

European **Observatory**
on Health Care Systems



Health Care Systems in Transition

Uzbekistan



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

Health Care Systems in Transition

Uzbekistan

2001

Written by
Farkhad A. Ilkhamov and Elke Jakubowski

Edited by
Steve Hajjoff

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.

Keywords

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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 Greece, Norway and Spain, the European Investment Bank, the Open Society Institute, the World Bank, the London School of Economics and Political Science, and the London School of Hygiene & Tropical Medicine. 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 Co-operation 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 Web site at <http://www.observatory.dk>.

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

The Observatory team 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 Reinhard Busse, Anna Dixon, Judith Healy, Laura MacLehose, Ana Rico, Sarah Thomson and Ellie Tragakes. The research director for the HiT on Uzbekistan was Martin McKee. Administrative support, design and production of the HiTs has been undertaken by a team led by Myriam Andersen and comprising Anna Maresso, Caroline White, Wendy Wisbaum and Shirley and Johannes Frederiksen.

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Introduction and historical background

Introductory overview

Uzbekistan is a doubly landlocked country located in central Asia. Four other landlocked former Soviet republics – Kazakhstan, Kyrgyzstan, Tajikistan and Turkmenistan – surround the 447 400 km² of Uzbekistan’s sandy deserts, dunes and river valleys to the north, east and west respectively. On the south, Uzbekistan shares a border with Afghanistan, while to the north it borders the southern portion of the Aral Sea. The climate is mostly that of a desert, with long, hot summers and mild winters. Uzbekistan is the most populous of the central Asian republics. The total population was estimated to be 24.1 million in July 1999 (2). About 80% of the inhabitants are Uzbeks; the remainder are: Russians, 5.5%; Tajiks, 5%; Kazakhs, 3%; Karakalpaks, 2.5%; and other ethnic groups, 4%. About 88% of the population are Muslim; 9% are Eastern Orthodox and 3% have other religious affiliations. The vast majority (74.3%) speak Uzbek, the state language of the Republic of Uzbekistan, but Russian is used extensively within urban centres and in business correspondence. The adult literacy rate is close to 99%. Tashkent is the nation’s capital and, with a population of 2.5 million, the largest city in central Asia.

Government administration

Uzbekistan is a presidential democracy. The Supreme Assembly (Oliy Majlis) adopted the Constitution in December 1992. Article 1 states that “Uzbekistan is a sovereign democratic republic” (3). The president and the state government retain strict control over political and religious freedom, and the presidential committee for state control was established to ensure consensus inside the government itself (3). One of the stated aims of the Constitution is to protect human rights.

Fig. 1. Map of Uzbekistan¹

Source: US Central Intelligence Agency (1).

Executive power is vested with the Cabinet of Ministers, chaired by the President. The President is also the head of state. He appoints and dismisses the Prime Minister, his First Deputy, the deputy prime ministers, all members of the Cabinet of Ministers, the Procurator-General of the Republic of Uzbekistan and his deputies and the heads of administration of the 12 oblasts (*wilolatyar*) and the City of Tashkent (*khokim*), all with the subsequent approval of the Supreme Assembly. The President also appoints and dismisses judges presiding in regional, district, city and arbitration courts. In this way, the president controls the legislative, executive and judicial branches of government.

The Prime Minister is the organizational head of the Cabinet of Ministers. The Supreme Assembly comprises the unicameral legislative body that was inaugurated in 1994. According to the Constitution, it has 250 deputies elected by territorial constituencies for a 5-year term. It has adopted about 250 laws since its inception.

Legislation can be initiated by the President of the Republic of Uzbekistan, the Chairman of the Supreme Assembly of the Republic of Karakalpakstan, the Supreme Assembly of the Republic of Uzbekistan, the Cabinet of Ministers, the Constitutional Court, the Supreme Court, the Higher Arbitration Court and the Procurator-General of the Republic of Uzbekistan. The Cabinet of Ministers issues “presidential decrees”, which are statutory instruments and do not have to pass through the Supreme Assembly for approval. Alternatively, the

¹ The maps presented in this document do not imply the expression of any opinions 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.

responsible ministries prepare laws and submit them to the responsible parliamentary committee. The committee assesses the legislative proposals, makes amendments if needed and submits these as proposed laws to the Supreme Assembly. All legislation is to be based on the Constitution of Uzbekistan. As a result of rapid changes in the economy and society, about 30% of the laws originally adopted have had to be revised (4).

Each of the ten deputy prime ministers is responsible for a certain ministry or area, such as health, education or culture. Deputy ministers are responsible for ensuring and supervising the implementation of all laws. Some ministries are under the direct control of the President, such as the Ministry of Foreign Affairs, the Ministry of Defense and the Ministry of Internal Affairs. The National Security Service is also under the direct control of the President and Prime Minister.

The Supreme Court, whose judges are nominated by the President and approved by the Supreme Assembly, represents the judicial branch of the government.

Suffrage is universal for Uzbeks from 25 years of age (3). The main political parties in Uzbekistan are: the People's Democratic Party, the Vatan Tarakiety (Progress of the Motherland), the Adolat (Justice) and the Fidokorlar (Patriots of Motherhood). All parties in the Supreme Assembly support President Islom Karimov. The Supreme Assembly thus has members of several political parties that work based on consensus with the President.

Islom Karimov has been head of state since 24 March 1990, when he was appointed President by the Supreme Soviet. On 29 December 1991, he was elected the first President of the independent Republic of Uzbekistan by popular vote to serve for a 5-year term. A national referendum held on 26 March 1995 overwhelmingly approved extension of President Karimov's term, with 99.6% of the total vote in favour. Karimov was re-elected on 9 January 2000.

Khokims form regional administrations. They are governors who are directly appointed by the President (3). Uzbekistan comprises 12 oblasts (*wilolatyar*), one autonomous republic (Karakalpakstan) and Toshkent Shahri (the City of Tashkent). Each oblast is further divided into administrative districts called rayons (*tuman*).

Historical background

The origins of central Asia date back to the time when nomadic tribes from the territory that is now Iran occupied central Asia in the tenth century BC. Five centuries later, the Persian Empire established its presence and began

improvements in the area by first building cities and paving trade routes through Bukhoro (Bukhara) and Samarqand. Extensive trading links with Europe and China were built through central Asia along the famous path of the Silk Route. Alexander the Great – founder of Termez, one of Uzbekistan’s most ancient cities – conquered central Asia in the fourth century. In 600 AD, Arabs succeeded the Macedonians, gave the local settlers a written alphabet and converted central Asia to Islam. By 900 AD, several independent Muslim kingdoms had sprung up in central Asia. The Persian Samanids ruled between 874 and 999 and made their capital at Bukhoro, from which they acted as patrons to one of the greatest periods of Islamic art, culture and science. It was also the time when the trade along the Silk Route boomed. The Mongols captured Bukhoro in 1220 under the leadership of Genghis Khan, who was a strong protector of the Silk Route. The Mongols carried out numerous massacres, killing about 5 million people.

Tamerlane was the last conqueror in the region; he captured Mauranakhr by 1380 and then moved south to Persia and India, west to Russia and eastwards to China. He captured Moscow in 1395 and built the grandest capital city of ancient Asia in Samarqand, located in Uzbekistan today. His grandson continued his artistic and intellectual traditions, turning Samarqand and Bukhoro into centres for arts, poetry, philosophy, architecture and astrology.

In the fifteenth century, the Uzbeks united other tribes, defeated Persian power and extended their empire to much of central Asia between 1500 and 1510. The Persians then returned to power shortly thereafter and remained there until 1722.

Uzbekistan owes some of its growth to the appearance of the first Russian merchants in central Asia in the early 1700s. Throughout the nineteenth century, the expansionist policy of the Russian tsars led to annexation of central Asian kingdoms and, by 1876, Bukhoro and Quqon among others were forced to become Russian protectorates, with different forms of administration and management. In the early twentieth century, the era of tsarist Russia came to an end. In 1918, following the Russian Revolution, the Autonomous Republic of Turkistan was given official status within the new Soviet state. The Soviet Socialist Republic of Uzbekistan was proclaimed in 1924.

The history of Uzbekistan as an independent country started in 31 August 1991 when, after the failure of the pro-Communist coup in Moscow, the republican government proclaimed sovereignty and Uzbekistan became a member of the Commonwealth of Independent States. In December 1991, Islom Karimov, the First Secretary of the Communist Party of Uzbekistan (later the People’s Democratic Party) was elected President.

Health care in previous centuries was delivered through a *tabib*, a self-

trained barber who provided basic health and surgical care to the people in central Asia. One of the most famous scientists and *tabibs* was Avicenna, who was born in Bukhoro and contributed significantly to the principles of medicine. The public health system was limited to bathhouses and a sewerage system called a *khiva*. The first military hospitals and pharmacies were established with colonization by the Russian Empire in the eighteenth century. Medical education commenced in the beginning of the twentieth century, following the establishment of the Turkistan State University. All medical institutions and pharmacies were nationalized under Soviet rule, and a highly centralized health system was established. The statutory system provided all Soviet citizens access to health care services free at the point of use and included maternal and child health protection and control of communicable diseases.

Before 1991, the health care system of Uzbekistan was regulated by the legislative and regulatory framework of the USSR, in which health care was organized, planned and managed centrally. Health care was provided free at the point of use and based on the principle of universal access to services. The Ministry of Health in Uzbekistan administered the system based on policies set by the central Ministry of Health in Moscow, through a centrally organized hierarchical structure from the republic level to regional and city administrations and then to the district level. The Ministry of Health supervised technical units of health care, environmental sanitation, pharmaceuticals, training of health professionals, planning and financial matters under central control from Moscow. The republic comprised regions with a regional health administration that was accountable to both the regional governors and the Ministry of Health of the republic. Health services in the districts fell under the responsibility of the chief physician of the district hospital who, in turn, was accountable to the regional health administration. Services were financed by public revenue, with budget allocations based on norms developed by the Ministry of Health in Moscow. The health care delivery apparatus had a comparatively strong focus on secondary and tertiary care and an extensive network of health care facilities overall.

The problems of the health system in the Soviet era are often attributed to the fact that resources and delivery structures were not oriented towards the local health needs of the Uzbek population. This was characterized by a relatively high level of physicians and hospital beds and a poor population health status.

Demographic and health indicators

The population of Uzbekistan has grown steadily for many decades (Table 1). Population growth peaked between the 1960s and the 1990s. During this time,

the population increased by two and a half times, with growth rates of approximately 3% per year. The high growth is the result of high fertility rates and low total mortality (Table 1). Fertility differs substantially between ethnic groups (greater among the ethnic Uzbek population) and relatively little between rural and urban areas (1). The high fertility rate brings about a young population structure: in 1995 nearly 46% of the population was younger than 18 years of age and only 4.2% of the population was older than 65 years.

