.0.

Anaemia is regarded as a major problem. Estimates vary but perhaps one half of women of reproductive age in Kazakhstan suffer from some degree of anaemia (20,12). Both reproductive health and dietary causes for anaemia are suggested 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 take-up of iron.

As in other countries of the former Soviet Union, abortion has been the main method of birth control, and the rates are very high with nearly as many abortions as live births in some years. The Kazakhstan rate of 67.4 abortions per 100 live births in 1997 is higher than the European Union (EU) average of 45 but lower than the 184 average for the newly independent states (NIS). Contraception use has increased, however, with nearly one third of women of reproductive age using an IUD or the pill in 1993, but these products are not always available or are too expensive (20).

The possible effects upon population health (mortality and morbidity) 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; also the remaining water is polluted from factories and agriculture. The already limited supply of fresh water in Kazakhstan is made worse by various forms of contamination. Air and water pollution is severe particularly in industrial areas. The problems of poor sanitation and contaminated water (salinity, toxins and bacteria) have increased in urban and rural areas. Radiation exposure from atomic testing in

the Semipalatinsk area (where underground testing continued until 1991) was also high, and some storage sites across the country for radioactive waste are defective.

Socioeconomic indicators

Kazakhstan, like its central Asian republic neighbours, had relatively good human development indicators, but these have been declining (32). Kazakhstan scored 0.709 on the Human Development Index in 1997, in the world group of countries with medium level of development, but slightly below the average for transition economies (34). The main indicators in this index (average life expectancy, adult literacy and educational attainment, and per capita GDP) all worsened during the 1990s. On a positive note, the central Asian republics have high adult literacy and education rates and Kazakhstan has higher rates than most of its neighbours; for example, 13% of its 18–22 age group are enrolled in tertiary education (34).

The decline in ‘human development’ factors indicates increasing poverty. Poverty rates and income differences across the region have increased significantly since independence (10). The severe economic and social disruptions of the 1990s have produced large numbers on low incomes, with consequent implications for their health and for their capacity to pay for health services and goods. Over 30% of the Kazakhstan population had incomes below the poverty line (a subsistence minimum) in 1996 according to a World Bank funded National Living Standards Survey (33). The UNDP takes a different measure, an income below the equivalent of \$4 PPP per day, which suggests that nearly 50% of the population live below the poverty line (33).

The Kazakhstan economy has been in severe recession during the 1990s (13,23). The worst recorded drop of –17.8% GDP in 1994 signalled a near collapse of the economy (Table 3). GDP per capita estimates vary, however, given large fluctuations in recorded GDP and in population size. For example, the UNDP reports cite lower per capita GDP figures taken from the Economist Intelligence Unit (33). Inflation rates worsened when the tenge replaced the Russian rouble in November 1993 but began to improve from 1996. (The exchange rate for US \$1 was KZT48.4 in 1994, KZT67.3 in 1996, KZT75.3 in mid-1997 and KZT85 in December 1998). Taking inflation into account, GDP per capita (in purchasing power parity) in 1990 was US \$4716 PPP and this had dropped to US \$2296 in 1996. One factor in the fall in purchasing power was the end of price subsidies for consumer goods when subsidies from Moscow ceased in 1991. There were considerable differences across oblasts in GDP per capita in 1996 ranging from 86% to 130% of the national average (33).

Table 3. Macroeconomic indicators

Indicators	1990	1991	1992	1993	1994	1995	1996	1997
GDP growth rate (% change) ^b	-0.4	-13.0	-2.9	-10.4	-17.8	-8.9	1.1	2.0
GDP \$ per capita ^a	–	–	1 684	1 445	741.4	982.1	1 316	1 415
GDP PPP \$ per capita ^a	4 716	4 490	4 270	3 710	3 284	–	2 296 ^c	–
Annual inflation rate (%) ^a	–	191	1 615	1 758	1 977	276	22	12
Government expenditure % GDP ^b	31.4	32.9	31.8	25.2	25.9	20.7	18.5	–
Real wages (base year 1991) ^b		100	64.8	49.1	32.9	33.4	34.4	–
Registered unemployment rate ^a	–	0.1	0.9	0.6	1.1	2.1	4.1	3.8

Source: ^a WHO Regional Office for Europe health for all database; ^b UNICEF TransMONEE database 3.0; ^c Economist Intelligence Unit.

Real wages in 1996 were about one third of the 1991 level. The registered unemployment rate of about 4% in 1997 does not reflect true unemployment (given very restrictive criteria), and major net emigration. A broader definition of labour force unemployment was about 12% in 1997 (38).

Government expenditure as a percentage of GDP declined from 31% to 19% of GDP between 1990 and 1996 (Table 3). This represents a public sector fiscal crisis since GDP has also dropped. Government revenue shrank dramatically with the switch from transfers from state enterprises, to tax collection from personal incomes and from corporations. Tax collection is a problem for all central Asian republics; for example, in Kazakhstan tax revenues were less than 13% of GDP in 1997 (7). Also, the budgetary transfer from Moscow to Kazakhstan ceased in 1991, which had been equivalent to nearly 12% of GDP (10). The decline in public sector revenue, and hence expenditure, is a major problem for all countries in transition from a socialist economy.

Given its problems, the Kazakhstan economy has recovered better than might be expected with modest GDP growth recorded in 1996 and 1997 after steep declines in the previous years (8).

The Kazakhstan economy initially suffered badly as the country depended for most of its export market upon the USSR and the collapse of demand resulted in a sharp contraction in the economy. Kazakhstan contains huge fossil fuel reserves as well as other minerals and metals. The industrial sector hopes to develop these natural resources, while new trade ties are being sought with markets outside the former Soviet Union. Kazakhstan has promising economic prospects given its vast natural resources. In particular, the Kazakhstan

government has pinned its hopes upon exploiting the country's hydrocarbon reserves. The Caspian Pipeline Consortium agreement was signed in December 1996 to build a new pipeline from the western Tengiz oil field to the Black Sea, and other pipelines are being discussed. Increased exports depend upon a rise in oil prices, however, to cover the substantial production costs involved in piping oil out of a landlocked and isolated country through other politically volatile countries.

Kazakhstan was a major grain producer for the former USSR and has a large agricultural sector with cattle, wheat and a variety of crops especially in the more arable south. The agricultural share in 1996 was estimated at 13% of GDP (38). New export markets are 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.

Kazakhstan has since 1991 pursued market-oriented economic policies. A structural reform programme was introduced in 1993 and an anti-crisis package in July 1994. The government programme of economic reform and privatization gathered pace from 1995. The government has embarked on a privatization programme with majority shares sold in most small and medium enterprises, management contracts let on large state enterprises, rights in oil, gas and mineral reserves let to foreign investors, and most state and collective farms privatized. The government has begun to reform the banking and financial sector and has undertaken a major pension reform programme (38).

Government administration

Kazakhstan is a unitary state with a Presidential form of government (20). Nursultan Nazarbayev became leader of the Communist Party of Kazakhstan in 1989 and has since 1990 ruled the country with the title of President. The president is elected to a five-year term and appoints the Prime Minister, the Cabinet of Ministers and the regional governors. President Nazarbayev has expanded his presidential powers by decree. Parliament was dissolved ahead of its full term in 1993 and 1994. Nazarbayev was re-elected unopposed in 1995 and again in 1999. In January 1999, the President approved the new fourteen-member Cabinet of the Prime Minister, Nurlan Balghymbayev.

A post-Soviet Constitution was adopted in 1993 and another in 1995. The Parliament consists of two houses whose members serve four-year terms. The Senate has 47 seats with 7 senators appointed by the president, and other members appointed by oblast councils (two members from each oblast). The Majilis has 67 seats based on electoral districts and filled by popular election. There are a large number of registered parties, but party politics is not highly devel-

oped since over two thirds of the Parliament elected in the 1995 elections had no party affiliation.

The country was divided into 19 administrative divisions, (Kazakh – oblys, Russian – oblast), plus the capital. A 1997 presidential decree, however, reduced the number of oblasts to 14. The oblasts are further sub-divided into 220 districts (rayons). The President appoints the senior administrators (the oblast akims or governors). The regional (oblast) administrations traditionally have been strong; akims wield considerable power and are also key players in decisions relating to the health care system, as are the oblast departments of finance. Local councils, the maslihat, have been elected since 1994, under a form of local democracy, but the akims can over-ride council decisions.

Historical background

An extensive health care system, developed during the Soviet era, was state-owned and centrally planned. The key principles were that services should be accessible to everyone and free. Before independence, the Ministry of Health in Kazakhstan administered policy made in Moscow through a centrally organized hierarchical structure, from the republic level to oblast/city administrations, then to the subordinate rayon level (41).

Health care in Kazakhstan in the early twentieth 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.

The early emphasis from the 1920s was upon 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 in a rural area, and to a polyclinic in an urban area, according to place of residence. The emphasis changed between 1950 and 1970 to specialist and hospital care, with many hospitals and polyclinics built, which reduced the resources available for primary care. The over-investment of resources in doctors and hospitals was based upon Soviet Semashko norms, which emphasized large numbers of hospital beds and doctors, rather than outputs and outcomes of health care.

In the 1980s, the system began to deteriorate and its management problems became apparent. The health sector traditionally had been assigned low priority compared to other ‘productive’ sectors of the economy. As budgets became tighter, the supply of health care services could not meet demand, and health care facilities were forced to unofficially transfer some costs to the population in user charges.

Structural problems included the centralized system of management and budgeting, which did not allow managers any flexibility. Budgets were allocated according to resources expended, such as numbers of staff and hospital bed days. 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. Standards 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 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 care system, as priority went to political and economic reform. The health status of the population generally worsened under deteriorating social and economic conditions. Improvements to the infrastructure and quality of health care services lagged due to the severe budgetary crisis. Various options were debated and demonstration projects were set up in four oblasts (Zhezkazgan, Semipalatinsk, South Kazakhstan and Almaty), in order to test new approaches such as restructuring primary care, insurance funding, new provider payment mechanisms and user fees. The pace of reform quickened from 1995 with the announcement of a new compulsory health insurance scheme. The considerable changes since then are discussed in the remainder of this report.

Organizational structure and management

Organizational structure of the health care system

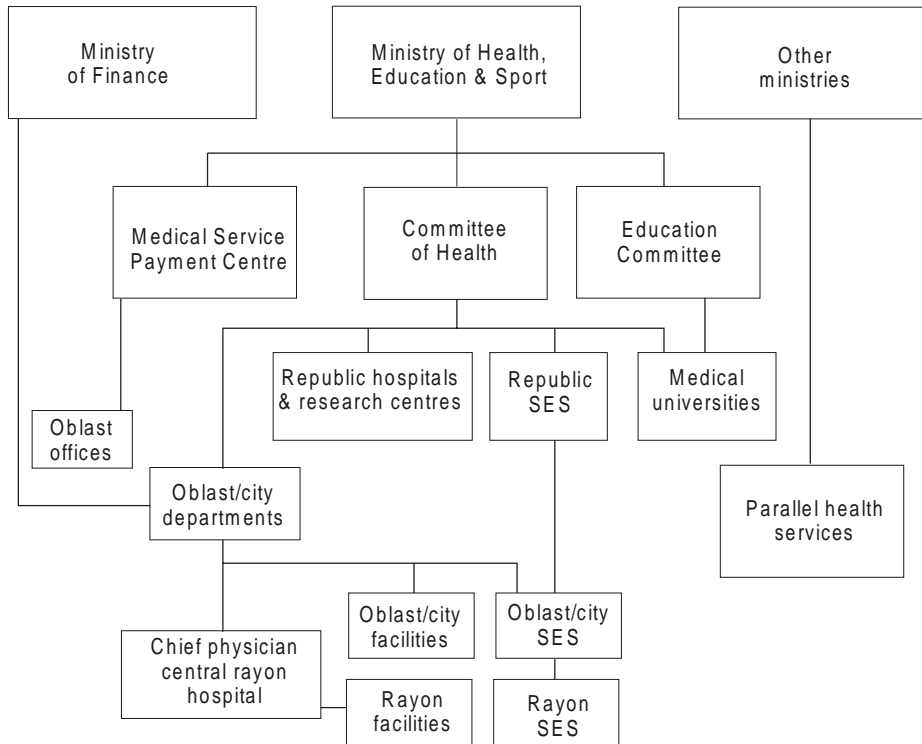
Since independence in 1991, Kazakhstan had to develop its own policy and planning capacity. Policy-making is highly centralized in an executive-style of government run by the President. Reform of the public sector was a high priority given its fragmentation into multiple ministry-level bodies and separate vertical departments (37). These have been restructured with the ministries reduced from twenty to fourteen, and state committees from twelve to two (33). The Committee 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. The key players in the health care system (Fig. 2) are summarized in the next section.