Similarly to the other central Asian republics, the demographic profile in Uzbekistan has changed since 1991. The economic recession from 1991 to 1995 caused a decline in living standards, which could be a factor in decreasing fertility, birth and marriage rates, as it might no longer have been feasible to maintain large families. However, a more proactive family planning policy announced by the President is also an explanatory factor. An increase in emigration between 1991 and 1994 may have also played a role (5). The decrease in the birth rate is said to be attributable to the government's increasing focus on containing family size (2). The total fertility rate dropped from 4.1 in 1991 to 3.6 in 1995, in the context of 35.1 live births per 1000 population in 1991, compared with 29.0 in 1995 (Table 1). Uzbekistan's crude death rate is relatively low, a reflection of the age distribution of the population. The death rate increased from 6.1 to 6.6 per 1000 population between 1990 and 1994 alongside the peak of the economic recession in Uzbekistan, but declined to 6.4 in 1995 and further decreased to 5.9 in 1998 (Table 1). This may have partly resulted from a reduction of deaths among infants younger than 1 year old.

Table 1. Demographic indicators, 1989–1998

Indicator	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998
Population (millions) ^a	20.0	20.4	20.6	21.7	21.9	22.5	22.9	23.3	23.8	24.0
% of population younger than 18 years ^b	NA	47.0	47.0	47.0	47.0	47.0	47.0	47.0	47.0	46.0
% of population 65 years or older ^a	4.1	4.0	4.0	4.0	4.1	4.2	4.2	4.2	4.2	4.2
Live births per 1 000 population ^a	33.4	33.9	35.1	32.7	31.1	28.7	29.0	27.5	25.6	23.1
Deaths per 1 000 population ^a	6.3	6.1	6.3	6.5	6.6	6.6	6.4	6.3	5.8	5.9

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

NA: not available.

The combination of a declining birth rate and a rising death rate resulted in a decline in the population growth rate from 2.4% in 1992 to 1.9% in 1997 (1). Growth remained high in absolute terms, however, especially among the rural

population. The government and Uzbek health authorities face a major challenge from the growth of the country's population. This has been projected to double by the year 2038 if current growth rates continue (6).

In 1995 the average life expectancy in Uzbekistan was 67.9 years. This rate is comparable to the averages in the newly independent states of the former USSR (NIS) and the central Asian republics but is about 10 years less than the average in the European Union (EU). Women in Uzbekistan live an average of 5.6 years longer than men, and this difference has changed only slightly. The gap in life expectancy between Uzbekistan and western Europe narrows after children reach 15 years of age, but the EU rates are improving, whereas the estimated life expectancy in Uzbekistan has gradually declined. This is the pattern in all of central Asia. The exact causes of this trend are unknown, although explanatory factors include the worsening of the environment: in particular, shortage of water and pollution of water resources and air pollution. Other factors may be related to the consequences of the dissolution of the USSR, including the decline in average income, the rise in income inequality, employment insecurity and unemployment and the deterioration of social services. The socioeconomic transition may have a stronger effect in the years to come owing to a larger effect on children and adolescents compared with older people.

Premature mortality is not high in Uzbekistan; infant and maternal mortality, however, have been of concern for the last few decades. Infant mortality is among the highest of the NIS. Uzbekistan had 22.3 infant deaths per 1000 live births in 1998, although this was below the average for the central Asian republics (Table 2). The main causes of infant death are unknown. Infant mortality has been high since Soviet times. The reason for this may be related to a high birth rate: giving birth within short intervals often worsens the health status of the mother, characteristically leading to anaemia and an increase in extra-reproductive illness. In this scenario, children's health often suffers at the fetal and newborn stages, reflected in a high proportion of children with low birth weight and a high level of infant mortality. Moreover, Uzbekistan still uses the definitions established by the former USSR, which did not count premature and low-birth-weight babies who died within 7 days as live births. It has been suggested that using the Soviet definition of a live birth leads to underestimating the true infant mortality rate by about 20%. Survey data from other central Asian republics suggests that there may also be more general underregistration, with true rates up to 60% higher than those reported (7,8). After independence, infant mortality decreased from 35.5 per 1000 live births in 1991 to 22.7 in 1997. This in turn can partly be related to a decrease in fertility and abortion rates. The early neonatal mortality rate (the number of deaths in infants under 1 week of age in a year) has declined by 46% since

1989. In 1997, there were 4.7 neonatal deaths per 1000 live births.

A similar trend can be observed in the data on maternal mortality (Table 2). In 1989, 42.8 deaths were recorded per 100 000 live births – nearly six times higher than western European countries. After independence, the rate decreased to 19.3 per 100 000 live births in 1995, which could be related to the priority given by the government to perinatal and maternal care during these years. The data from year to year indicate decreases in large steps, which raises concern about its reliability. Maternal mortality rates differ widely between different geographical regions and between rural and urban areas. Excessive rates of maternal and infant mortality are associated with lower-income areas of the country; in Karakalpakstan and Khorazm (an oblast), for example (1). In 1995, the most prevalent cause of death within 42 hours of birth was haemorrhage – 3.0 per 100 000 live births – followed by hypertensive disorders. The Institute of Obstetrics and Gynaecology undertook a review of deaths between 1993 and 1996 and attributed deaths in most cases to the lack of medical skills, shortages of blood transfusions and drugs and failures in diagnosing and treating mothers (9).

Increasing awareness among women of the importance and availability of family planning services and the popularization of traditional and modern methods of contraception are said to have been key factors in decreasing the frequency of abortion performed in Uzbekistan's clinics. The rate has decreased from 31.0 per 100 live births in 1990 to 11.2 in 1998 (Table 2).

In terms of the incidence of diseases, Uzbekistan faces the challenges of a double burden of disease that has both features from developing countries (infectious diseases) and industrialized countries (cardiovascular diseases and cancer).

Infectious diseases remain a major problem in Uzbekistan, despite improved vaccination coverage against tuberculosis, pertussis, measles, diphtheria, tetanus and poliomyelitis. Over the last few years, Uzbekistan has experienced several outbreaks of infectious diseases, including tuberculosis and viral hepatitis.

The tuberculosis incidence rate increased by nearly 50% from 1993 to 1997, reaching 54.5 per 100 000 population. This figure is lower than the average in the central Asian republics or in the NIS as a whole. Tuberculosis notification rates vary widely, suggesting inadequate detection and unreliable reporting and recording systems (10). The situation is particularly serious in Karakalpakstan; tuberculosis rates have been estimated to be as high as 200 cases per 100 000 population.

In 1996, only 62% of the rural population and 73% of the urban population were reported to have access to sources of safe water (2). Gastrointestinal

Table 2. Health indicators, 1989–1998

Indicators	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998
Female life expectancy at birth ^a	72.3	72.9	72.2	71.7	70.7	70.2	70.7	71.6	70.8	71.2
Male life expectancy at birth ^a	66.2	66.3	65.8	65.6	65.1	64.7	65.0	65.0	66.0	66.1
Infant mortality rate (per 1 000 live births) ^a	38.1	34.3	35.1	37.6	32.8	29.2	26.3	24.7	23.1	22.3
Under-5 mortality rate (per 1 000 live births) ^a	53.6	47.8	48.0	51.5	48.9	47.4	42.8	39.1	36.4	35.7
Maternal mortality (per 100 000 live births) ^b	42.8	34.1	33.3	30.1	24.5	17.4	19.3	12.0	10.3	8.7
Abortions per 100 live births ^a	NA	31.0	26.1	23.7	NA	NA	13.5	12.1	11.9	11.2
SDR from ischaemic heart diseases per 10 000 population, all ages ^a	390.2	379.3	390.0	411.7	465.2	528.1	476.1	448.6	426.5	470.6
SDR from cerebrovascular diseases per 10 000 population, all ages ^a	157.6	164.4	175.2	181.9	190.4	232.2	209.2	201.1	183.5	178.2
SDR from chronic liver disease and cirrhosis per 100 000 population, all ages ^a	NA	NA	36.3	38.1	44.7	49.6	49.3	49.5	47.1	46.1
SDR from external causes per 10 000 population, all ages ^a	68.2	71.1	71.7	59.3	55.8	52.8	54.4	60.7	56.9	53.5

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

SDR: age-standardized death rate. NA: not available.

infections and viral hepatitis, in particular hepatitis A, are highly prevalent: in 1997, the number of people diagnosed with hepatitis in Uzbekistan was three times higher than the NIS average and 26 times higher than the EU average. Diphtheria has been endemic since the epidemic of 1994 (11).

Chronic noncommunicable diseases can be related to sedentary lifestyles. Uzbekistan's situation with noncommunicable diseases is exacerbated by inadequate access to health services and lack of qualified personnel in remote areas of the country. The broader environmental situation in Uzbekistan relates to three decades of rapid expansion of cotton production. The promotion of cotton production during the Soviet era led to the waste of water resources. Cotton fields were irrigated by diverting waters of the Amu Darya and Syr Darya rivers, which led to the desiccation of the Aral Sea basin. In addition,

use of fertilizers and pesticides has led to water pollution and soil degradation and contributed to the poor and declining quality of drinking-water, especially in rural areas. The salinization of the land and extensive use of pesticides may also harm the health of the population.

The death rate from cerebrovascular disease has been declining in the EU, but Uzbekistan's rate has increased by 32.8% since 1989. Diseases of the digestive system and chronic liver disorders show similar trends. The age-standardized death rate from chronic liver disease and cirrhosis was 49.3 per 100 000 population in 1995, which exceeded the average for the EU (15.1 per 100 000), the NIS (30.8 per 100 000) and the central Asian republics (39.5 per 100 000). The high prevalence of viral hepatitis infections might be a causal factor. Alcohol consumption might also play a role; however, few data are available to substantiate its magnitude. The number of cigarettes consumed in Uzbekistan per person per year reached 864 in 1997, compared with 493 in 1992. This is likely to be associated with an increase in smoking-related diseases in the future, a first indication being a substantial increase in ischaemic heart disease in recent years.

Socioeconomic indicators

The first few years of transition have been marked by considerable difficulty; real wages declined because of falling national income and high inflation, and real gross domestic product (GDP) declined.

Uzbekistan is one of the world's largest producers and exporters of cotton – 6% of global cotton production (12). Despite the unfavourable conditions for cotton cultivation during 1996, this item remained the most important source of hard currency for Uzbekistan; it accounted for almost 40% of national exports, totalling US \$1.20 thousand million in 1998 (13,14). In the Soviet era, most of Uzbekistan's resources were directed towards cotton monoculture. Since then, cotton output has been reduced, partly because grain cultivation has increased. Uzbekistan is rich in mineral resources such as gold, natural gas, uranium, silver, copper and other metals.

Uzbekistan's estimated per capita GDP of US \$611 in 1997 places the country among lower middle-income economies. Overall economic development has encountered numerous challenges since independence in 1991. Some were common to all the NIS, including the disruption of foreign trade, declining output and inflation, loss of the labour force through emigration and the loss of budget subsidies from Moscow.