Committee of Health

The republican-level Committee of Health (formerly the Ministry of Health) is attempting to develop a strong role in health care policy (previously made in Moscow). Its main functions are formulating policy, preparing legislation, commissioning research, developing reform strategies, monitoring population health, supervising the implementation of reforms and ensuring the training of health personnel. The Committee of Health draws up the health care budget, controls the republican portion, nominally supervises the national research institutes and national hospitals, and has ultimate control over the mainstream health system. It also monitors environmental health through the Sanitary-Epidemiological Service.

Oblast and city administrations

The 14 oblast and 14 city health departments are the key bodies in administering health care and they run most of the hospitals and polyclinics. Following

Fig. 2. Organizational chart of health care system

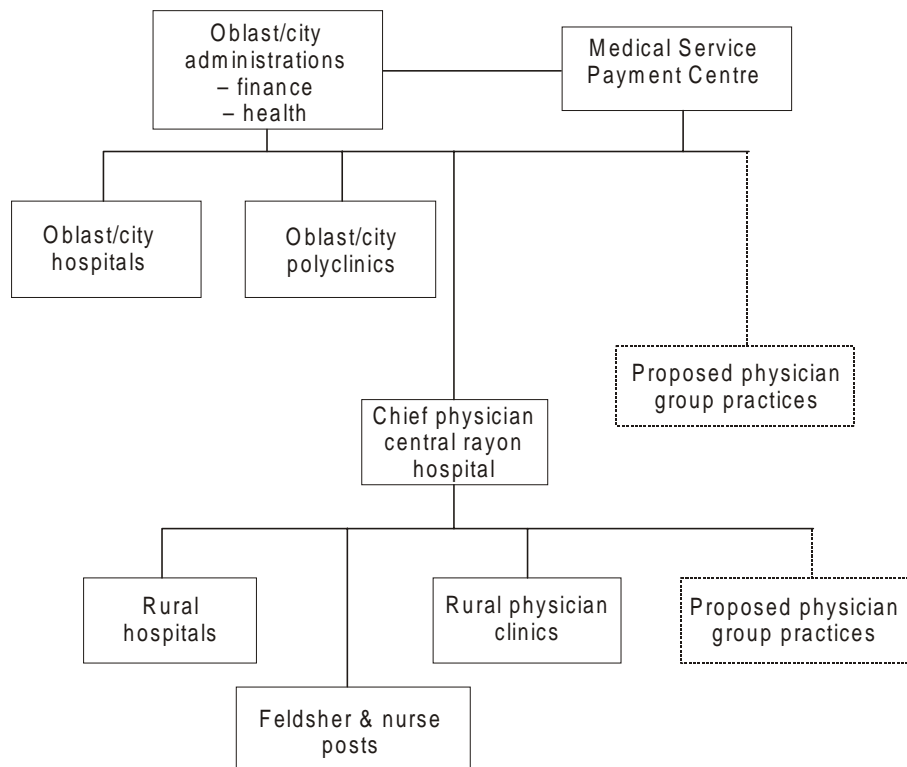
the 1995 Law of Local Self-government, more responsibility was transferred from the republic to the oblast level including the licensing of health care facilities. Oblast administrations are run by akims (governors) appointed by the President. The oblast administrations collect the majority of government revenue and keep a significant portion. Oblast administrations (including their finance departments and health departments) are therefore quite powerful although there is considerable variation in power and revenue across oblasts.

Rayons (districts) are subordinate to oblast administrations. The management of basic secondary care and most primary care is delegated usually to the chief physician of the central rayon hospital. Government policy aims to make many of these regional and district health care facilities more independent in managing their budgets and services, as discussed later.

Ministry of Finance

This Ministry is involved in departmental budget negotiations, formulates the budget to be approved by Parliament, and allocates funds to the Committee of Health. The Ministry of Finance also has its own oblast-level administrations.

Fig. 3. Organizational chart of regional and local health care system



Ministry of Labour and Social Welfare

This Ministry sets the national pay scale and the various remuneration incentives including extra payments for work with dangerous or hazardous specialties, and is responsible for formulating and overseeing labour laws.

Medical Service Payment Centre

This government department from December 1998 replaced the Mandatory Health Insurance Fund. This short-lived Fund, set up by Presidential decree in June 1995 and implemented from 1996, was accountable to the Cabinet of Ministers but has now lost its semi-autonomous status. In effect, health system funding has reverted from an insurance-based to a payroll tax-based system. (Financing is discussed in a later section). The government department will act as a central health services purchasing agency.

Autonomous health enterprises

Some health care organizations (such as hospitals, large polyclinics and primary health care groups) are now legally able to become juridical entities with the capacity to manage their own affairs. 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 as state-owned and funded institutions, and which will be reorganized as enterprises. These enterprises would be legally able to manage their own budget and negotiate directly with the Medical Service Payment Centre. This move to self-management by health care organizations is slowly being implemented.

Private health organizations/providers

Pharmacies and dentists have mostly become private for-profit organizations. Only a few hospitals, sanatoria and large polyclinics have become commercial organizations.

Parallel health services

Some ministries and government agencies run their own comprehensive (and higher standard) network of health services and theoretically report to the Committee of Health. These include the Ministry of Internal Affairs, Committee of National Security and Railroads Department. These represent a substantial share of the health care system. In 1996, these health care facilities had 14 695 beds (about 9% of hospital beds), which had been reduced to 9365 by 1997 (7%). Prior to 1992, some large state enterprises also ran their own health services but these have mainly closed.

Unions and professional associations

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 1994 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 (18).

The Trade Union Federation of Kazakhstan covers about 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 affiliates. All health care personnel were members of this union before independence, and it still covers 95% of health sector workers. Membership is practically automatic and fees are deducted from 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 government, and is consulted on policy documents, although not an ex officio member of policy committees.

Informal professional associations existed in the Soviet era for each of the medical specialities. Several physician associations have developed in the 1990s but are not yet influential bodies, having no statutory standing or formal representation on policy-making bodies. They offer views on health care policies and strategies and on the certification of specialists.

Planning, regulation and management

The Kazakhstan executive-style of government has ultimate control over policy-making. The Committee of Health has lacked the capacity and the power, however, to implement a comprehensive national health strategy. Health policy and planning has been developed upon an ad hoc basis in response to budgetary crises. Messages from the President set out broad goals (for example, *Kazakhstan 2030* and *Health of the Nation*).

The Committee of Health sets planning guidelines, and intends to set national standards and a national system of accreditation for health facilities. The health care system is difficult to coordinate, however, as most national health programmes are run through separate vertical administrations, and the implementation of policy and the regulation of standards depends upon the oblast administrations. The oblast administrations decide how far to respond to national goals.

The Mandatory Health Insurance Fund (1996–1998) was intended to be a major player through its control of half the health care budget. Its replacement, the Medical Service Payment Centre, is now under closer government control.

Decentralization of the health care system

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 care system, mostly involving pharmacies and dentists; for example, over 90% of drugstores were privatized by 1997 (33).

Private medical practice was permitted under the 1991 law *Protection of People's Health*. But by January 1997, only 834 physicians (1.6% of physicians) were working on a fee-for-service basis (33).

In January 1997, the government drew up a list of 615 health care organizations for privatization, that is, about 8% of the 8000 state owned health facilities in Kazakhstan (30). Only a small number so far have been privatized, and there is some confusion about the target number, process and status of such privatized enterprises. The 1997 governmental decree on *Privatization Programmes for Sectors* set out a list of thirty types of health sector facilities not subject to privatization, which will continue to be funded from the state budget. Oblast committees with representatives from the Committee of Health must decide (subject to the above exclusions) which state-owned enterprises will remain as state institutions, and which will be reorganized as autonomous enterprises funded under contract with the (now) Medical Service Payment Centre. There is some confusion, also, over which enterprises are 'for-profit' or 'non-profit'.

Privatization refers, therefore, to independent public sector organizations, as well as private 'for-profit' organizations. The stated intention is that about one quarter of health facilities will be private by 2000 (25). Various problems have emerged including the lack of national control over licensing, lack of control over professional standards, illegal privatization of some health care facilities, illegal profit-making, misuse of privatized facilities, and infringements of health insurance contracts. Legislation for regulating private health care facilities is to be improved.

Health care finance and expenditure

Main system of finance and coverage

Kazakhstan began the 1990s with a wholly government funded health care system (except for out-of-pocket payments by users). The Mandatory Health Insurance Fund established in 1996 received compulsory population health insurance contributions until the end of 1998. But from 1999, Kazakhstan in practice reverted to the previous payroll tax-based rather than insurance-based system. Health care revenue now comes from two main sources: the government budget, and out-of-pocket payments by health consumers. There is very little information on revenue sources, which are discussed in subsequent sections (Table 4). The following are the key points about the funding system.

Government figures underestimate the actual level of health care revenue, since substantial out-of-pocket payments by the population are not included. Results from a national household survey suggest nearly one third of health revenue comes from consumer out-of-pocket payments (4).

A dual health funding system was set up in 1996. The state budget was responsible for funding emergency care, tertiary care such as cancer, and public health activities, and provided over half of (known) revenue in 1998 (Table 4). The Mandatory Health Insurance Fund was intended to cover ambulatory care and also most inpatient care and drugs. The plan now is to reorganize but retain a dual funding system with state institutions funded from the state budget, and health care enterprises (juridical entities or incorporated bodies) funded on a contract basis.

Additional but unknown amounts of health care funds come from revenue retained by oblast administrations. Oblasts keep around half of the taxes collected in their area (with substantial variations across oblasts) and could in theory choose to spend extra upon health care.

Finally, the health care system has remained severely under-funded, receiving in some years only one third of its budget request, while the expected budget usually is revised downwards in the course of the financial year.

Table 4. Main sources of government finance (%)

Source of finance	1995	1996	1997	1998
Public				
State	100	88	55	55
Statutory insurance	–	12	40	40
Private				
Out-of-pocket *	–	–	5*	5*
Private insurance	–	–	–	–
Other	–	–	–	–

Source: Ministry of Education, Culture and Health.

Note: * Other estimates suggest that these payments constitute a much larger proportion of revenue.

Health service purchasing

The Mandatory Health Insurance Fund began activities in 1996 as a quasi-government body, but from 1999 was reorganized as a government department. Under the 1996–1998 arrangement, a single compulsory national system of health insurance was set up for the whole population (with the exception of the military who have their own health services). The employer deducted 3% of salary for those in work (in effect, a payroll tax), the oblast administration paid for socially vulnerable groups (children, students, unemployed, retired), while the self-employed were required to pay their own insurance. The insurance contribution was collected along with other social insurance deductions. The insurance scheme was administered through branch offices in the 14 oblasts and in Almaty city.

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 contributed about 40%, 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. First, many enterprises had large debts and could not pay payroll tax. Second, 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. Third, the state had to pay the contributions of those not in the workforce including the growing group of unemployed. Fourth, the oblasts did not pay their required contributions (for those not in the workforce) to the Fund. For example, oblast administrations by the end of 1998 owed the Fund KZT27 billion (26). Fifth, the Fund de-

faulted on contracts and owed health facilities KZT8 billion that oblast administrations are meant to now clear (26). Finally, confidence in the Fund collapsed with allegations of corruption and misappropriation of reserve funds.

The Fund was brought under firmer government control from December 1998 (and renamed the Medical Service Payment Centre). Insurance contributions will be collected as part of the social tax (21% of payroll in January 1999), and treated as government revenue, not an 'off-budget' fund, and an annual budget will be allocated to the new Centre. This reorganization is intended to ensure tighter state policy and fiscal control.

Health care benefits and rationing

Under the Soviet model of health care, services were, in principle, free and accessible to everyone and theoretically without limits. The insurance model (from 1996–1998) changed this expectation, but people continued to use public sector health care services as before, since health care providers could not easily distinguish between the insured and uninsured. Further, such a division was not generally accepted. With the demise of the insurance system in December 1998, the division between the insured and uninsured population no longer exists.

The previous insurance scheme, defined two types of benefits packages (guaranteed and basic). A guaranteed benefits package of services was provided by the state for all citizens. These services included emergency (life-threatening) treatment, the blood transfusion service, specialist national hospitals and research institutes (such as cancer and psychiatric care), and services for population groups (such as the disabled, war veterans, age pensioners and children), as well as programmes for communicable diseases such as tuberculosis. It also included public health services such as immunization and activities of the sanitary-epidemiology stations. From 1999, these services will be state-funded by the Committee of Health.

Under the previous insurance scheme, the second package (the basic benefits package) was available only to the insured (although in theory insurance was compulsory for the whole population). The package included ambulatory care and most inpatient care. From 1999, these services will be funded by local budgets (oblast, city and rayon) and also under contracts with the Medical Service Payment Centre.

User charges will be continued, however, which will limit the services freely available to the public. Decree 70 of 1999 requires the Committee of Health to

draw up a list of services that will be provided to the public for a fee. These will include self-referral visits to polyclinics and hospitals in an effort to reinforce primary care physicians as gatekeepers to specialized health services.