Following independence, the government sought to sustain its Soviet-style command economy with subsidies and tight control on production and prices.

At the same time, some reform measures were undertaken, including privatization, the introduction of new taxes and partial liberalization of prices and the foreign-exchange market in 1992–1993. At the end of 1993, the privatization plan included housing, small-scale industrial complexes and service-sector ventures. The combination of the cautious approach to reform with self-reliance in energy and improving the mining and agricultural sectors is thought to have protected the economy and industrial output from collapse in the first year after independence. Real GDP in Uzbekistan declined by less than 14% from 1991 to 1993, compared with almost 40% on average in the former USSR (12).

Faced with increasing inflation rates, however, and the withdrawal from the rouble zone in 1993, the government was forced to change fiscal policy. The government restricted consumer subsidies and budgetary transfers to enterprises, bringing the inflation rate down from the record high of 1568% in 1994 to 54% in 1996 (Table 3). The economic situation improved during 1995 and early 1996 and, after a period of negative growth, real GDP has increased since 1996 (Table 3). Because undocumented cash business transactions are commonplace in Uzbekistan as in all other NIS, the true value of GDP might be underestimated. This factor may contribute to differences between different GDP estimates.

Table 3. Macroeconomic indicators, 1989–1997

Indicator	1989	1990	1991	1992	1993	1994	1995	1996	1997
GDP per capita (US \$) ^a	NA	NA	NA	NA	232	251	442	590	611
GDP in PPP US \$ per capita ^b	NA	3 115	2 790	2 650	2 510	2 438	2 376	NA	NA
Annual GDP growth rate (%) ^c	3.1	1.6	-0.1	-11.1	-2.3	-4.2	-0.9	1.6	1.0
Annual inflation rate (%) ^c	NA	3	82	645	534	1 568	305	54	72
Government expenditure as a % of GDP ^c	NA	46.1	52.7	43.4	38.8	33.3	37.6	36.2	30.0
Registered unemployment rate (%) ^b	NA	NA	NA	0.2	0.4	0.4	0.4	0.4	0.5

Sources: ^a European Bank for Reconstruction and Development (15); ^b WHO Regional Office for Europe health for all database; ^c UNICEF TransMONEE database.

PPP: purchasing power parity. NA: not available.

The national currency, the som, was introduced in November 1993. Since then, the exchange rate has fluctuated widely: the average official exchange rate for US \$1 was 9.9 som in 1994, 29.8 in 1995, 40.2 in 1996, 66.4 in 1997, 94.7 in 1998 and 112 in 1999 (the 1999 rate is used for the conversions in this

profile). There has also been considerable black market activity. The state has kept increasingly tight currency controls since 1996, to prevent a rush to purchase dollars, a major outflow of capital and increasing pressure on domestic industry by encouraging imports.

Because the methods used are not always comparable, various sources of economic data present contradictory indices of government financing. Government expenditure as a proportion of GDP, including extrabudgetary funds and net lending, declined from 52.7% in 1991 to 30.0% in 1997. The private sector's contribution to GDP has increased to 66% versus 50% in 1995.

During the early years of transition, unemployment worsened in rural areas because population growth was higher in rural areas than in urban areas and some of the agricultural labour force became redundant. Of 8.7 million people employed in the country, 3.5 million (40%) are agricultural workers. During the Soviet era, the state maintained employment conditions by encouraging the rural population to grow cotton. Special job creation programmes have been in place since 1996, focusing on the rural population. The official unemployment rate has remained below 1% throughout the 1990s (Table 3), although alternative estimates are higher (5.3% using the International Labour Organization method), and unemployment exists in the form of compulsory holidays for workers or a shortening of the working week (11,16). In addition, tax avoidance explains a large amount of unregistered employment income for people who cannot find permanent jobs, and this requires interpreting official unemployment rates cautiously.

Purchasing power parity (PPP) is not uniform across the country; eastern Uzbekistan, especially the city of Tashkent, is better off economically than the rest of the country (13,14). In real terms, the percentage of the population living below the poverty line (US \$4 PPP per day per capita) increased marginally during the transition period (24% in 1987–1988 and 29% in 1993–1994) owing to consumer price inflation and decreases in the budgets for social welfare transfers and public-sector wages. In other NIS, this index increased drastically. On the other hand, recorded real income in the economy is said to have halved during 1991–1994, and the decline in average income fails to reflect the widening income distribution gap and the greater prevalence of unrecorded income.

Organizational structure and management

Organizational structure of the health care system

The key players involved in organizing and managing the health care system in Uzbekistan are the President, the Cabinet of Ministers, the Supreme Assembly, the Ministry of Public Health, the Ministry of Finance, regional and district health authorities and a network of facilities (Fig. 2).

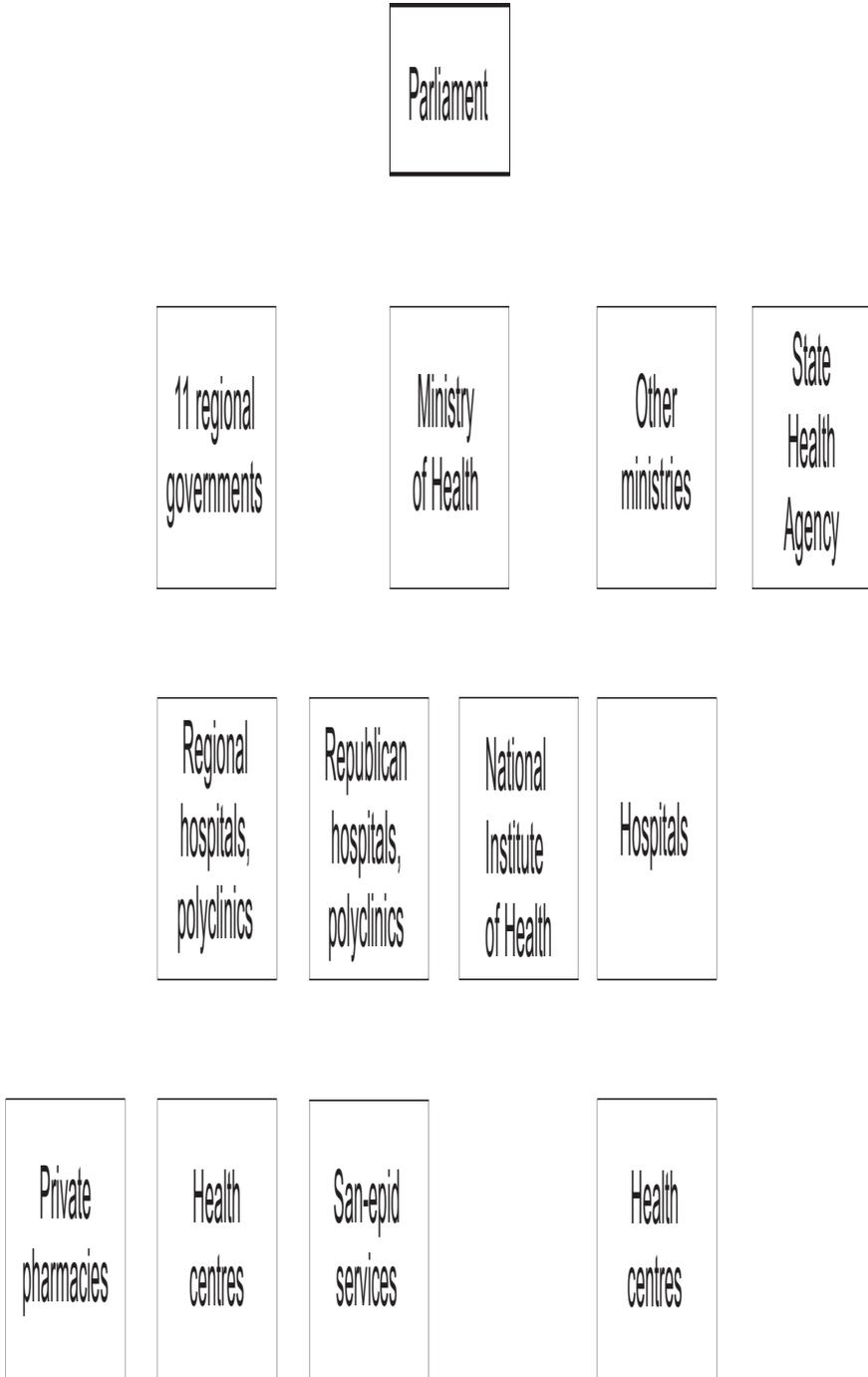
The Cabinet of Ministers, headed by the President, is responsible for developing national health policies. It decides on the financing of health care programmes and of medical research, monitors environmental health, ensures a standard system for collection and processing health data and coordinates and supervises the activities of all government bodies on the protection of health.

The Supreme Assembly adopts legislation on health care, approves the national health care budget for Uzbekistan and controls its execution. Health care laws are debated within the labour and welfare committee of the Supreme Assembly.

The Ministry of Health is the major player in organizing, planning and managing the health care system. It is seen as a “a structural division of the Cabinet of Ministers” (4). The functions of the different departments of the Ministry of Health are summarized below. The central decision-making body of the Ministry of Health is called the *Collegya*. Appointed members of the *Collegya* are: the Minister of Health; the Deputy Minister; a representative of the government who has observer status in *Collegya* sessions; an adviser to the Minister; the head of the Health Department of the Tashkent city administration; and the chair of the Red Crescent Society.

The Ministry of Finance formulates the budget to be approved by the Supreme Assembly and allocates funds to the regions, including funds for health services and capital investment.

Fig. 2. Organizational structure of the health care system



At the regional level, each of the 12 oblasts and the City of Tashkent have an administration called a *khokimiat* headed by a governor (*khokim*) appointed by the President. Regional governing bodies form a new system of regional administration and have replaced the former executive committees (*ispalkom*) of the district and municipal communist authorities in the former Soviet system. Within their finance departments, they collect a significant portion of government revenue and keep part of it. Through their health departments, regional administrations run their health services. The extent of autonomy varies from region to region.

The next hierarchical level of administration is formed by rayon (*tuman*) governments, which are headed by the local *khokim*. These district governments are increasingly responsible for administering funds for social assistance and for managing health and social services.

At the neighbourhood level there are local self-administered neighbourhood councils (*mahalla*) (3). The neighbourhood councils fulfil tasks related to local administration and social assistance.

The state health care system also includes a number of research institutions such as the seven state medical institutes and one medical faculty in Nukus University, other specialist health care facilities and 253 sanitary-epidemiological stations at the national, regional and district levels.