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

Complementary sources of finance

Although the health care system is mainly financed from public sources, there are also substantial but unknown private payments: formal payments (official user charges), informal contributions (supplying drugs and food), and also under-the-table payments to health care providers.

Out-of-pocket payments

Hospitals and other health care organizations now charge for services and this has become an increasing source of revenue. 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. These include full payments for health services not regarded as essential (such as some dentistry and cosmetic surgery). Many health care organizations need user payments in order to supply goods and services that are in short supply due to budget deficits. Patients often pay for food and drugs in hospitals although these are supposed to be provided, and are routinely given a list of medicines and medical supplies to bring with them to hospital. Patients usually pay for drugs, aids or dentures from outpatient services and polyclinics. The size of these official co-payments is now considerable. For example, the Almaty oblast raised 10% of its health care revenue in 1996 from such charges (5).

The 1996 Living Standards Survey of 2000 households in Kazakhstan showed that the majority of households make substantial out-of-pocket payments for goods and services to public sector health care institutions, so that a hospital admission could cost more than twice a person's monthly salary (33). Various estimates suggest that patient payments contribute at least one

third of health care revenue (4,39). There are no reliable estimates on informal payments made to staff, but this amount would add substantially to the above estimate.

Informal payments or ‘under-the-table’ payments have been a long-standing feature of eastern European health care systems (3). These have been difficult to measure since, although widespread, they are not officially sanctioned. The payments may be monetary or non-monetary (such as farm produce), or be paid to institutions or to individual staff members. The level of unofficial payments has increased in the past few years for several reasons: 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 care services.

Voluntary health insurance

Private and commercial health insurance funds including foreign funds can legally be set up. Few people have voluntary health insurance cover. Most of the population is covered by the public scheme, or people pay privately, or cannot afford such premiums.

External sources of funding

External sources of funding for health care in Kazakhstan include a large number of projects (42). However, there is no separate listing in the national health accounts. These sponsors include the World Bank, WHO, USAID, UNICEF, UNDP, UNFPA, the Asian Development Bank, the European Union, the International Red Cross, the United Kingdom Department for International Development and some other governments. The large number of donor-funded initiatives includes demonstration projects on primary care, new hospital payment mechanisms, substantial assistance with disease prevention and health promotion campaigns, and with medical equipment and supplies.

The World Bank has allocated US \$49.5 million from 1999 to 2002 to support Kazakhstan’s national health reform strategy aimed at the following: improving cost-effective health care services especially in primary care; supporting integrated health care reform; improving management capacity; and supporting health promotion. The national components of the World Bank supported project include tuberculosis control, health promotion, health policy and evaluation, and clinical training for GPs. The regional components (initially in East Kazakhstan and Almaty oblasts) are primary health care, facility rationalization, and strengthening financial and other management. The intention is to roll out the project over 10 years at a total cost to the World Bank of US \$162.5 million (40).

Health care expenditure

Several factors combined in the 1990s 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 precipitous drop in the health care budget between 1992 and 1995 meant that the health care system was barely maintained. The proportion of GDP allocated to health began the 1990s at a low level, declined further in the mid 1990s, and recovered slightly to 3.5% in 1998 (Table 5). This remains one of the lowest proportions in the WHO European Region. In 1996, Kazakhstan spent only 2.7% of GDP on health compared to an average for the newly independent states of 3.1 and a western European average of 8.4% (Fig. 5). Health care expenditure per capita was US \$58.1 PPP which was extremely low compared to the EU average of US \$1645 PPP (Fig. 6).

The health budget has been maintained at around 10% of the total government budget in most years. High inflation, however, has meant that health care expenditure in Kazakhstan in constant tenge (correcting for inflation) dropped considerably in 1993 and 1994 before recovering somewhat in 1997 as inflation dropped (Table 5). In 1994, real health expenditure was only 37% of pre-independence level (36). The 1999 budget is estimated at KZT 51 billion (26).

Table 5. Trends in health care expenditure, 1990–1997

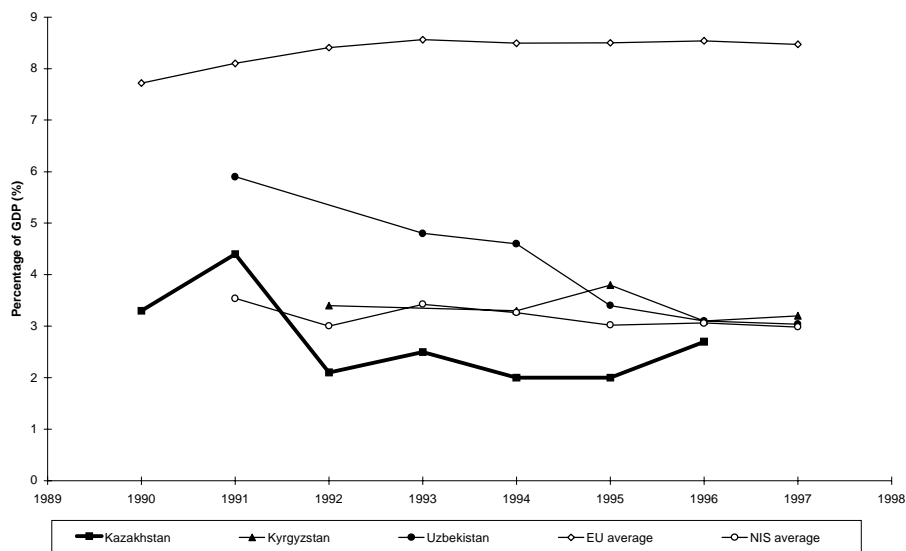
Total expenditure on health care	1990	1991	1992	1993	1994	1995	1996	1997	1998
Value in current prices KZT (million)	1 472.5 (rbls)	3 127 (rbls)	24 260 (rbls)	601 092 (rbls)	7 699	23 447	31 503	46 100	63 000 (est)
Value in constant prices (KZT million) ^e	–	–	–	–	389	8 495	14 319	38 417	–
Value in constant prices, per capita (US \$PPP) ^c	183	203	86	86	56	–	–	–	–
Share of GDP (%) ^a	3.3	4.4	2.1	2.5	2.0	2.0	2.7	3.2 ^b	3.5 ^b
Health % of government budget ^{c, d}	9	10	7	11	10	13	14	9	–
As % of 1990 health budget ^c	100	118	54	56	37	–	–	–	–

Source: ^a WHO Regional Office for Europe health for all database; ^b Committee of Health (11); ^c Klugman & Schieber 1999 (14, 15); ^d European Expertise Service 1998 (9).

Note: ^e Annual inflation rate used as deflator.

Actual expenditure is lower than estimated expenditure. The 1998 budget estimate of KZT63 billion was revised downwards to KZT49 billion and may be even lower. There is a substantial shortfall between the estimated (allo-
Kazakhstan

Fig. 4. Health expenditure as a percentage of GDP in Kazakhstan and selected countries, 1990–1997



Source: WHO Regional Office for Europe health for all database.

cated) and actual budget each year. For example, actual health expenditure in 1996 was only 85% of the estimated budget (33).

Structure of health care expenditures

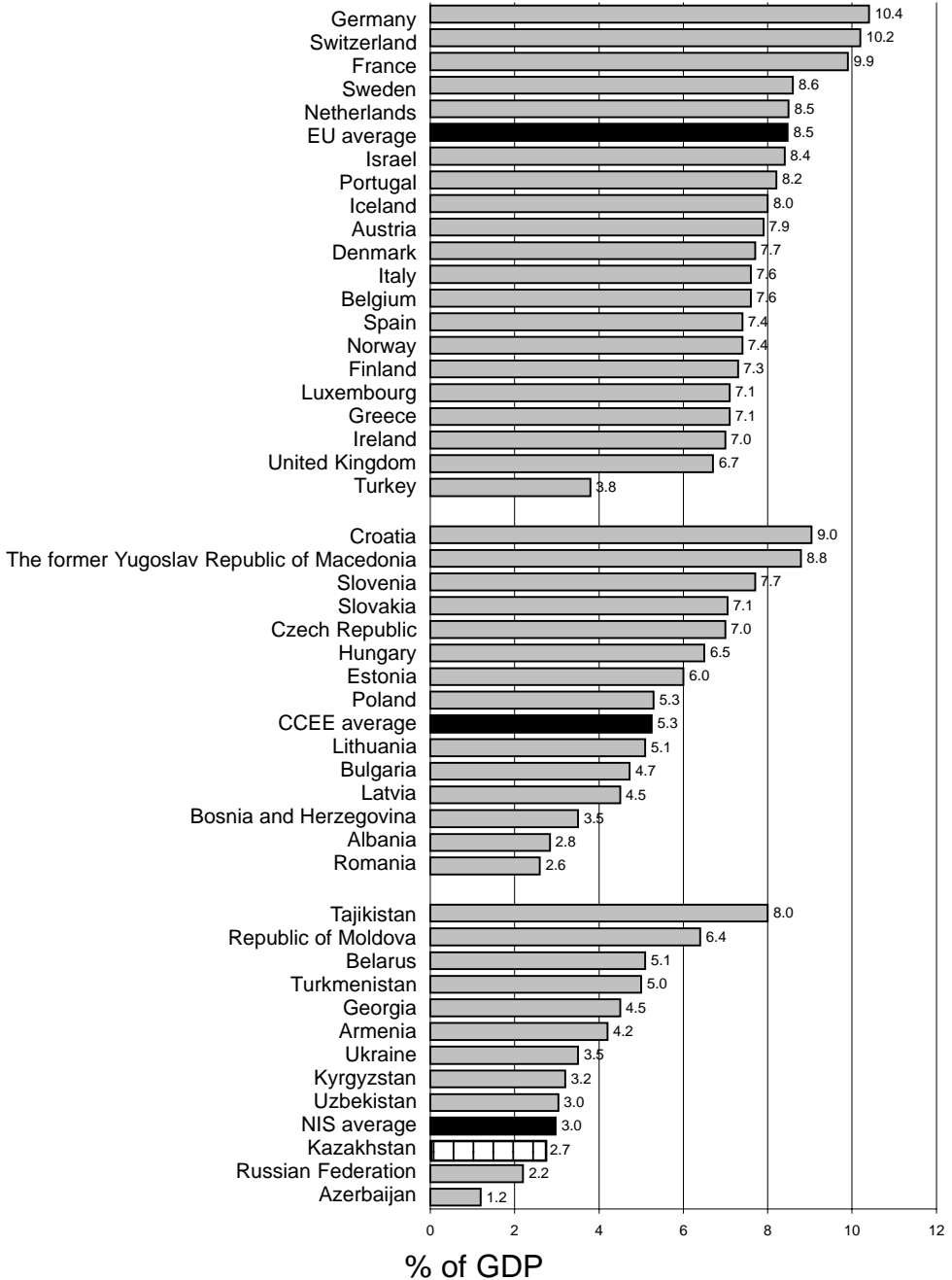
In Kazakhstan, as in other former Soviet countries, health care expenditures have been categorized as budget line items, so that it is difficult to trace what is spent on particular areas, such as inpatient care.

The salary proportion of the health care budget dropped in the mid 1990s to below 30% then rose slightly (Tables 6 and 7). The number of staff has largely been maintained until recently but at the expense of letting the already low salaries erode further.

Pharmaceutical expenditure rose to around 17% of the public budget in 1995 (Table 6). The population also makes substantial out-of-pocket payments for pharmaceuticals. The state budget allocation for pharmaceuticals was said to cover only 40% of the required amount (25).