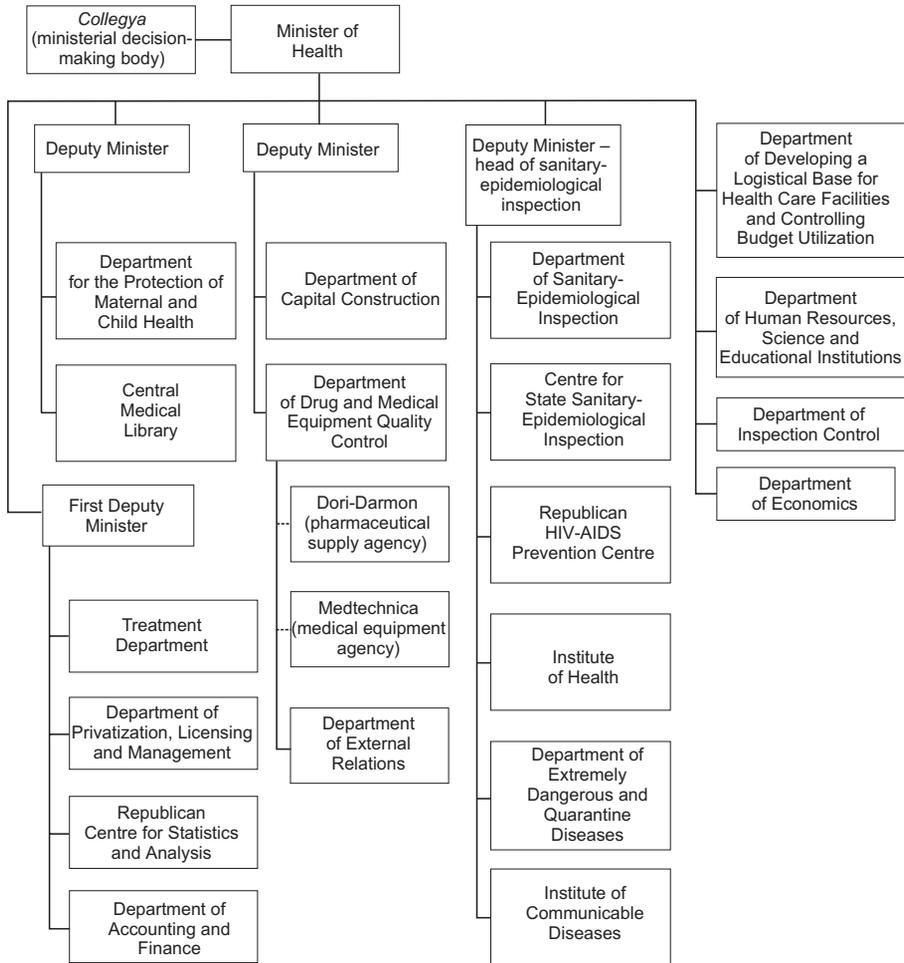
Ministry of Health

The Ministry of Health develops health care legislation and regulation, sets standards for the quality and volume of health services, monitors the quality of health care, identifies priorities for medical research, monitors population health, develops curricula for the training of health professionals, issues licences and certifies health care providers and coordinates international aid for health care. The Ministry of Health provides guidance to the Minister of Health of the autonomous Republic of Karakalpakstan and acts as the supervisory authority for regional, city and district health departments.

The structure of the Ministry of Health of Uzbekistan (Fig. 3) has changed frequently during recent years. There has been a substantial reduction in department and staff numbers since the first years of independence, which has been compensated for by outsourcing work to consultants. The names of departments have changed frequently. This results in variation in the way departments are referred to by official sources.

The Treatment Department is one of the main departments responsible for the overall management and supervision of health services. It is responsible for developing methods, such as practice guidelines and protocols for preventing

Fig. 3. Organizational structure of the Ministry of Health



and treating diseases. The Department of Privatization, Licensing and Management is responsible for licences for physicians, dentists and for all independent sector health care organizations. The Department for the Protection of Maternal and Child Health administers maternal and child health facilities and supervises health care for children and mothers. The Department of Capital Construction deals with equipment and capital programmes for health care facilities. The Department of Drug and Medical Equipment Quality Control was set up in 1995 as the drug control body with both executive and regulatory functions. The major task of the Department of Sanitary-Epidemiological Inspection is the overall control over the sanitation status of the republic and control of

infectious diseases including supervising all sanitary-epidemiological institutions. The Department of Human Resources, Science and Educational Institutions is in charge of education and training of health personnel and of forecasting the requirements for health personnel and human resources planning. The Department is also in charge of developing curricula for health care professionals in cooperation with the Ministry of Education and the Ministry of Higher and Specialist Education. The Department of Inspection Control has various responsibilities including control over the implementation of health care reforms, ensuring legal pharmaceutical supply system control and inspecting legal and reporting documents processed by other departments in the Ministry.

Dori-Darmon is a pharmaceutical supply agency. The company has been semi-privatized, with the state still owning a significant proportion of shares. The same applies to Medtechnica, the national agency for medical equipment.

Ministry of Finance

The Ministry of Finance is involved in departmental budget negotiations, formulates the health care budget to be approved by the Supreme Assembly and approves capital investment for health care facilities. The Ministry of Finance has its own oblast-level administrations.

Parallel health care services

Parallel health care services provide health care for employees and officials of certain organizations, enterprises, and ministries, including the Cabinet of Ministers, the Ministry of the Interior, the Ministry of Defence, the railway administration, the Civil Aviation Administration and the National Air Company. The Union of Writers and Artists also operates its own comprehensive network of health services, and about 75 large industrial enterprises have their own health departments. All parallel health services come under the jurisdiction of the Ministry of Health, which supervises the methods of the health care institutions of the parallel system. Management and resource allocation are under the responsibility of the medical institutions and the organization to which they belong.

Private health organizations and providers

Pharmacies and orthodontic surgeries have mostly become private for-profit organizations. Only a few hospitals and large polyclinics have become commercial organizations. About 1850 physicians had received a licence for

private practice by the end of 1999. In theory, these are the only physicians entitled to private practice. There are no official data on the real extent of private physician practice in Uzbekistan.

Trade unions, professional associations and medical societies

Trade union membership was, in practice, compulsory under the Soviet system. Trade unions were responsible for controlling benefits to workers and were highly controlled by employers. They were financed through payroll taxes. The 1992 Constitution of Uzbekistan (Article 34) gives Uzbek citizens the right to form trade unions, political parties and any other associations and states that membership of trade unions is voluntary (Article 59) (3). There are trade unions for high-level and intermediate-level health care personnel. Trade unions, political parties, scientific societies and professional associations have the status of public associations under the Constitution. A number of them are quasi-governmental organizations with state organizational and financial support.

Uzbekistan has several associations of health professionals. In the Soviet era, associations existed for almost every health care specialty. Most have no official status or formal representation on policy-making bodies. The Physicians' Association, the Dentists' Association, the Association of Psychiatrists and the Association of Dermatologists and Venereologists are the largest medical associations. The Nursing Association was created in 1997 as part of the Association of Intermediate-Level Health and Pharmaceutical Personnel. The Association of Intermediate-Level Health and Pharmaceutical Personnel has about 20 000 members, of which about 4800 are nurses.

Voluntary sector

The exact number of nongovernmental organizations (NGOs) operating in Uzbekistan is uncertain, as is the number of NGOs active in health (10). According to a telephone survey undertaken in 1999, at least 45 NGOs are engaged in health-related activities (10). NGOs are often not officially regarded as partners in social sector development, and technical coordination between government and voluntary activity is therefore limited (1). The NGO concept in itself is viewed with some suspicion. The relationship between NGOs and the state is not always clear. This can be in part attributed to the lack of specific provision for NGOs in current legislation. The National Centre for Human Rights of Uzbekistan, the Organization for Security and Cooperation in Europe and other international organizations have therefore jointly initiated a review of the experience of NGOs and prepared proposals to develop national legislation for NGOs (2).

Planning, regulation and management

Health care in Uzbekistan is integrated into the state social policy, which covers employment, income generation, social protection, pensions, education, support to women and consumer rights. Health care organization is based on the Semashko integrated model in which the state provides most health care (all health care within the statutory system), and health care workers are government employees.

The Ministry of Health is the main body planning, managing and regulating health services. National health plans, including national plans for health care reform, are issued by the Cabinet of Ministers and usually developed by the Ministry of Health. In the years since independence, priority areas for national health plans have been protecting women's and children's health, infectious disease prophylaxis, environmental protection and developing primary health care.

Within the Ministry of Health, the Treatment Department is mainly responsible for the overall management of the health care system, supported by the Department of Economics (financial planning) and the Department of Human Resources, Science and Educational Institutions (human resources planning). A planning department is being established within the Ministry of Health (Department of Developing a Logistical Base for Health Care Facilities and Controlling Budget Utilization), and some of its terms of reference will probably be related to developing planning tools and formulae for budget allocation (17). The Ministry of Health issues planning guidelines for the distribution of financial resources and management of health care facilities at the regional level. The numbers of health facilities and health professionals per capita varies substantially between districts, and expenditure and health status indicators vary considerably between regions. It has been suggested that need-based planning is not systematically applied from region to region and that official accounts are often more aspirational than real (2).

The regional health administrations are responsible for managing their health services. They allocate resources to health care facilities based on guidelines determined by the Ministry of Health. Regional administrations are supposed to take responsibility for preparing strategies for developing the health care system at the regional level, and each oblast determines its individual programme of work in implementing national health care priorities in the regional context. Regional administrations have to specify their programmes for a 5-year strategic planning cycle and an annual operational planning cycle. They are responsible for ensuring an appropriate supply of pharmaceuticals and medical equipment in their regions. They are held responsible for providing appropriate health

care services to the population in their regions and directly provide sanitary-epidemiological and disaster-preparedness services. The administrations are also responsible for providing rehabilitation services for disabled people, fundraising and social protection.

Decentralization of the health care system

In Uzbekistan, decentralization is being approached gradually. Centralized decision-making is to be retained at the national level to prevent unregulated markets from hindering the implementation of reform and the guaranteed access to health care (18). Decentralization in the system is largely reflected in the delegation of budgetary responsibility from the national level to the regions, while keeping a strictly vertical structure and tight national guidelines and norms on which decisions at the regional level are based. The Ministry of Health has closely controlled the implementation of centrally developed planning guidelines. In addition, the degree of autonomy of regional health departments varies substantially between regions. This may relate to variation in the level of economic development and productivity. Some oblasts may be less efficient in raising local income for the autonomous management of their health services. These regions might also rely more on central support to meet the planning guidelines.

Privatization

With independence, the government moved quickly from state to private ownership in many areas. About 75 000 enterprises were privatized after independence (2).

The role of the private sector in providing and financing health services has gradually increased since 1991, with two objectives: to generate alternative sources of funding for health care and to improve the quality and efficiency of health care services (17).

However, privatization is understood mainly in the context of issuing licences allowing providers to engage in private practice and charging enterprises and consumers out-of-pocket payments. Thus, the permission to charge often serves as a working definition of private. With regard to facilities, privatization refers to all independent public-sector organizations operating on a self-financing basis as well as to for-profit organizations. Privatization once again relates to the permission to charge out-of-pocket payments.

The first stage of privatization was initiated in 1993, covering 2200 pharmacies, optician practices and ancillary services in some health care institutions. In 1994, the monopoly drug distributor Farmatsija, with its regional subsidiaries, was partly privatized to form Dori-Darmon, a joint stock pharmaceutical wholesaler. The pharmacies previously belonging to Farmatsija were privatized either by selling them to individual pharmacists or by creating corporations. Pharmacists, through joint stock associations, hold 30% of the shares in Dori-Darmon. A further 35% is still held by the state and the remainder by private shareholders. The company is still subject to state control.

The second stage of privatization sought to increase the number of private hospitals and polyclinics. These totalled 1526 in 1999.² More common is the establishment of private units within hospitals or polyclinics that operate under the state health care system dealing with care excluded from the state package of health care provided free of charge. It is not clear how private facilities and their health care services are monitored. All private health care institutions still have to provide at least 20% of health care within the state system. Thus, the state sets and pays at least 20% of service fees.

Since 1995, the Ministry of Health has issued official licences for private medical practice. The number of licences issued increased from 504 in 1995 to about 2500 in 1999. Most of these private practitioners are dentists, paediatricians and internal medicine physicians. The licensing procedure requires proof of at least 5 years of professional practice and the written agreement of the local governor, the regional sanitary-epidemiological services and local authorities. Licences are subject to a small fee. Only licensed private practitioners are eligible to practice under private for-profit conditions, receiving direct fees for services from consumers and no state salary. Some of the disinfection stations within sanitary-epidemiological services have been privatized and are acting as entities under the state health care system. Private services have grown from 1.7% of the public health care budget in 1991 to 5.8% in 1995, and the volume of health care rendered by the private sector has increased to about 10% of the total volume.

Seven feldsher stations were privatized as a pilot project in 1995. The privatization of feldsher–midwifery posts remains controversial. Ending the salary payment by the state to these groups of health professionals might jeopardize access by the rural population to basic primary care. The rural population generally lacks the money to pay fees for health care services.

Private facilities are believed to be better equipped and to provide health care services of higher quality. There is, however, a relative lack of state control

² The exact numbers of private institutions differ according to different sources owing to different definitions of what a private health care organization is.

over the quality of health care provided. Besides the licensing procedure of private practitioners, the quality and prices of health services provided in the private sector are not regulated. Private practitioners do not have to maintain statistics on the outcome of the patients treated, nor do they have to provide financial accounts. The local sanitary-epidemiological stations inspect the hygienic and sanitary standards of rooms and buildings of private practitioners annually.

Health care financing and expenditure

Main system of financing and coverage

Financing

The health sector was one of the areas most severely affected by the post-independence economic recession. Public financing through the state budget continues to be the main source of financing, and the public expenditure on health care has been maintained at about 4.5% of GDP. The overall state budget, approximately 460 thousand million som per year (about US \$4.1 thousand million), is mainly derived from trade and taxation.

Most tax revenue is generated from income and profits and from domestic goods and services (Table 4).

Table 4. Tax revenues as a percentage of GDP, 1993–1998

	1993	1994	1995	1996	1997	1998
Enterprise profits tax	7.5	6.1	8.5	9.9	7.2	6.1
Individual income tax	2.8	2.6	2.8	3.6	4.0	3.7
Value-added tax	9.3	5.0	5.7	6.4	7.5	9.8
Excise duties	5.7	7.3	8.3	10.1	6.0	6.1
Property, land and resource taxes	0.2	0.4	1.5	1.7	2.4	3.9
Other tax and non-tax revenues	7.7	5.9	6.8	1.9	2.2	1.7

Source: International Monetary Fund (12).

In 1999, value-added tax provided 32% of all tax revenues, excise taxes decreased to 17% and personal and enterprise income taxes increased to 16%. Land ownership taxes amounted to 5%, and 17% of income was generated from other sources. The state pension fund generated 12% of state income.

The state budget consists of centrally collected revenue and money from several regional budgets, including those from the Republic of Karakalpakstan, the 12 oblasts and the City of Tashkent. The proportion of total revenue that is collected centrally declined from 58% in 1991 to 47% in 1997, and the share of local revenue therefore increased from 42% to 53%.

Limited information is available on revenue sources. According to estimates from the Ministry of Finance, public-sector health care accounted for 8.8% of the state budget in 1998: about 38 thousand million som (US \$340 million). A total of 56 thousand million som (US \$500 million) was allocated to health care in 1999 (excluding capital investment, which is accounted for in a different budget line). This corresponds to 9.6% of the state budget. In 2000, the proportion of the budget devoted to health care was planned to be increased further to 10.5%.

Voluntary health insurance does not yet play a role in health care financing in Uzbekistan.

Direct consumer payments form a major part of health care revenue. Government figures probably underestimate total health care spending, since the widespread informal payments by the population are not included.

The Youth Fund controlled by the Cabinet of Ministers pays for health care expenditure for children and adolescents.

According to official accounts, parallel health care services generate approximately 7% of the health care income, but these figures might be understated, as in some oblasts, such as Nawoiy, they account for as much as 50% of spending. Accurate information is lacking.

Coverage

The health care system in Uzbekistan provides universal coverage. The 1992 Constitution states that “everyone shall have the right to receive skilled medical care” (3). The 1996 law on the protection of the health of the citizens of the Republic of Uzbekistan affirmed citizens’ rights in health care and the availability of health care to all members of the population. The coverage applies to all health services, including antenatal, delivery and neonatal care, paediatric services, immunization, family planning, outpatient services and specialized services.

Other than exempted population groups and services, health care requires out-of-pocket payments. Some patient groups, such as children, disabled people and other vulnerable groups, are entitled to medicines free of charge or at reduced rates (the Ministry of Health reimburses pharmacies for the difference).

Health care benefits and rationing

There has been rationing in the sense that user charges for some health care services have been introduced and outpatient medicines have been excluded from the state benefit package. Pharmaceuticals remain the main type of service requiring consumer co-payments. Inpatients receive their medication free of charge (although many hospitals cannot afford to supply them in practice). Most ambulatory patients must buy their own medication, potentially providing a perverse incentive to avoiding the use of ambulatory care. Patients seek inpatient care, and pharmacists encourage this in some instances so that patients can avoid paying for pharmaceuticals.

Health care services funded under the state system will be decreased step by step up to 2005, leaving a guaranteed basic package. The following three categories will be covered (17): primary health care services, emergency health care services and health care services for conditions with particular public health and/or social effects, such as most infectious diseases, mental disorders, cancer, endocrine diseases and maternity health.

The patient, the employer or, if applicable, an insurance fund will have to fund all services not falling into these categories. In the new system, as much as 60% of health care will fall outside the state health care system (17). Cardiovascular diseases and chronic respiratory diseases do not appear to be within the guaranteed services package of the state, although these are the major causes of premature mortality in Uzbekistan.

Complementary sources of financing

Out-of-pocket payments

The extent of out-of-pocket payments is difficult to quantify, but it is suspected that informal and formal out-of-pocket payments account for most health care expenditure.

These payments can be divided into four groups. First, government health institutions charge official user fees for health services and some non-health services (such as renting buildings, transport and fees for postgraduate education). Second, semi-official user charges are levied for consumable supplies (such as drugs and medical supplies). Third, consumers make unofficial user fees or under-the-table payments to health care providers. Fourth, private

providers of health services charge for goods and services, the largest category being pharmaceuticals.

User fees have been permitted officially since 1991. There are three levels of exemption from user charges. Total exemption is granted for low-income families, widows with several children, veterans of the war in Afghanistan, victims of the Chernobyl nuclear accident and chronically ill people (including people suffering from diabetes, asthma or tuberculosis). Fees are reduced by 50% for patients affected by occupational diseases, and some pensioners get a 20% reduction. It is unclear whether fees are reduced for unemployed people.

Health care institutions in Uzbekistan can now charge for services. This has become an increasing source of revenue, and many health care organizations levy user fees to fund goods and services that are in short supply, often because the budget has been exceeded. Payments include full payments for health services regarded as non-essential, such as dental care and cosmetic surgery, payments for hospital food and drugs and official co-payments. Patients are often given a list of medicines and medical supplies to bring with them to hospital.

According to official estimates, out-of-pocket payments increased as a proportion of health care budgets from 1.5% in 1990 to about 7% in 1999. The real extent and magnitude of the unofficial out-of-pocket and under-the-table payments is unknown. Informal payments (under-the-table payments) have been a longstanding feature of all central Asian health care systems. They have been difficult to measure since, although widespread, they are not officially sanctioned. Many patients make informal payments to health professionals (10).

Voluntary health insurance

Voluntary health insurance is almost nonexistent in Uzbekistan. A state voluntary scheme has been under consideration since 1995 but has not yet been endorsed. A private insurance company is developing a health savings account. A form of preferred provider insurance system is also associated with some private insurance companies. They own a number of beds in specialized hospitals, employ their own health care staff and organize their own emergency services.

External sources of funding

External sources contribute significantly to financing health care in Uzbekistan, but quantifying this contribution fully is difficult. In addition, no separate listing

of the national health accounts is available. Sponsors include the World Bank, WHO, the US Agency for International Development, UNICEF, the United Nations Development Programme, the United Nations Population Fund, the Asian Development Bank, the EU, the International Red Cross, the United Kingdom Department for International Development and some governments, including Italy and Norway (contributing through WHO) and Japan and the United States, which have the largest bilateral donor share.

The EU Tacis Programme has a large donor share, with US \$32 million for 1998/1999, of which EUR 1 million was contributed to WHO for health promotion in two pilot regions. The World Bank has granted a US \$30 million loan for a project that includes capacity-building, strengthening cost-effective and especially primary health care services in rural areas and strengthening the financing and management of the health care system. The United Kingdom Know How Fund is participating in the training component of the World Bank project.

An estimated 2.0–2.5% of overall health care revenue is generated through these means.