Investment in the purchase and repair of equipment fell sharply during the 1990s because of the decreasing budget for health care. This is a serious problem, given the deterioration in buildings and equipment. Many buildings are increasingly dilapidated especially in rural areas, and health care providers have very

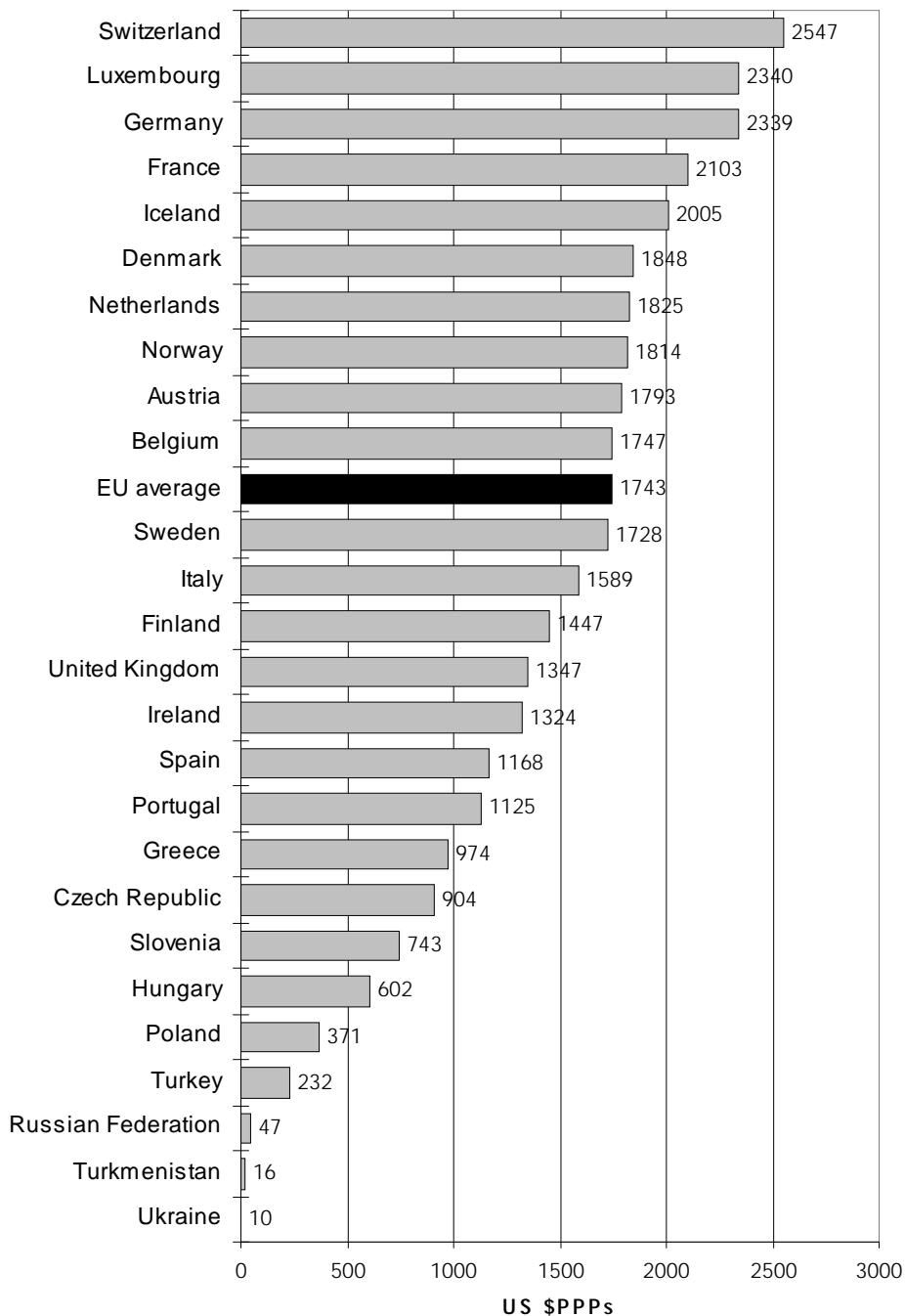
Fig. 5. Total expenditure on health as a % of GDP in the WHO European Region, 1997 or latest year



Source: WHO Regional Office for Europe health for all database.

Kazakhstan

Fig. 6. Health care expenditure in US \$PPP per capita in the WHO European Region, 1997 or latest available year



Source: WHO Regional Office for Europe health for all database.

little equipment, with some feldsher posts lacking even basic equipment such as syringes and weighing scales.

The amount spent upon overheads and utilities (such as electricity) were maintained (Table 7) since health care facilities had to stay open. Utility prices rose after deregulation in 1996.

Table 6. Health care expenditure by categories, (as % of total expenditure on health care), 1991–1997

Total expenditure on: as share of total expenditure on health care	1991	1992	1993	1994	1995	1996	1997
Inpatient care	–	–	–	–	–	–	–
Salaries	41.3	31.8	34.1	28.1	33.6	37.1	39.8
Pharmaceuticals	6.8	6.8	9.3	14.8	17.4	12.6	9.3
Investment	8.3	6.9	5.6	5.3	–	3.1	1.6

Source: WHO Regional Office for Europe health for all database.

Table 7. Health care expenditure by line item, (as % of total republican and territorial expenditure), 1991–1998

% of government health care budget	1991	1992	1993	1994	1995	1996	1997	1998
Salaries (excl. deductions)	45.3	32.6	31.5	30.0	31.2	37.1	47.6	30.9
Overheads & utilities	10.3	21.1	21.2	23.4	24.1	22.3	17.5	8.1
Food	7.7	11.5	10.5	12.5	13.8	8.8	5.4	6.0
Drugs	6.8	7.0	9.3	13.9	16.2	12.6	8.7	7.7
Other	29.9	27.6	23.9	20.2	14.7	19.2	20.8	47.3

Source: Ministry of Finance statistics

Health care facilities have incurred very large debts since revenue has been insufficient to cover costs. For example, debts were KZT9.5 billion in 1996 including salary arrears of KZT3.3 billion (33).

Hospitals take a very high proportion of the Kazakhstan health budget – nearly 75% in 1994 (Table 8). More recent figures are not available. The hospital proportion was said to be even higher during the 1980s, reaching 85%. This compares to the much smaller allocation of resources to hospitals in European countries, between 45% and 75% of health care resources (43); for example, in the United Kingdom with its government health care system, hospitals take less than half of the budget.

Ambulatory secondary care is included in hospital budgets and accounts for about one quarter of hospital expenditure (18). Polyclinics are attached to
Kazakhstan

many hospitals (in effect, as outpatient departments) but some also have a small number of inpatient beds. Free-standing polyclinic care appears to take about 6% of the health care budget (Table 8).

Primary health care clearly is left with only a very small proportion of the budget, although it is difficult to estimate what proportion of polyclinic services can be categorized as primary care. Overall, primary health care in the mid-1990s appeared to take no more than 10% of the overall budget.

Table 8. Health care expenditure by categories of health care, (as % of total republican and territorial expenditure), 1990–1997

Total expenditure on: as share of total expenditure on health care	1992 ^a	1993 ^a	1994 ^a	1995	1996	1997
Hospitals	73.6	71.7	73.1	–	–	–
Polyclinics	6.1	6.8	6.5	–	–	–
Feldsher posts (FAPs)	1.1	1.0	0.8	–	–	–
Public health	4.1	5.1	4.5	–	–	–
Capital investment	1.0	0.5	0.2	–	–	–
Other	14.0	14.9	14.8	–	–	–

Source: ^a World Bank 1996b, Table 13 (37).

Most health care funds are channelled through the oblast and city administrations, over 85% of the government health care budget in 1994 (44). Republic level expenditure on national level hospitals, research institutes and national programmes was about 10% of the total government budget between 1994 and 1997 (11).

The health care delivery system has been substantially reorganized since 1995, as explained in the next section. It is not yet clear whether this has produced any significant re-allocation of funds within the health sector.

Health care delivery system

Health care has been delivered somewhat differently in rural and urban areas. In rural areas, primary care is delivered through feldsher posts, rural physician clinics, and small rural hospitals. In urban areas, primary and secondary care is delivered by polyclinics, basic secondary care by district (rayon) hospitals, more specialized secondary care in regional (oblast or city) hospitals, and tertiary care in national specialist institutes. Throughout the system the tendency has been to refer patients to a higher level of care. This delivery system is in the process of being reorganized. The eventual intention is that primary care will be delivered by family physicians, and consequently many small hospitals have been closed. The levels of health care, and types and numbers of health care facilities (shown in Table 9), are described in the following sections.

Table 9. Health care facilities, number

Facilities	1994	1995	1996	1997	% change 1994–1997
Research institutes	14			17	21%
Oblast/city hospitals	36			36	0%
Specialist hospitals	199			204	3%
Emergency hospitals	43	43	41	42	-2%
Maternity hospitals	44			44	0%
Central rayon hospitals (CRBs)	219	218	214	157	-28%
Rural district hospitals (SUBs)	684	577	341	208	-70%
Other					
Total hospitals	1 649	1 518	1 245	963	-42%
Emergency posts	279				
Polyclinics/OP departments	3 527	3 405	3 156	2 726	-23%
Rural physician clinics (SVAs)	1 365	1 462	1 529	1 457	+7%
Feldsher posts (FAPs)	4 980	4 898	4 706	4 377	-12%

Source: Committee of Health (11); Akanov (1)

Primary health care

The feldsher-midwifery post (FAP) (feldsher accoucheur post)

The feldsher post 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 health prevention activities such as immunization, health education, and dispensed medication prescribed by doctors. Doctors visited these posts regularly from the nearest physician clinic, polyclinic or district hospital. These posts served populations of about 700–1000. This system is now in a very poor state. The feldsher-midwife posts have dropped in number from 4980 in 1994 to 4377 by 1997 (Table 9). Many are in poor condition, lack even basic equipment or medications, and not all posts are fully staffed. Many have no running water, power or sanitation (29).

Rural physician clinics (SVAs)

These clinics in rural areas usually consist of an internist, paediatrician, nurse and midwife, and sometimes a surgeon and dentist, who provide ambulatory care. They are responsible to rayon health administrators. There were 1457 clinics in 1997 (Table 9). These physicians visit and receive referrals from the feldsher posts and provide basic medical primary health care.

Polyclinics

The polyclinic system is being restructured with a clearer distinction between primary and secondary care. Polyclinics are free-standing or attached to hospitals. Urban polyclinics provide both primary and secondary ambulatory care. In 1997, there were about 2726 polyclinics and hospital outpatient clinics, the number having dropped by over 20% since 1994 (Table 9). The city polyclinics are big medical facilities with around 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. Under the previous system, patients registered with the doctor who covered their home address. Primary care is gradually being taken out of polyclinics and organized as a distinct service, with physicians being retrained as family doctors.

Emergency posts/ambulance stations

Emergency posts provide a 24-hour service in free-standing or hospital-based ambulance stations. The staff team consists of physicians, feldshers and nurses, with specialist backup such as cardiologists. Patients call an emergency phone 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 hospital, 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.

Family planning

Family planning advice has been the responsibility of feldsher posts and women's polyclinics, but abortion rates remain high and many women cannot afford contraception. The President's message in 1997 in *Kazakhstan 2030* called for the 'improvement of health of women and children, together with a broad pro-natalist policy to curb the decline in population'. The Kazakhs traditionally were in favour of large families, and under Soviet policy a woman who had seven or more children was proclaimed as a 'mother-hero' and given various extra benefits (20). A national programme has been set up led by the Maternal and Child Health Institute, which mainly works through a separate vertical structure of women's health centres rather than through the primary health care system.

Primary health care reforms

Rural health care has suffered disproportionately from severe budget cuts. Further, with the dissolution of many state collective farms and enterprises, rural health services (including rural hospitals) can no longer count on their support, including in-kind contributions such as food and building maintenance, which in the past were considerable (4). One problem with access to health services in rural Kazakhstan is the lack of public and private transport between dispersed villages and the central town of the district; another is the shortage of physicians in rural areas. Over 1500 villages and small settlements do not now have resident health care facilities (34).

Primary health care reform was endorsed by the Committee of Health in its orders (prikazes) 500 and 501 which also allow independent status for family practices. Primary care is being substantially reorganized with the help of

financial and also technical assistance mainly from the World Bank, USAID (Zdrav Reform) and the United Kingdom Department for International Development. Some group practices have been developed as a first step to promoting general practice. The eventual intention is 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 feldsher-midwife posts, rural physician clinics, and a rural hospital have formed territorial medical centres or primary care centres. These may become self-managed bodies with fiscal and legal independence able to manage patient capitation funds and provide services under contract.

In urban areas, primary care is gradually being moved out of polyclinics into primary care centres. Some primary care centres have been set up, comprising groups of physicians (internist, obstetrician/gynaecologist and paediatricians) and located in facilities either separate from or inside polyclinics. The intentions are that a general physician would have about 2000 enrolled patients, and that patients can choose their group practice and doctor. These physicians eventually will be general practitioners but this specialty was not introduced in Kazakhstan until the mid 1990s .

There were 172 family medical centres in rural areas in 1997 and 87 in urban areas (33). The World Bank is supporting the Government's strategy to establish new primary care centres in two oblasts with the aim of expanding to a national project over 10 years. Other demonstration projects have begun in four sites with the intention of rolling out to 17 other sites. These projects (also supported by USAID and the United Kingdom Department for International Development) have detached physicians from polyclinics, retrained them in short courses, and encouraged internists, paediatricians and obstetric/gynaecologists to work together and also transfer skills.

One proposal is that the demonstration primary care centres should also prioritize diseases that are cost-effective to treat: for example, acute respiratory infection in children under 5 years of age, anaemia in women of childbearing age, childhood diarrhoeal disease, tuberculosis and viral hepatitis (35).

Public health services

An extensive system of sanitary-epidemiological stations (SES) was developed in the Soviet era with a successful record in controlling communicable diseases. The SES remain administratively separate from the rest of the health care system, being administered in a vertical hierarchy of control from the republic (national)

level, to the oblast/city SES, then to the rayons. A Deputy Chairman of the Committee of Health is responsible for the SES system. These stations are responsible for preventing and controlling communicable diseases and also those caused by environmental pollution, for investigating epidemics, monitoring the safety of working conditions, and monitoring food and water safety. In 1996, there were 57 sanitary-epidemiological stations throughout the country. With the return of previously controlled communicable diseases such as TB, and the degradation of clean water supplies and worsening sanitation, the traditional tasks of these stations have become more important. For example, water filtration and purification systems have broken down in many areas, and in rural areas about half the water supply no longer works (25).

The largest SES have laboratory capacities and also carry out most bacteriology tests for the hospital system. SES physicians are trained in their own medical faculties, which also conduct national-level research and monitoring. Staffing has been cut significantly and many laboratories are in poor condition with outdated equipment and a severe shortage of essential materials.

The sanitary-epidemiological service is responsible for immunization campaigns in conjunction with rayon health departments. These campaigns faltered from 1992 so that the immunization coverage of children was reduced and that of adolescents and adults ceased (25). Standard immunization cover for children for six major infectious diseases has been re-established; for example, overseas aid organizations are helping with polio programmes, and reported coverage (96%) for measles is again high (Fig. 9).

Kazakhstan is experiencing a serious TB epidemic with one of the highest notification rates for pulmonary tuberculosis in the European region and a high and rising mortality rate. About 13 000 patients were detained in TB hospitals in 1998 (25). International organizations (USAID, World Bank and Centres for Disease Control) are now funding screening and treatment projects. The Luxembourg government helped equip a microbiological laboratory in early 1999. The Kazakhstan Tuberculosis Research Institute recently endorsed WHO treatment protocols (including DOTs treatment) with standardized out-patient drug treatment and less recourse to long-term hospitalization.

Kazakhstan intends to improve AIDS health education, prevention and diagnosis since this disease is expected to increase. There were 815 HIV cases in 1998. The rates were highest in the central oblasts of Karaganda and Jezkazgan, including the depressed steel company town of Timirtau, and are associated with sexual transmission but also injecting drug users (31). Rates of various sexually transmitted diseases (STDs), including syphilis, are also rising. Drug abuse is also increasing using opium derivatives, cannabis and psychotropic substances. International organizations are working with the government

of Kazakhstan to organize a coordinated response to HIV, STDs, TB and injected drug use, partly by setting up pilot projects for high risk populations, such as in Timirtau and in the prisons (31).

Active programmes of health education and promotion previously did not exist and any efforts were mainly the responsibility of the primary health care services. However, the President's 1997 message in *Kazakhstan 2030* (24), which set out a 30-year welfare strategy for the country, emphasized the importance of public health and also health promotion as a long-term priority. This called for the prevention of diseases, the promotion of healthy lifestyles, combating abuse of drugs and the trade in illegal narcotic drugs, reduction of tobacco and alcohol consumption, improvement of women and children's health, protection of maternal and child health, and improvement of nutrition, environment and ecology. Modern health promotion work has really only begun during two last years. The National Centre for Healthy Lifestyle was established in 1997 with its own vertical programme of advisers. An intersectoral Health Promotion Council was set up in 1997. The Kazakhstan National Healthy Lifestyle Strategy 1998–2000 was approved by government decree in 1998. Despite various proposals, so far, there has been little action taken on reducing tobacco consumption and alcohol abuse.

Environmental health issues, although recognized as a major problem in Kazakhstan, remain neglected in terms of government action (which requires an intersectoral approach) and also in direct health interventions (21). 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 effects of environmental degradation and pollution upon health. 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.

Secondary and tertiary care

Secondary and tertiary care facilities can be divided into the following types (according to the types and numbers shown in Table 9).

Polyclinics are free-standing or located in hospitals as outpatient departments and, as explained earlier, 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 (about 95%) are in the public sector. Around 400 polyclinics have beds that

Fig. 7. Levels of immunization for measles in the WHO European Region, 1997 or latest available year



Source: WHO Regional Office for Europe health for all database.

can be used for day hospital or longer admissions. Some polyclinics have been closed with an over 20% reduction in number between 1994 and 1997. Part of this is due to hospital closures but also primary care is slowly being moved out of polyclinics. The intention is to improve the level of skills and resources so that in future some diagnosis and treatment now done in hospitals could be undertaken in polyclinics.

Rural village hospitals (SUBs). Small rural hospitals with about 20–25 beds were used for simple emergency care, basic secondary care, and maternity care. They were an inpatient base for the rural health care system and also provided outpatient care. Many of these buildings had deteriorated badly by the 1990s and had little equipment or drugs. Kazakhstan has an over-supply of hospitals, especially small hospitals, compared to many countries, but their closure has reduced the access of the rural population to health care until primary health care is strengthened. There were only 208 rural hospitals in 1997, which is a massive 70% reduction from 684 in 1994 (and down from 830 in 1991).

Central rayon hospitals (CRBs) are located in the largest town in the district, have about 100–300 beds, are staffed by a range of specialists, and many also house a polyclinic. There were 157 central rayon hospitals in 1997, a reduction of nearly 30% from 1994.

Oblast/city hospitals (regional and urban hospitals) have about 600–1000 beds and offer a fuller range of specialties and more advanced technology. These are usually located in the main town in the oblast. There were 36 such hospitals in 1994 and a similar number in 1997.

Specialized hospitals are very numerous since many disease categories and population groups are treated in separate hospitals: for example, children's hospitals, cardiology, tuberculosis, psychiatric, neurology, maternity and emergency hospitals. There were about 290 such hospitals in 1997.

National hospitals and research institutes (republican) provide tertiary care and conduct research. There were 17 scientific research centres including 10 hospitals in 1998 mostly in Almaty. These included research institutes for cancer, neurology, obstetrics and gynaecology, paediatrics, psychiatry and TB.

Secondary care issues

Kazakhstan had one of the highest proportions of hospital beds in Europe in 1990, but this has recently dropped closer to the European Union average (Figs 8 and 9). The number of hospitals per 100 000 population dropped from 10.7 in 1990 to 6.1 in 1997; the number of hospital beds per 1000 population dropped from 13.7 in 1990 to 8.4 in 1997 (Table 10). The population ratio of the main types of hospital beds have all dropped: medical, surgical, maternity and paediatric (Table 11). These are dramatic drops in a very short time although an

unknown proportion of these beds was not in use. Between 1990 and 1997, the number of hospitals was reduced by 46% (nearly half), and the number of acute hospital beds by 44%. These closures have greatly reduced the access of rural people to health services until other health service options are developed.

The government policy to ‘optimize health care facilities’ has therefore involved both hospital and bed closures (25). Much of this reduction was achieved by closing small village hospitals, and more closures are intended (Table 9).

National criteria were drawn up, mainly based upon occupancy rates and the standard of facilities. A major problem for standard-setting is that about two thirds of equipment in health facilities is said to be out-of-date or in need of repair (25). The standard of care in many hospitals is poor given their poor state of repair and lack of even essential medical supplies such as antiseptics. The high level of infections in hospitals is said to be a factor in the high rate of maternal and neonatal deaths.

The occupancy rate of below 80% in acute care hospitals throughout the 1990s suggests an over-supply of hospital beds, as does the dropping rate of admissions per 100 population (Table 10). It also suggests deterioration in the capacity of the hospital system to provide services.

The average length of stay in Kazakhstan has remained high (Table 10) compared to the European Union. The average stay in a Kazakhstan acute hospital in 1995 was 14.5 days compared to 8.7 in the European Union (43).

Table 10. Inpatient facilities utilization and performance

Inpatient	1990	1991	1992	1993	1994	1995	1996	1997
Hospitals per 100 000 population	10.73	10.58	10.64	10.72	9.95	9.18	7.82	6.11
Hospital beds per 1000 population	13.7	13.6	13.3	13.3	12.4	11.6	10.3	8.4
Admissions per 100 population	23.6	23.1	21.8	21.2	18.5	17.1	15.9	15.1
Average length of stay in days (all hospitals)	16.0	16.0	16.3	16.3	16.8	17.1	17.3	16.5
Average length of stay in days (acute care hospitals)	14.3	13.7	14.0	14.0	14.3	14.5	14.6	13.6
Occupancy rate (% acute hospital beds)	79.0	78.7	77.7	76.1	73.9	72.1	73.7	80.8

Source: WHO Regional Office for Europe health for all database.

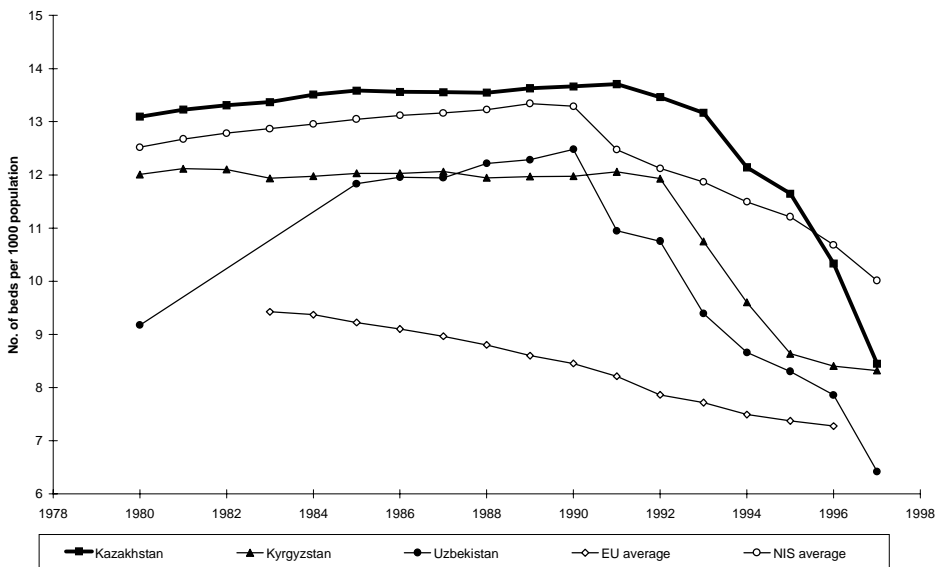
There are various reasons for the lengthy stay. The funding formula rewards hospitals for admitting and keeping patients in hospital. Inpatients get free medication but outpatients must pay, which is an incentive for staff to keep

Table 11. Number of hospital beds

Type of hospital	1990	1991	1992	1993	1994	1995	1996	1997
Psychiatric beds ^a	–	–	–	–	13 555	12 995	12 107	10 845
Total hospital beds ^a	227 810	230 397	228 418	225 386	205 243	192 627	164 529	133 095
Medical beds								
per 1000 population ^b	1.97	1.97	1.97	1.94	1.63	1.4	1.0	0.79
Surgical beds								
per 1000 population ^b	0.8	0.8	0.79	0.78	0.75	0.73	0.63	0.58
Maternity beds								
per 1000 population ^b	1.3	1.12	1.1	1.08	1.05	0.99	0.83	0.71
Paediatric beds								
per 1000 population ^b	2.81	2.73	2.65	2.61	2.35	2.17	1.84	1.55

Source: ^a Committee of Health (11); ^b Kulzhanov 1998 (16).

people in hospital to ensure treatment. Much outpatient treatment in EU countries instead is done on an inpatient basis in Kazakhstan. For example, the majority of Kazakhstan hospital admissions are medical admissions, not surgical admissions as in EU countries (6). Treatment protocols also recommend longer stays than currently apply in EU countries. For example, maternity stays are much longer than in the United Kingdom. TB patients have long hospital and then sanatorium stays, whereas TB patients in EU countries generally are treated

Fig. 8. Number of hospital beds per 1000 population in Kazakhstan and selected countries, 1980–1997

Source: WHO Regional Office for Europe health for all database.