Health care expenditure

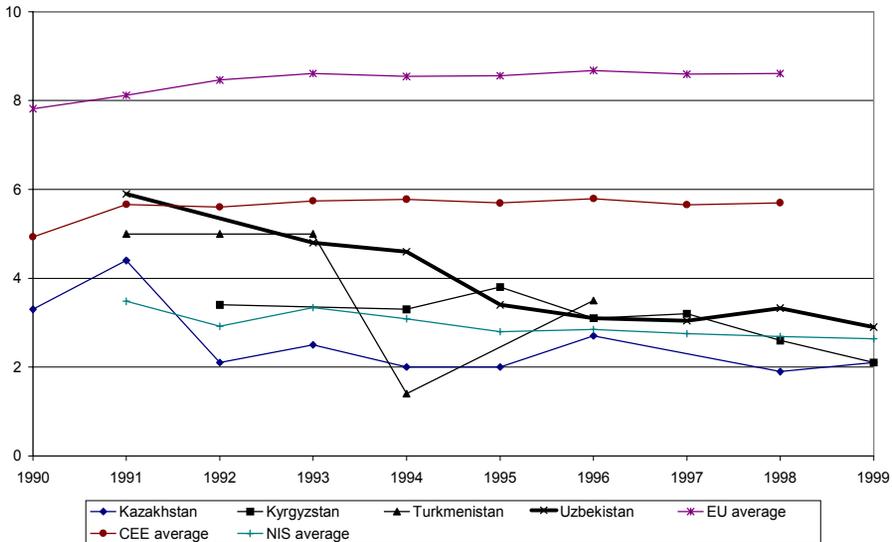
Overall spending

Uzbekistan showed a steady downward trend in health care expenditure during the years of transition. Starting from 6.0% of GDP in 1991, a higher baseline than other central Asian republics, the level decreased steadily to 3.0% of GDP in 1997 before recovering somewhat to 3.3% in 1998 (Fig. 4).

This is one of the lowest proportions in the European Region, and official Uzbek sources acknowledge it to be lower than might be desirable (17) (Fig. 5). The decline in government spending occurred in the context of a collapse of GDP, high inflation, the end of subsidies from Moscow and difficulty in collecting tax revenue.

Limited information is available on the distribution of health care expenditure by category (Table 5), and different data sources appear contradictory. In addition, all data are somewhat misleading, as they only include public spending, whereas much of the information on expenditure by consumers, including informal payments, is not available.

Fig. 4. Health expenditure as a percentage of GDP in Uzbekistan, selected countries and the NIS and EU, 1990–1999



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

The Ministry of Finance is responsible for distributing the budget. As in many NIS, health care expenditure has been categorized into budget line items. Tracing what is spent on specific areas, such as inpatient care, is difficult. The budget is allocated by region. Capital investment is accounted for on a different budget line. A comprehensive national account of the contribution of the various parts of the health care system is not readily available. In addition, pharmaceutical expenditure is sometimes accounted for separately, making international comparison difficult.

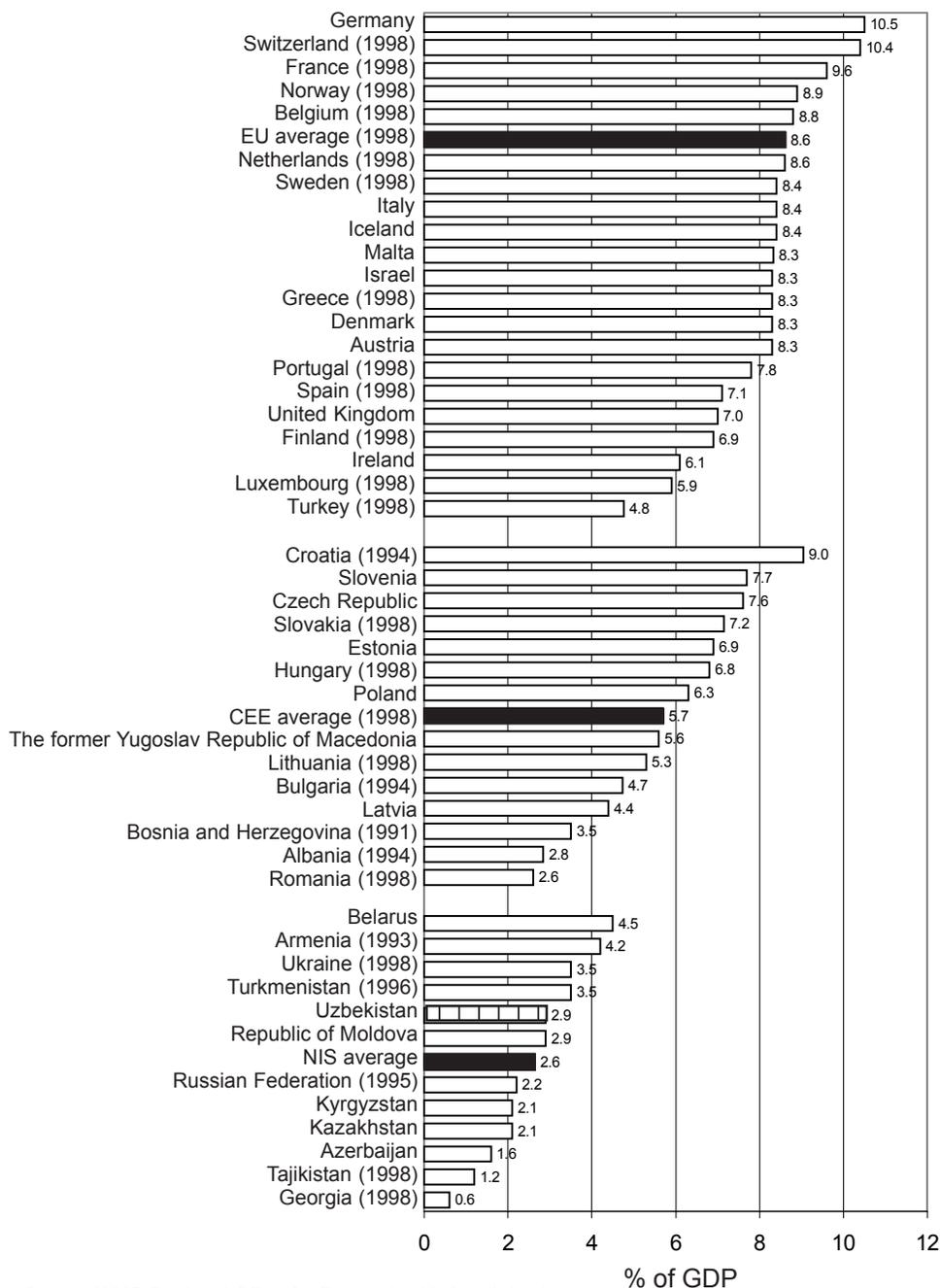
Table 5. Health care expenditure by category as a percentage of total expenditure on health care, 1990–1997

Category of expenditure	1990	1991	1992	1993	1994	1995	1996	1997
Inpatient care (%) ^b	NA	NA	NA	NA	NA	75.9	63.0	47.0
Pharmaceuticals (%) ^b	NA	NA	NA	6.0	6.6	14.2	8.6	10.0
Investment (%) ^b	NA	NA	NA	6.4	5.0	10.6	1.6	1.7

Sources: ^a International Monetary Fund (5); ^b WHO Regional Office for Europe health for all database.

NA: not available.

Fig. 5. Total expenditure on health care as a percentage of GDP in countries in the WHO European Region, 1999 or latest available year (in parentheses)



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

CEE: central and eastern Europe. NIS: newly independent states of the former USSR.

In 1995, the biggest share of expenditure in the hospital sector was devoted to salaries (30.4%), followed by managerial expenses (18.1%), food (15.3%) and pharmaceuticals (13.2%). The remaining 23% is not specified further. Price liberalization has led to a change in the structure of the expenditure of health care facilities (2). The share of the budget devoted to inpatient nutrition has doubled between 1992 and 1998, somewhat compensated for through budget cuts on public expenditure on medical equipment, instruments and pharmaceuticals.

Twenty per cent of pharmaceutical expenditure is spent in ambulatory care and 80% in hospital care.

The sanitary-epidemiological system uses 4–6% of the regional budgets on average.

Cost containment

Obtaining a complete overview over cost containment measures in Uzbekistan is difficult. In 1991–1992, the Ministry of Health changed policy from line-item budgeting. Ambulatory and polyclinic institutions were financed according to the number of visits and hospitals funded based on the number of patients treated. This policy was rescinded in late 1992.

In 1995, the Ministry of Health undertook a number of ad hoc measures to contain costs. These measures included the development of day care and day-case surgery and were said to have saved 4.4% of the health care budget. The mobilization of extrabudgetary resources, mainly fee-for-service payments, the privatization of health care institutions and the introduction of private practice are also said to have been important in containing costs.

Inpatient and outpatient expenditure shifted between 1991 and 1997. Funds allocated to hospitals are said to have declined from 80% to about half the health care budget (4). A total of 104 200 hospital beds (41%) were eliminated between 1991 and 1997 (4). Both institutional bed reductions and hospital closure contributed to this and may have led to savings in the hospital sector.

To adjust for the reduction of inpatient hospital capacity, Uzbekistan introduced new forms of day care, including day surgery, at outpatient centres and hospitals.

Health care delivery system

Primary health care and public health services

Health care is delivered differently in rural and urban areas. The first point of contact in rural primary health care historically has been the feldsher–midwifery post. Polyclinics in urban areas provide primary health care (and some secondary health care) in urban areas. The second level of primary care in rural areas is delivered by rural polyclinics (SVAs) or polyclinics in urban areas and more populated rural areas. Several different kinds of hospitals provide secondary health care. A central district hospital operates in each district. Some municipalities have hospitals and dispensaries in addition to the district system. These central hospitals often have a maternity and surgery department and a children’s ward. Regional hospitals deliver broader secondary care at the regional level. There are also specialized hospitals, which are often affiliated with large industrial enterprises or government ministries. Tertiary care is offered at national facilities. Highly specialized hospitals with associated research institutions are located in larger cities. The health care system consists of a network of over 6000 primary, secondary and tertiary health care facilities (Table 6).

Some health care facilities, especially in primary care, have no central water supply, heating or centralized drainage system and are very short of medical equipment. This is often the case in the rural facilities, which cover 62.5% of the population.

Primary care

The first contact point for health services, the feldsher–midwifery post, is the most peripheral unit of health services for the rural population in Uzbekistan. The feldsher–midwifery posts date from the Soviet era and provide good access to basic health care services, as almost the entire population is within 2 km of

Table 6. Numbers of health care facilities, 1996 and 1997

Facilities	1996	1997
Total number of hospitals	1 275	1 179
Regional (oblast) hospitals (including children's hospitals)	28	25
District hospitals (central district hospitals and district hospitals in rural areas)	190	186
Rural community hospitals	420	321
Maternity homes	49	49
Inpatient departments in polyclinics	240	244
Other specialized hospitals and institutions	184	182
Polyclinics	3 098	3 790
Polyclinics as outpatient departments in hospitals	871	890
Rural medical centres	307	631
Private dental surgery	118	NA
Institutions with units for resuscitation and intensive care	396	NA
Blood transfusion stations	29	23
First aid stations (departments)	216	217
Sanitary-epidemiological stations	229	223
Health departments in large industrial enterprises	61	75
Day care departments in outpatient polyclinic institutions	1 652	1 940
Day care departments in hospitals	812	873
Centres for outpatient surgery	183	219

Source: Department of Statistics in Health, Ministry of Health (4).