Kazakhstan

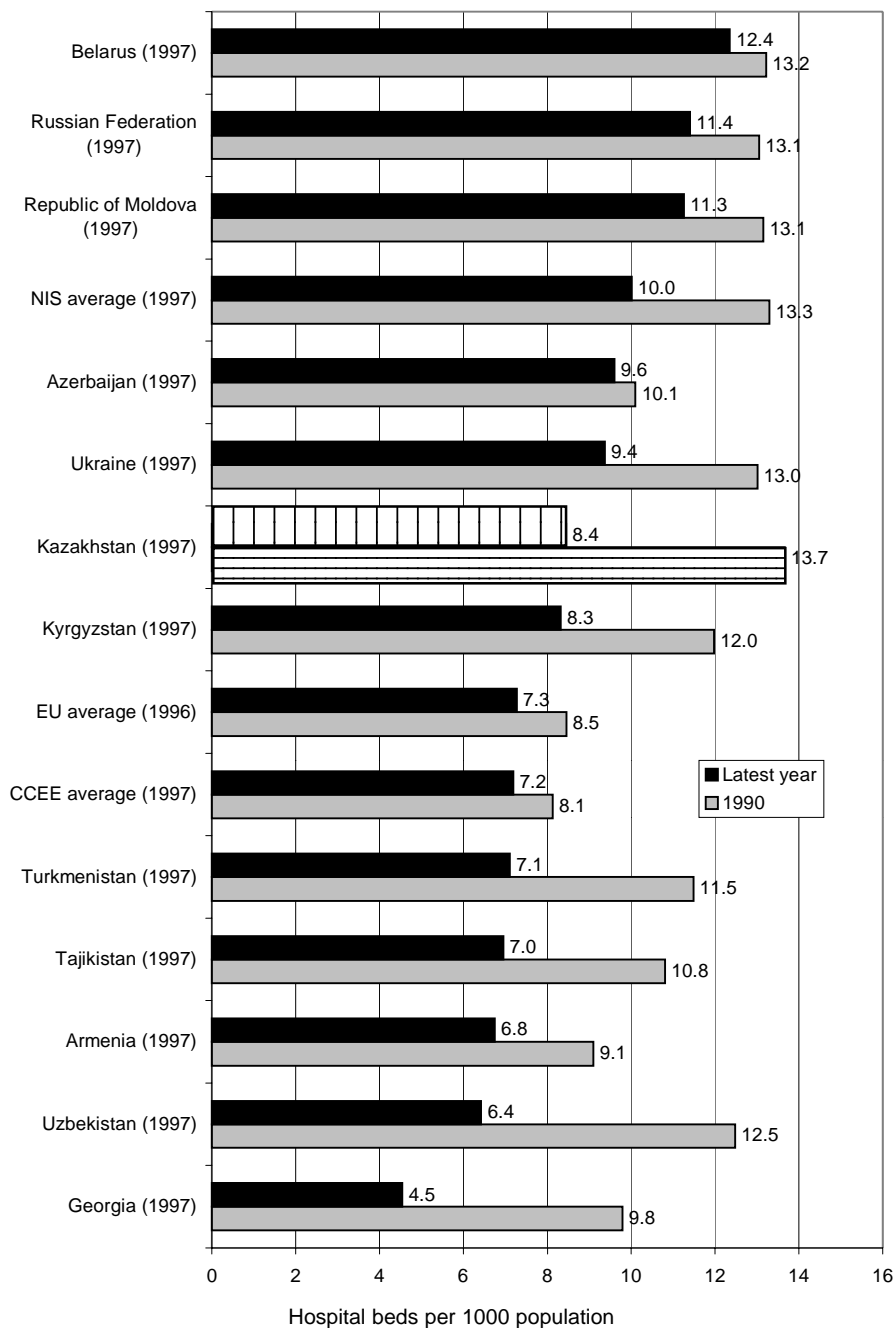
Table 12. Inpatient utilization and performance in the WHO European Region, 1997 or latest available year

Country	Hospital beds per 1000 population	Admissions per 100 population	Average length of stay in days	Occupancy rate (%)
Western Europe				
Austria	9.2 ^a	25.1 ^a	10.5 ^a	75.1 ^a
Belgium	7.3 ^a	20.0 ^a	11.3 ^a	81.4 ^b
Denmark	4.7 ^a	19.8 ^b	7.3 ^a	79.1 ^b
Finland	9.3 ^b	26.7	11.0	74.0
France	10.5 ^a	22.8 ^b	11.2 ^a	75.0
Germany	10.2	—	14.3 ^a	79.8 ^a
Greece	5.5 ^a	15.0 ^b	8.2 ^a	—
Iceland	10.8 ^e	28.0 ^c	16.8 ^e	70.3 ^h
Ireland	3.7 ^a	15.1 ^a	7.5 ^a	82.3 ^a
Israel	6.1	19.0	13.0	93.0
Italy	6.1 ^a	17.5 ^a	9.4 ^a	77.4 ^a
Luxembourg	11.0 ^c	19.4 ^c	15.3 ^a	74.3 ^c
Malta	5.8 ^a	—	—	—
Netherlands	5.1	9.8	13.8	64.4
Norway	13.5 ^c	15.3 ^a	9.9 ^a	81.1 ^a
Portugal	4.1	11.8	9.3	70.1
Spain	4.3 ^a	10.0 ^a	11.0 ^a	73.9 ^c
Sweden	5.6 ^a	18.0 ^a	7.5 ^a	81.9 ^a
Switzerland	8.7 ^f	15.0 ^c	24.5 ^h	77.7 ^c
Turkey	2.5	6.9	6.1	57.7
United Kingdom	4.5 ^b	23.1 ^a	9.8 ^a	76.2 ⁱ
CCEE				
Albania	3.0	7.7	7.9	—
Bosnia and Herzegovina	4.5 ^f	8.9 ^f	13.3 ^f	70.9 ^f
Bulgaria	10.3	17.5 ^a	12.9	64.1 ^a
Croatia	6.0	14.9	12.9	89.3
Czech Republic	8.8	20.2	12.3	71.8
Estonia	7.4	18.3	10.9	71.4
Hungary	8.3	23.7	11.0	74.4 ^a
Latvia	9.7	21.7	12.9	—
Lithuania	9.8	21.8	12.9	—
Poland	6.2 ^a	11.6 ^b	10.4	—
Romania	7.4	20.9	10.0	—
Slovakia	8.3	19.9	12.1	78.5
Slovenia	5.7	16.2	10.0	77.7
The former Yugoslav Republic of Macedonia	5.2	10.0	13.4	63.9
NIS				
Armenia	6.8	6.7	13.9	36.1
Azerbaijan	9.6	5.8	17.5	—
Belarus	12.4	26.1	15.5	88.7 ^c
Georgia	4.5	4.3	10.5	26.8 ^c
Kazakhstan	8.4	15.1	16.5	80.8
Kyrgyzstan	8.3	17.5	14.5	83.6
Republic of Moldova	11.3	18.7	18.0	80.0
Russian Federation	11.4	20.6	16.6	87.7
Tajikistan	7.0	11.0	15.0	59.9
Turkmenistan	7.1	13.0	13.4	72.1
Ukraine	9.4	19.1	16.2	85.2
Uzbekistan	6.4	15.8	13.8	—

Source: WHO Regional Office for Europe health for all database.

Note: ^a 1996, ^b 1995, ^c 1994, ^d 1993, ^e 1992, ^f 1991, ^g 1990, ^h 1989, ⁱ 1986.

Fig. 9. Hospital beds per 1000 population in the newly independent states (NIS), 1990 and (latest available year)



Source: WHO Regional Office for Europe health for all database.

Kazakhstan

as outpatients on an active drug regimen in accordance with WHO treatment protocols (35). A reduction in average length of stay therefore requires different treatment procedures, better treatment resources, and better ambulatory care and post-hospital care.

Social care

Social care is the non-medical care of dependent people such as the very elderly and younger disabled people. Social care was poorly developed in the former Soviet countries, including Kazakhstan, since much non-medical care took place in hospitals or was the responsibility of families. The closure of many small village hospitals suggests that families will have to care for people who previously were cared for in hospital.

Health sector policy in most OECD 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 social care is not well developed, many patients are cared for in hospitals, and also stay longer because community-based services are not available.

Kazakhstan has some residential homes for older people run by oblast administrations but few nursing homes. The voluntary sector (NGOs) has grown during the 1990s but is not very active in social care, which is seen as the responsibility of families (33). The care of children with learning disabilities is the responsibility of the Ministry of Education. The long-term mentally ill are cared for in oblast psychiatric hospitals.

Human resources and training

Kazakhstan has a high level of public sector employment. The country had one of the highest levels of government employment in the world in the mid-1990s, and health personnel account for about 40% of government employees (37). The general view is that the health sector is over-staffed and that there is an over-supply of physicians (who are overly specialized).

The number of health care personnel in most occupational groups has dropped (physical persons) by more than 20% between 1990–1997 (Table 14). The number of active personnel is difficult to ascertain, however, since a significant proportion of staff have remained on the payroll, but not in active

employment, in order to qualify for various social benefits. Some reductions have involved shedding these staff and others over retirement age. A small proportion, such as dentists and pharmacists, have moved to the private sector and are not counted in the public figures. Between 1990 and 1997, the number of physicians dropped by 22% and the number of certified nurses by nearly 30% (Table 14). It is not clear, therefore, what proportion of staff have left the health sector.

Physicians

Kazakhstan is among the upper range of countries in the WHO European Region in terms of number of physicians. The population ratio of physicians in 1995 of 3.6 per 1000 population was higher than the European Union average of 3.0 (Figs 10 and 11). The population proportion and also the number of physicians has dropped steadily from 1993 onwards (Table 13 and 14). Some loss is attributed to a shift to the private sector or out of the health sector, and also the out-migration of ethnic Russians.

Kazakhstan in 1998 had five medical schools, a medical faculty within a larger university, and a private medical school. Physicians are trained for six years and specialize in their sixth year. Only a small proportion graduate in internal medicine – the nearest equivalent to general practice. Paediatricians are trained in an entirely separate course. Sanitary-epidemiological service physicians are trained for five years in separate faculties. Dentists are trained in a separate five-year course.

Changes have been introduced from 1997 onwards in order to upgrade medical education to international standards. The intention is to devote the sixth year to general practice with a one-year residency (internship) after graduation. Chairs of Family Practice have been set up but there is a shortage of educators able to teach general practice. The various specialities have moved to postgraduate level: currently there are six basic specialities and 80 other listed specialities.

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 family practice specialty was introduced in 1995 as a four-month short course at the postgraduate medical institute and other short courses are being mounted at approved sites.

Training in general practice (both for undergraduates and for practicing physicians) is being supported with both technical assistance and funding from the United Kingdom Department for International Development and the World Bank.

Table 13. Health care personnel per 1000 population, 1980–1997

Staff	1980	1985	1990	1991	1992	1993	1994	1995	1996	1997
Physicians	3.04	3.63	3.98	3.80	3.87	3.81	3.67	3.64	3.64	3.30
Dentists	0.31	0.37	0.42	0.41	0.42	0.43	0.41	0.41	0.38	0.27
Certified Nurses	7.08	8.08	8.94	8.57	9.37	9.03	8.61	8.29	7.76	6.68
Midwives	1.06	1.15	0.94	1.02	0.95	0.86	0.82	0.75	0.71	0.62
Pharmacists	0.71	0.84	0.87	0.87	0.85	0.75	0.67	–	–	–

Source: WHO Regional Office for Europe health for all database.

Table 14. Health care personnel numbers, 1985–1997 (physical persons)

Staff	1990	1991	1992	1993	1994	1995	1996	1997	1990–1997 % change
Physicians	66 277	64 517	66 301	64 465	60 901	60 125	57 941	51 998	-22%
Dentists	6 924	6 910	7 130	7 326	6 786	6 716	6 034	4 215	-39%
Cert. Nurses	149 037	162 296	160 449	152 600	142 728	137 006	123 507	105 212	-29%
Midwives	15 624	17 342	16 208	14 576	13 535	12 476	11 234	9 739	-38%
Pharmacists	14 580	14 724	14 590	12 703	11 096	–	–	–	

Source: WHO Regional Office for Europe health for all database.

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 and Strategic Research (KIMEP) and at the Centre for Medical and Economic Research.

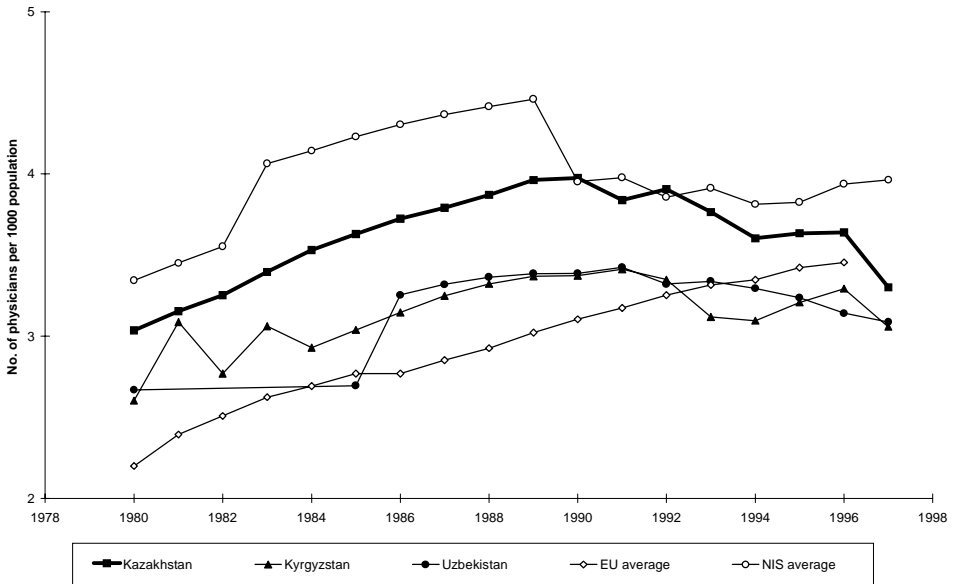
The number of new physicians graduating has continued to rise during the 1990s even though there are few available jobs (Table 15). Unemployment is said to be a problem among new medical graduates, and this is likely to continue.