NA: not available.

a feldsher–midwifery post. A feldsher–midwifery post serves a catchment population of between 600 and 3000. The staff provide basic curative, antenatal and postnatal care (intrapartum care is usually in hospital) and undertakes some health promotion activities: immunization and health education. The posts are staffed with one to three staff, usually including a feldsher and a midwife. The number of feldsher–midwifery posts has been reduced substantially since independence and was 5251 in 1997.

The next level of services in rural areas is provided by rural outpatient polyclinics (SVAs). Staffed with about four physicians, they usually include a specialist in internal medicine, a paediatrician, an obstetrician and a stomatologist (dentist). The physicians are responsible to district health administrators.

Polyclinics mainly operate in urban areas and provide outpatient services to between 60 000 and 80 000 people. The city polyclinics are often large health care facilities with 10–20 staff and diagnostic and therapeutic services. Overall, Uzbekistan has 3790 polyclinics and hospital outpatient clinics, of which about 2900 are free-standing and 890 are located in hospitals as outpatient departments. Polyclinic staff usually consist of internal medicine specialists, paediatricians

and other specialists. There are three types of polyclinic: for adults, children and polyclinics specializing in women's health. Polyclinics are equipped with diagnostic and therapeutic equipment, with wide variation between urban and rural polyclinics.

Except for primary health care services provided by the feldsher–midwifery posts, primary and secondary health care traditionally are not strictly separated. A number of facilities, including polyclinics and some hospitals with outpatient departments, provide primary as well as secondary health care services.

Maternal and child health

Maternal and child health has predominantly been provided in the context of secondary health care. Developments in maternal and child health services include perinatal, fetal and maternal screening and immunization. A state programme on antenatal and postnatal vaccination was introduced in January 1998. Ambulatory departments for antenatal care were strengthened and, in 1997, 67.5% of pregnant women passed through such antenatal care departments (4).

First-aid stations

Uzbekistan has 217 first-aid stations. First-aid stations may be free-standing or hospital-based and provide 24-hour service for emergency treatment. The staff usually consists of physicians, feldshers and nurses. Transport of patients in emergency situations is sometimes complicated by the poor quality of ambulances and their equipment.

Recent developments in primary care

Rural medical centres (SVPs) are now being introduced throughout the country and are currently supposed to serve between 4000 and 6000 people each (up to 10 000 in remote areas). In 1997, 631 rural medical centres had been established either by new construction (about one third) or by converting existing facilities. Compared with feldsher–midwifery posts and rural outpatient polyclinics, rural medical centres are staffed with more physicians (between one and five), who are often specialists in internal medicine, paediatrics or gynaecology, and between four and eight nursing and auxiliary health personnel. The specialist physicians are gradually being retrained to be general practitioners through a 3-month training course. It is hoped that general practitioners will be the major providers of primary health care in rural areas. Primary care nursing education is being provided for nurses.

Four levels of rural medical centre are planned (17): level one will employ one physician to serve a catchment area of 1500–2500 inhabitants; level two would employ two physicians and serve 2500–3500 inhabitants; level three would provide three or more physicians to serve 3500–5500 inhabitants; and level four would represent a rural medical centre for training and education with seven to ten physicians.

The number of training rural medical centres would be limited to one or two per region. They would serve as general practice education centres for physicians and nurses.

Primary health care services provided in rural medical centres, in addition to basic primary care diagnosis and treatment, include preventing infectious diseases through vaccination (against polio, diphtheria, tuberculosis, pertussis, tetanus and measles (Fig. 6)) and reproductive health care. Rural medical centres are also expected to provide health surveillance for people at special risk and health education to promote healthy lifestyles (17). Rural medical centre premises generally conform to a standard layout area.

In the long term, rural medical centres are to form the primary point of contact for the population living in rural areas, replacing most feldsher–midwifery posts. In some remote areas of the country, in particular mountain areas, feldsher–midwifery posts will remain.

In three oblasts, primary health care services are being reformed on a pilot basis. The pilot projects consist of the establishment of rural medical centres. It is planned to gradually increase the managerial autonomy of the general practitioners working in the pilot rural medical centres. For this purpose, the pilot projects also contain an extensive training component.

The programme for building and maintaining rural medical centres seems to have slowed down recently, and more old rural outpatient polyclinics are being converted into rural medical centres. According to anecdotal evidence, as many as one third of rural medical centres lack electricity and/or water.

Secondary and tertiary care

Secondary health care is provided in urban polyclinics, rural district hospitals, central district, regional and city hospitals and specialized hospitals. Uzbekistan has about 1179 hospitals (1997). Secondary health care delivery differs between the rural and the urban areas.

In urban areas, city polyclinics provide most basic specialist care. Polyclinics offer both primary and secondary care through a range of specialists (in rural

areas, polyclinics less often provide secondary care, which is usually provided at the district level). Uzbekistan has 3790 polyclinics.

Rural district hospitals serve a catchment area with 10 000 to 12 000 people and are staffed with paediatricians, specialists in internal medicine and obstetricians. They have 15 to 75 beds, averaging about 45. Rural district hospitals provide first aid and basic secondary care. They also provide maternity care.

Central district hospitals have about 100–300 beds and are staffed with a range of specialists. Some incorporate a polyclinic. In 1997, there were 186 central district hospitals.

Regional and city hospitals, located in the main town of the region, have between 600 and 1000 beds and offer a range of secondary care specialists and more complex services. In 1997, there were 25 regional hospitals (including children's hospitals).

Maternal and child health is one of the priorities for health care in Uzbekistan. Most postnatal care is delivered in the 49 maternity homes (1997). They provide also some antenatal care.

Uzbekistan had 244 specialized hospitals and polyclinics in 1997; many disease categories and population groups are treated in separate hospitals. These include children's hospitals, tuberculosis hospitals, sexually transmitted disease hospitals, neurological and psychiatric hospitals and emergency hospitals.

In 1992, Uzbekistan introduced a further form of outpatient care: specialized courses of treatment. Under this system, hospitals and polyclinics provide highly specialized outpatient care for patients with severe forms of chronic diseases. The number of centres offering specialized courses of treatment is said to have increased from 32 in 1992 to 10 800 in 1997 (17). Day care has also been developed within the centres for outpatient surgery.

Tertiary care is provided in large hospitals and research institutes at the national level.

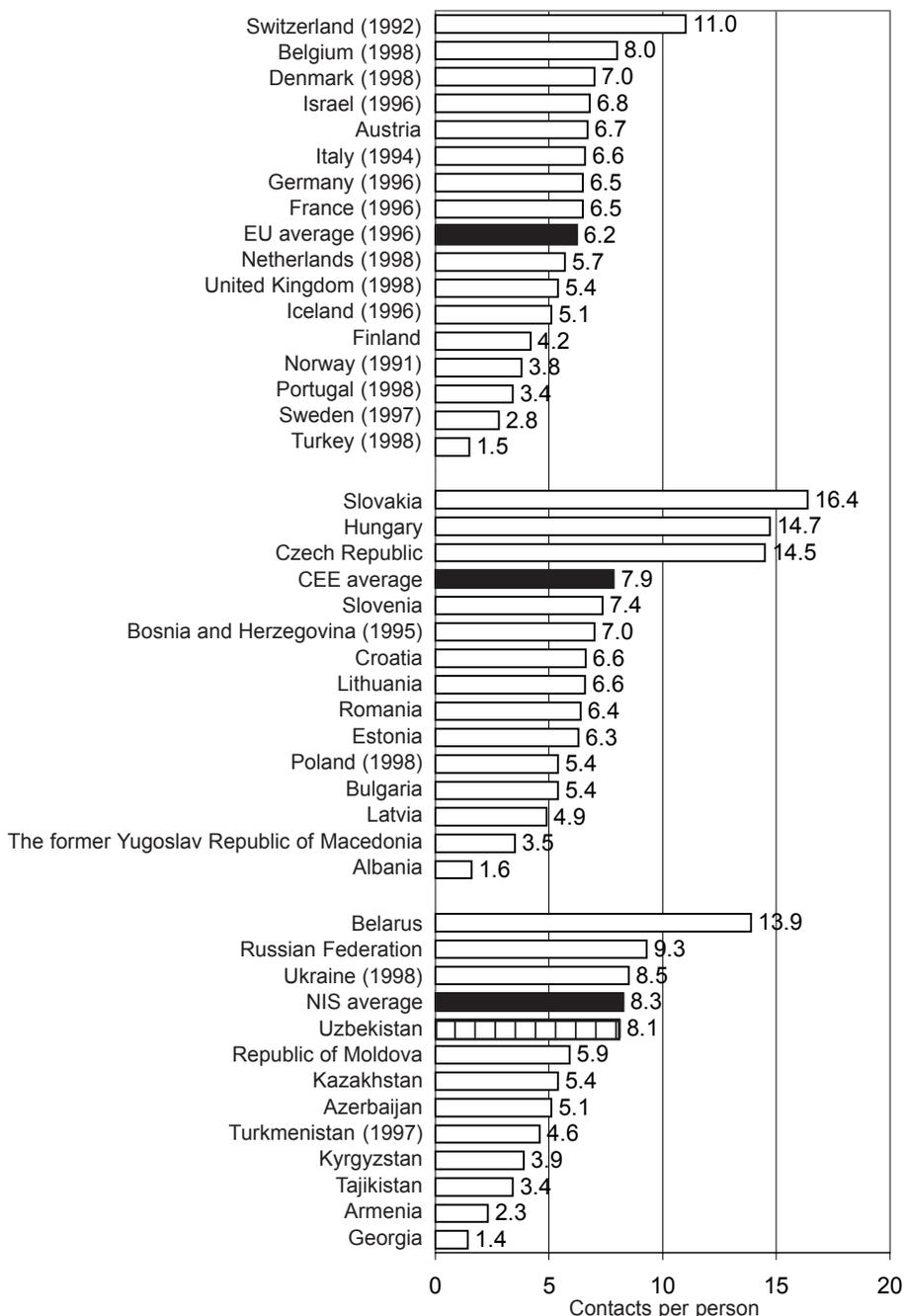
Outpatient services may provide as many as 7.1 consultations per resident per year (Fig. 7). The network of day care hospital services has been developed, nearly tripling from 669 in 1991 to 1940 in 1997. The number of patients treated in day care increased from 118 100 to 612 600. The number of hospital beds per 1000 population increased in the 1980s, peaking at 12 per 1000 population, among the highest in Europe (Fig. 8). This declined between 1991 and 1998 (Table 7) to a level below the EU average. This corresponds to the elimination of more than 104 200 hospital beds in response to the introduction of more day-case treatment.