Table 15. Physician and nurses graduating, 1980–1997 (per 1000 population, and physical persons)

Staff	1980	1985	1990	1991	1992	1993	1994	1995	1996	1997
Physicians	0.20	0.19	0.15	0.15	0.17	0.18	0.20	0.21	0.22	0.21
Nurses	0.62	0.70	0.66	0.65	0.66	0.63	0.64	0.61	0.38	0.45
Doctor										
Graduates (pp)	–	3 005	2 419	2 527	2 984	3 110	3 314	3 393	3 462	3 235
Nurse										
Graduates (pp)	–	11 084	11 024	11 052	11 250	10 629	10 585	10 088	6 047	7 120

Source: WHO Regional Office for Europe health for all database.

Fig. 10. Number of physicians per 1000 population in Kazakhstan and selected countries, 1980–1997



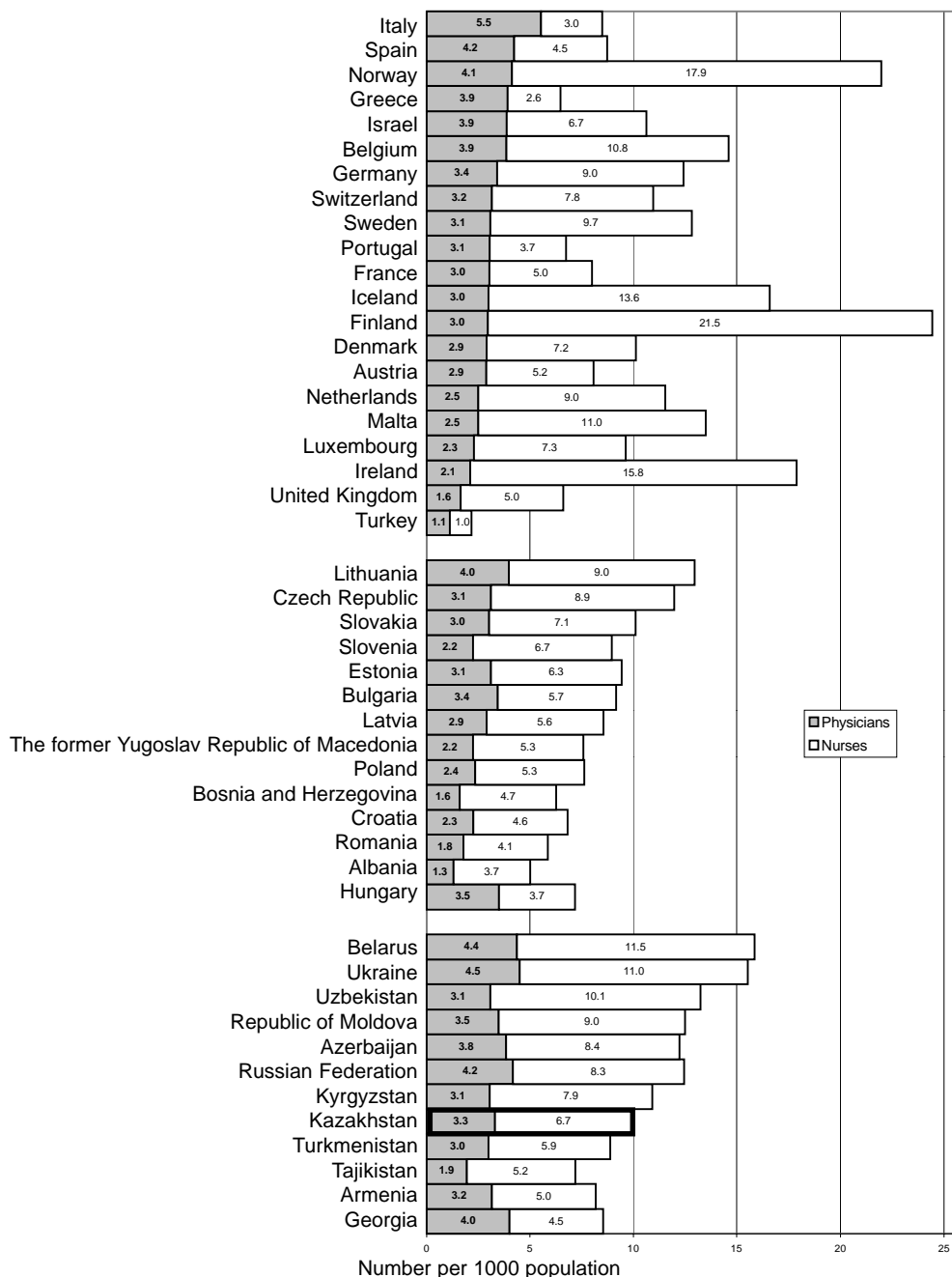
Source: WHO Regional Office for Europe health for all database.

‘Middle level’ professionals

The population ratio and number of certified nurses and midwives has dropped throughout the 1990s (Tables 13 and 14). Some of the loss is attributed to nurses leaving this low-paid occupation. The population ratio of 6.7 nurses per 1000 population is lower than many European countries although there is considerable variation (Fig. 11).

There are 26 medical colleges (including two private) that train nursing and other ‘middle level’ health personnel. Students can enter nurse training after nine years’ schooling (full primary and secondary schooling is 11 years): nurse assistants do a one-year certificate; a diploma in nursing is a two-year course or a three-year specialized diploma; midwife training nearly three years and feldsher training up to four years. Nursing has problems with low recruitment, low status, the need to upgrade training, and a lack of nurse educators. The State Nursing College in Almaty began to offer a four-year degree course from 1991. Kazakhstan appointed a Chief Nurse in 1988, as did some oblasts. There is now an Association of Nurses of the Republic of Kazakhstan.

Fig. 11. Number of physicians and nurses per 1000 population in the WHO European Region, 1998 or latest available year



Source: WHO Regional Office for Europe health for all database.

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

The reported numbers of dentists and pharmacists also fell substantially between 1990 and 1997, but much of this fall may be due to professionals leaving the public sector for private practice.

Salary and working conditions

In countries of the former Soviet Union, the health sector was not seen as productive compared with sectors such as mining, so that wages for health care personnel were set below the workforce average. The current national wage scale is based upon a grid plan with 14 categories associated with different occupations; these progress stepwise according to years of experience. Health sector workers are classified in Group 1 with the average monthly salary in 1997 of KZT5726 compared to the top Group 3 workers (in construction and industry) who earned over KZT13 300 (34,9).

The average workforce monthly wage in Kazakhstan in 1998 for physicians was below the workforce average (Table 16). There is, however, a large salary range for hospital physicians. Middle-level health workers, such as nurses, earned considerably below the workforce average. Physicians earn only about one third more than nurses.

Table 16. Workforce average monthly salaries

Staff	1995	1996	1997	1998
Workforce monthly average KZT ^a	T5 233	T7 777	T8 649	T9 816
Workforce monthly average USD ^a	\$85	\$105	\$114	\$125
Physician ^b				T8 675
Middle level health workers USD ^b				T5 509
Lower level health workers USD ^b				T4 335

Source: ^a European Expertise Service 1998, Table 5.1 (9); ^b UNDP 1998:41 (34).

Physicians earn more than their base salary, however, through various bonus payments, and through 'under-the-table' payments from patients. Physicians might also be appointed to more than one position. Low salaries are a cause of qualified staff leaving the health sector, and physicians complain that they deserve higher professional, income and social status.

Both private and public sector organizations in Kazakhstan are in substantial salary arrears, many by more than three months. In 1998, wage and salary arrears in the health sector amounted to KZT2051 million (34). In 1998, the Health Insurance Fund defaulted on its contracts with health facilities, which were then unable to pay staff salaries. In rural areas particularly, some health sector staff had not been paid for over six months.

The skill mix is being adjusted in many European countries with the aim of increasing the number of trained nurses in relation to the number of doctors. The ratio in Kazakhstan is two nurses for every doctor while, at the other end of the range, Norway has about 5:1 (Fig. 11). In Kazakhstan, doctors often do tasks that in the western European countries would be performed by nurses, while nurses do many tasks that elsewhere would be performed by auxiliary nurses or support staff. The difference in Kazakhstan is that, first, the salary differential is not large and, second, nurses receive far less training than doctors.

The distribution of health care professionals in Kazakhstan is weighted to urban rather than rural areas, which has been exacerbated in recent years by physicians leaving rural areas. In 1996, the average number of physicians per 1000 population was 1.6 in rural oblasts and 3.5 in urban oblasts; middle-level personnel were 6.7 in rural oblasts and 7.5 in urban oblasts (11). Upon graduation, new doctors used to be required to work for three years in rural areas but few remained beyond that time.

A new Labour Law for the Republic of Kazakhstan is being drafted.

Pharmaceuticals and health care technology assessment

The pharmaceutical distribution industry has mostly been privatized and the state company, Pharmacia, broken up. There are now ten large wholesale companies and hundreds of small distribution companies. More than 90% of pharmacies are privatized, having been sold annually at auction since 1995 (33).

There was considerable disruption in supplies after independence in 1991 and the country still has a serious shortage of drugs. Over 95% of drugs are imported and many more are smuggled into the country.

The government wishes to develop domestic production. Various efforts have been made to establish a Kazakh medical-pharmaceutical industry to decrease the dependency of the republic on imports.

Pharmaceuticals expenditure accounts for a low proportion of the state health budget (10% in 1997) compared to well over that in most European Union countries. This proportion is low because many patients must purchase their own drugs, including inpatients, although the official policy is that these should be supplied by the hospital.

Under the Soviet health care system, drugs were freely available and their use was encouraged. There was a very long list of drugs, but many were not identifiable under international categories. An approved list of essential drugs was drawn up in 1995 by the Committee of Health, based on WHO categories, listing 290 items in 1998. There is no state regulation of the drugs that can be imported and sold, with the exception of the essential drugs list, so that a great variety of drugs are available.

The 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 will be to increase health care costs.

Financial resource allocation

Third-party budget setting and resource allocation

Kazakhstan is a centralized state so that the oblast and city budgets are mainly determined at republican level. Of the general revenue collected within an oblast, some is retained and the rest transferred to the republic, which redistributes to achieve some levelling on a per capita formula. Available resources determine the size of the health budget. For example, in 1998, the Committee of Health asked for KZT120 billion, but the Ministry of Finance allocated KZT49 billion (40% of the requested amount).

The health budgetary process involves negotiations between oblast and city administrations, the republican level Committee of Health and the Ministry of Finance. Budgets were based upon historical 38 line item budgets (last year's budget plus modifications) with the recent addition of a per capita formula. The budgetary process is political as well as historical, however, with considerable differences throughout the 1990s in per capita health expenditures between oblasts (44). The budgetary process has been undergoing substantial changes.

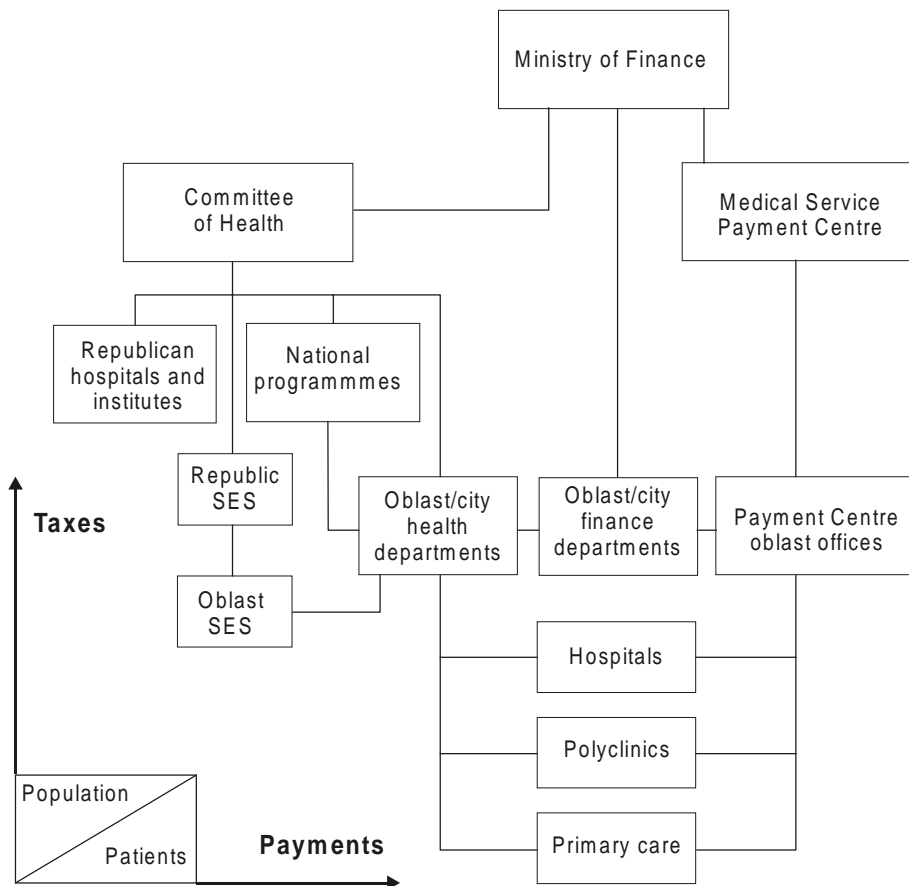
A dual payer system was in force between 1996 and 1998 with funding divided between the state (republic and territorial levels) and the Mandatory Health Insurance Fund. The Fund financed services mostly run by territorial administrations, such as most outpatient and inpatient care. The Committee of Health funded emergency care, specialty facilities (such as TB), national programmes and public health.

A dual payer system has been continued. A 1998 decree (No 737) categorized health providers into national bodies to be funded by the Committee of Health, and local health organizations to be funded from government budgets (oblast, city or rayon) and also by the Medical Service Payment Centre. Health care organizations are to be categorized by ownership and funding source: state-owned institutions, state-owned enterprises, and privatized enterprises.

The Medical Service Payment Centre will fund local health care institutions and enterprises on the basis of contracts. The intention is to draft national guidelines on contracts and quality of care, and to standardize policies and procedures, which previously had varied significantly across oblast insurance offices. The laws and regulations regulating the state purchase of goods and services will apply (the GosZakaz system) when awarding contracts for a defined package of services on a competitive basis (30).

The Medical Service Payment Centre and the Committee of Health are to jointly draft tariffs (fee schedules for services) and submit these for approval to the akims of oblasts.

Fig. 12. Financing flow chart



Payment of hospitals

Under the Soviet model, hospitals were funded by their administrations (republican or territorial) based on their previous year's expenditure (on up to 18 budget categories), but mostly upon 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.

From 1996 to 1998, contracts between the Mandatory Health Insurance Fund and hospital administrations were developed based upon activity: that is, treated inpatients, and number of patient visits to 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, hampered by the lack of information on unit costs.

Pilot projects funded by the World Bank in the East Kazakhstan and Almaty oblasts, in the first phase of the project from 1999 to 2002, are developing a performance-based hospital payment system including case mix (diagnosis-related groups).

The hospital payment mechanism intended by the new Medical Service Payment Centre will be based upon the number of treated cases categorized (eventually) according to diagnosis related groups. Polyclinics will be funded according to the number of patient visits and based upon a schedule of fees for each type of procedure. This payment system is in the early stages of development.

Payment of physicians

Salaried government physicians are paid a set salary according to a detailed national pay scale drawn up by the Ministry of Labour. Demonstration projects in some oblasts have begun to pay health personnel a salary based on three parts: a guaranteed basic salary, extra for the number of patients seen, and extra for the type of procedures performed. Various physician payment mechanisms are being tried in demonstration projects in oblasts including Semipalatinsk and Jezkazgan.

Some primary care doctors worked as partial fund-holders in contracts with the previous Mandatory Health Insurance Fund. They were paid a capitation fee for their registered patients. In 1997, the monthly per capita fee was KZT25–33 (about US \$0.40). The fee was not adjusted for different risk groups and there were no checks upon refusals to register patients nor upon the level of physician salaries. Since 1998, in a series of orders (*prikazes*), principally 500 and 501, the government has set out its intention to reorganize primary health care in which physician family practices would have independent legal status. Physicians would act as ‘fundholders’ with financing based on patient per capita funds. The precise basis for financing has not been decided. One proposal is to pay primary care physicians a capitation fee, plus a patient fee-for-service, or a payment based upon a tariff of specified procedures.

Health care reforms

Aims and objectives

Health care reforms in Kazakhstan have been driven by several factors: the need to stabilize the health care budget; to improve the deteriorating health of the population; to shift resources to more cost-effective health care; and to restore the confidence of the public in the health care system. The reform process is also driven by the conditions set by external donors.

Reform became increasingly pressing in 1994 when the health care budget had shrunk to about one third of its pre-independence level. Health care services were barely maintained financially with more recourse to increased out-of-pocket payments by patients.

The health status of the population had begun to deteriorate from the 1980s as shown by a drop in life expectancy in Kazakhstan, while that in western Europe was increasing. This east-west gap continued to widen during the 1990s. Previously controlled communicable diseases returned to Kazakhstan and new noncommunicable diseases such as cardiovascular disease began to increase.

About three quarters of the health budget was committed to an extensive and expensive system of hospital care with insufficient resources trickling down to primary health care. There were few incentives for health care providers to offer more efficient and more effective health care.

Patients were increasingly dissatisfied with dropping standards of health care and their lack of choice in using health care services.

In order to address these problems, a Ministry of Health document in 1992 on *The Concept of Health Care Reform* called for the following reforms:

- the establishment of a health insurance scheme
- the decentralization of administration
- the 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.

Reforms and reform implementation

Health care reforms were delayed in Kazakhstan until the mid-1990s. The reform of the economy received priority given the severe crisis resulting from the country's political and economic separation from the former USSR in 1991. The transition from a socialist model economy and the development of new internal and external markets has continued to be problematic, so that the country is thought unlikely to prioritize human development problems until the main economic reforms have been implemented some time after the year 2000 (33).

A Mandatory Health Insurance Fund was implemented from 1996 to 1998. The Fund incurred large deficits, since payroll tax-based contributions were much less than expected, the oblast administrations did not transfer payments for socially vulnerable groups, and the Fund defaulted on contracts with health care providers. The Medical Service Payment Centre, set up from 1999, will purchase a large portion of the country's health care services using funds allocated from general revenue.

The state (republic and territorial) still owns most health facilities. The oblasts and cities administer health care services and have some discretion over the extent to which they comply with national programmes. A major change, so far only slowly implemented, is the opportunity for health care facilities to become self-governed organizations (incorporated or juridical bodies) with legal and financial autonomy.

Private practice was permitted from 1991 onwards. Although many dentists and pharmacists have moved into private 'for-profit' practice, only a small proportion of physicians have done so. From 1997 onwards, more physicians will become semi-autonomous practitioners in group practices funded through patient capitation funds.

The health care system remains extremely inefficient although incentives are slowly being introduced to manage resources to produce the most cost-effective outcomes. Reforms have aimed to decentralize management, to introduce self-government for health care organizations, to introduce market-like practices such as contracts between purchasers and providers, and to change methods of funding health care providers. Experiments are underway with different payment methods including payments based upon outputs and outcomes.

The reform process has been characterized by considerable fragmentation, since implementation at oblast level is extremely varied, and also because many projects are conducted at oblast level without necessarily any national policy coordination.

The policy has been to 'optimize health care facilities'. The high population proportion of hospital beds has been reduced by over one quarter between 1990 and 1997, and the total number of hospitals has dropped by nearly one half (mostly the village hospitals). These are dramatic reductions.

The policy intention is to redirect some health care currently provided in hospitals to lower levels of the health care system. One strategy is to close hospital beds so that treatment is not supply-driven. A second strategy is to reduce the length of hospital stays. A third strategy is to move treatment from hospital inpatient care to polyclinics. A fourth strategy is to establish primary care physicians as gatekeepers who control referrals to secondary care. The fifth strategy is to upgrade skill levels so that much treatment currently provided by hospital staff can be provided by primary and secondary care staff. These changes are slowly being implemented.

Primary care was neglected with the budget heavily weighted towards specialist and inpatient care. There is no evidence as yet of any significant budgetary shift towards primary care. A substantial number of family practices have been set up since 1997, however, and some physicians are being retrained in family medicine.

Training and research reforms involve upgrading the medical education system and reducing the bias towards narrow specialties. Changes have been introduced mainly since 1997 with general practice introduced into the sixth year of the course and specialty training shifted to postgraduate education. The health care sector has a large number of staff and these numbers are slowly being reduced.

Programmes directed at population health have received much more attention since 1997. The President's 1997 message *Kazakhstan 2030* set out a broad social policy agenda (24). The eight health policy tasks included the development of a healthy lifestyle and other areas of health promotion and disease prevention. The May 1998 Presidential Decree (No 3956) *The Health of the Nation Programme* (25) was an extensive overview of health issues for the country, the priorities for change, and ways of achieving these goals by the year 2008. Strategies and quantifiable target goals were set across a large number of population health areas (twenty or more) but in broad rather than specific terms. The programmes are to be funded out of existing government funds. The government set up the National Centre for Healthy Lifestyles and endorsed its National Health Lifestyle Programme in December 1998.

Important legislative and other events

Laws and regulations may be promulgated by Presidential decree (*prikaz*), by an Act of Parliament, by a government executive order or by departmental orders. The following are a list of some of the key initiatives.

- 1991 Law on ‘Protection of the People’s Health’
- 1992 Executive directive *The concept on health care reform*
- 1992 Law on National Budget
- 1994 On sanitary-epidemiological welfare
- 1995 Law on Local Self-government
- 1995 Presidential Decree *On compulsory medical insurance of citizens*
- 1995 Presidential edict *On privatization*
- 1996 On pharmaceutical aid
- 1996 On psychiatric care and entitlement of citizens
- 1996 On supplemental measures to decrease infections
- 1996 On prevention of AIDS
- 1996 Government decree (246) *Privatization and restructuring of state property*
- 1997 Government decree (65) *On sectoral programmes for privatization and restructuring*
- 1997 Government decree *On measures for public administration restructuring*
- 1997 President’s Message *Kazakhstan 2030*
- 1997 Decree (1387) On reorganization of the mandatory health insurance fund
- 1998 Law on Family Practice
- 1998 Presidential Decree *Priority measures for the improvement of health of the people of the Republic of Kazakhstan*
- 1998 Presidential Decree *The health of the nation programme*
- 1998 Presidential Decree (737) On adoption of programmes and sub-programmes of the Ministry of Health Education and Sport for the purposes of drafting the state budget for 1999
- 1999 Decree (70) on guaranteed package of benefits
- 1999 Amendments to the tax code.

Health for all policy

The President’s 1998 message on The Health of the Nation included areas which correspond to the principles of the WHO health for all policy, although precise targets were not set.

Conclusions

Reforms have been introduced progressively into the Kazakhstan health care system mainly since 1994 and this time frame is too short to assess their effectiveness. The funding and management of health services are undergoing major changes. Health care services in Kazakhstan face formidable challenges in the context of economic and social upheavals and growing numbers of people living on subsistence incomes.

The first challenge was to establish the health care system on a financially viable basis. Public expenditure on health care dropped to 2.0% of GDP by 1995 – one of the lowest rates in the WHO European Region. The health budget has since returned to its 1991 level, but is still substantially below the level needed to maintain health care services.

Major reforms are under way especially in relation to hospitals and also to primary care. The policy on ‘optimizing health care facilities’ has seen dramatic reductions in hospitals and beds (which previously were one of the highest rates in the European Region). Primary care is in the process of being reorganized, the intention being to set up family doctor group practices.

Equity, in terms of universal access to, and use of health services across the population, was a key feature of the Soviet health care model. Several inequities have emerged during the 1990s, however, associated with the budget crisis. As the government health budget shrank, people increasingly had to pay for health services and drugs, which disadvantaged those on subsistence incomes. The compulsory insurance scheme left one quarter of the population without cover, thus contributing to the demise of the scheme. Rural areas have suffered more than urban areas from health budget cuts and hospital closures. Until primary care is strengthened, the closure of small rural hospitals has left many rural people with little access to health services. Continuing variations in health status and in health resources allocations across oblasts remain a key issue. Kazakhstan must consider population and distances when planning the optimal (and affordable) number of hospitals.

Efficiency gains are not yet apparent. The health care system remains very fragmented with consequent overlap and inefficiencies. For example, some Ministries and large enterprises provide a parallel system to mainstream health care services; different levels of administration provide the same service type; services for some population and diagnostic groups are organized separately from mainstream services. The health system had a high proportion of resources committed to expensive hospitals and specialized physicians. Throughout the system the tendency is to refer patients to a higher level of care. New management and budgeting systems are being put in place that are expected to produce greater efficiencies. Cost pressures will continue to rise, however, as health workers demand salaries commensurate with their level of skill and responsibility.

Consumers will have more choice of physician in the new group practices that are being established. Improvements in the quality of care are not yet evident especially since the retraining of health care professionals has only just begun. Further, these staff are still experiencing very poor working conditions and low salaries that are not conducive to raising the standards of care.

Health gains are not yet evident using mortality measures, such as life expectancy and maternal mortality, especially since such gains must be made against a background of the impoverishment of the population. Kazakhstan looks to the future for improvements given the substantial natural and human resources of the country, and the opportunity to make the required changes and improvements to its extensive health care system.

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