Fig. 6. Percentage of children immunized against measles in countries in the WHO European Region, 1998 or latest available year (in parentheses)



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

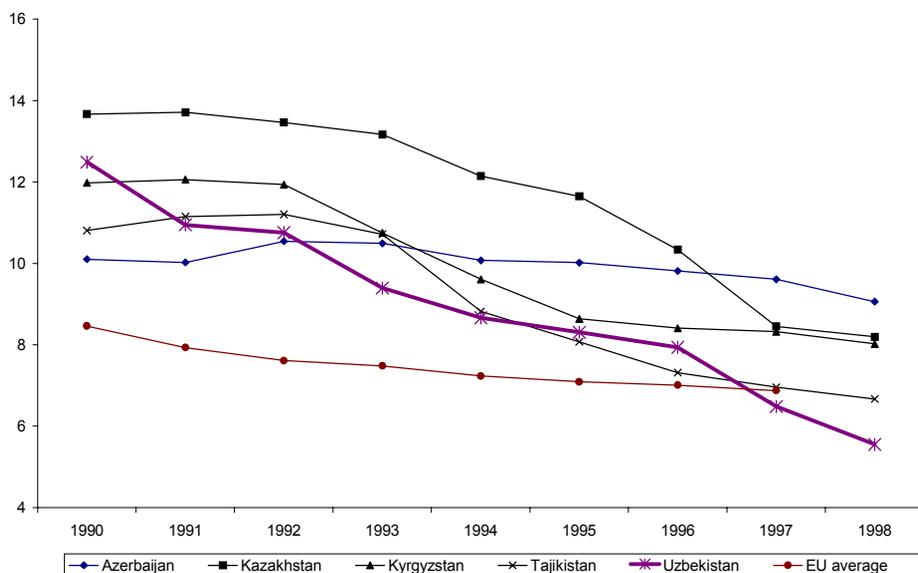
Fig. 7. Outpatient contacts per person in countries in the WHO European Region, 1999 or latest available year (in parentheses)



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

CEE: central and eastern Europe. NIS: newly independent states of the former USSR

Fig. 8. Number of beds in all hospitals per 1000 population in Uzbekistan and selected countries, 1990–1998



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

Contacts per person per year

The heavy reliance on hospital treatment is partly related to shortcomings in the ambulatory care sector and is reflected in the high number of annual hospital admissions, equivalent to 24% of the inhabitants of Uzbekistan in 1991; a long average length of stay in hospital of 15 days;³ a low occupancy rate of less than 60%; and the fact that the hospital sector received nearly 80% of the budget, which left little of the budget for outpatient and polyclinic treatment and primary health care. Patients are frequently transferred to hospitals because the appropriate medicines are not available in pharmacies, feldsher–midwifery posts or rural medical centres. Another factor is that training and treatment practice is strongly focused on secondary care.

Admission rates are traditionally high, and patients are often transferred to hospitals because of lack of capacity or equipment in outpatient facilities, especially in rural settings (4). Since 1989, admissions have decreased steadily as has the average length of stay (Table 7). The bed occupancy rate has increased by 60% according to official accounts (17), but data on the occupancy rate in acute hospitals are not available over time.

³ In Uzbek statistics, the average length of stay is calculated for all hospitals. There is no operational definition of acute care hospitals.

Table 7. Utilization and performance of inpatient health care facilities, 1989–1998

	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998
Hospitals per 100 000 population	6.7	6.6	6.7	6.2	6.1	5.9	5.8	5.5	5.1	4.5
Inpatient admissions per 100 population per year	24.6	24.4	24.0	23.7	22.0	19.2	18.6	16.4	15.9	12.9
Average length of inpatient stay in days	15.0	14.8	14.8	15.0	14.5	14.3	14.2	13.9	13.8	12.8

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

Public health services

Sanitary-epidemiological services in Uzbekistan are responsible for environmental health services, food safety and controlling communicable diseases. They also notify illnesses defined as especially dangerous diseases to the Department of Sanitary-Epidemiological Inspection of the Ministry of Health. The sanitary-epidemiological system is organized vertically, with services at the national, regional and district levels. Uzbekistan has 253 sanitary-epidemiological stations, including a number of purely scientific institutions. Some enterprises, such as the Railway Administration, the National Air Company and the National Security Service, maintain independent sanitary-epidemiological centres.

At the national level, the Department of Sanitary-Epidemiological Inspection is responsible for the overall control of the sanitation and infectious disease status of the Republic and supervises all sanitary-epidemiological institutions in Uzbekistan. The Department is divided into two main sections, reflecting the dichotomy throughout the whole sanitary-epidemiological system. The sanitation division is responsible for controlling the sanitary problems related to common industrial hazards: hygiene; radiation; food safety; and related activities. The epidemiology division is responsible for preventing diseases and tackles communicable diseases. This division has different units for virology, parasitology, tuberculosis and venereal diseases, cholera and plague, and “especially dangerous infectious diseases”. This division of services is reflected at the regional and district levels. The sanitary units are equipped with physical laboratories for work on environmental exposure such as noise, vibration and pollution in the workplace. The epidemiological stations have laboratories for bacteriology, virology, immunology, parasitology and special laboratories for the prevention and early detection of “especially dangerous infectious diseases”. Disinfection units act as independent entities. District sanitary-epidemiological stations are responsible for inspecting sanitary conditions, supplying water and ensuring nutrition for and the prevention of

infectious diseases among the population served. They report to sanitary-epidemiological centres at the regional level. District centres are also responsible for supervising health education, which targets pregnant women, and on health education in schools, concentrating on seasonal diseases, vaccination and nutrition.

Uzbekistan is faced with substantial environmental health issues. Water-supply sources are severely polluted. This is considered to be the cause of a high incidence of infectious diseases such as acute intestinal infections (346.7 cases per 100 000 population in 1997) and viral hepatitis (56.9 cases per 100 000 population in 1997) (4). Other communicable diseases of particular concern are tuberculosis (48.6 cases per 100 000 population in 1997) and syphilis (increased from 1.9 cases per 100 000 population in 1991 to 47.3 cases per 100 000 population in 1997). Official statistics indicate significant variation between regions: up to tenfold for syphilis and up to threefold for tuberculosis (4).

Uzbekistan established a vertical infrastructure for preventing and treating HIV infection and AIDS in 1998, separating it from the sanitary-epidemiological services. The Republican HIV/AIDS Prevention Centre is located in Tashkent, with branches operating in each region. The Centre has an immunodiagnostic laboratory and treatment facilities. It receives reports of registered HIV and AIDS cases on a monthly basis and serves as a reference centre for blood testing throughout the country. The Centre has three main functions: preventing HIV infection and AIDS; analysing HIV and AIDS epidemiology in the Republic; and treating people with HIV infection and AIDS. The regional centres primarily carry out surveillance and diagnosis of HIV and AIDS and perform health education mainly by distributing leaflets that inform about the severity of the disease, forms of transmission and ways to prevent the disease. In Tashkent, the Centre offers testing and counselling anonymously and free of charge.

Uzbekistan has enacted an integrated plan for family planning that includes health education on family planning provided by polyclinics for women of reproductive age. The number of abortions is said to have decreased from about 40 per 1000 women in 1990 to fewer than 13 in 1997 (4).

Another programme directed toward healthy lifestyles was adopted in 1997. It focuses on preventing smoking and getting people to quit and on promoting healthy nutrition and physical activity. It is proposed that the newly established national Institute of Health could take responsibility for initiating and supervising health promotion activities at the national level. The Institute of Health was created by a 1998 presidential decree. Details on the scope of work and functional links with health centres are still to be decided.

Social security and social care

The social care sector in Uzbekistan has a number of poorly connected components. The Ministry of Social Protection is responsible for the social protection scheme, and the Ministry of Labour supervises social care. Resources for social care are allocated to district and regional government administrators. The Cabinet of Ministers directly supervises a special programme for administering and implementing social care for handicapped people.

Uzbekistan has an elaborate system of social protection that aims to assist vulnerable groups, especially in helping them to overcome any adverse effects from transition. The scheme includes pensions, unemployment benefits, allowances for low-income families, benefits for families with children under 16 years of age, benefits for mothers with children under 2 years of age and special benefits for military veterans and disabled people (5). Benefits to low-income families and mothers of children under 2 years of age are administered by the neighbourhood council (*mahalla*) system.

Social protection programmes have declined in real terms since 1991 but still include the employment fund administered by the Ministry of Labour, which provides unemployment benefits up to 6 months at the previous wage level; social insurance, especially to support pensioners; consumer subsidies; social assistance in the form of family and child allowances; direct transfers to poor households; and state expenditure on health and education. These programmes accounted for 24% of GDP in 1992. Poor people whose needs are not met by one of the specific social benefits may be assisted at the local level from a discretionary fund.

Regional and district administrators are responsible for some social care, such as rehabilitation services for disabled people, and the local neighbourhood council implements some. These councils usually include representatives of older people, advisers to the chair (an elder) and representatives of the local offices of the Ministry of Labour, the tax inspectorate and the Ministry of Finance. There is one national office and 12 000 neighbourhood councils. The number of social care beneficiaries for which the councils are responsible varies between 150 and 1500 households. The chair of the council is elected by the neighbourhood from candidates approved by the district mayor.

Neighbourhood councils are responsible for identifying people who suffer from absolute poverty. A poor family has the right to receive an allowance equivalent to 1.5–3 times the minimum wage for 3 months. This can be extended to an additional 3 months if needed. The councils also channel donations in cash or kind from local enterprises to poor people. The local councils are

financed by regional funds. Currently, social transfers to poor people are limited to only 1.5% of the government budget, so that the councils are forced to restrict their assistance to destitute people. The criteria for assistance are locally determined.

Hospitals still provide rehabilitation care. Rehabilitation has been promoted by a state programme operating since 1996. The programme includes preventive measures and the health, social and occupational rehabilitation of disabled people.

Human resources and training

Overview

Uzbekistan has a relative excess of physicians (Table 8, Fig. 10). In addition, most health professionals tend to be concentrated in urban areas, so that rural areas have relatively few health professionals. Because of educational traditions, Uzbekistan has insufficient general practitioners and too many specialist physicians. The quality of training of specialists has been a matter of some concern.

Table 8. Number of health care personnel per 1000 population, 1980–1998

	1980	1985	1990	1991	1992	1993	1994	1995	1996	1997	1998
Physicians	2.7	2.7	3.4	3.4	3.3	3.3	3.3	3.2	3.1	3.1	3.1
Dentists	0.1	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.3	0.2	0.2
Certified nurses	7.8	9.0	10.5	11.0	10.8	10.9	9.4	9.6	10.1	10.1	10.1
Midwives	0.8	0.9	1.0	1.0	0.9	0.9	0.9	0.9	0.9	0.9	0.7
Pharmacists	0.2	0.2	0.3	0.3	0.3	0.2	0.1	0.1	0.07	0.04	0.03
Physicians graduating	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.1
Nurses graduating	0.8	0.7	0.6	0.7	0.7	0.7	0.7	0.9	1.3	0.7	0.7

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

The decline in the reported number of pharmacists since 1993 is related to the privatization of pharmacies, which are then no longer included in the statistics on health establishments under the Ministry of Health.

There are many problems such as lack of teaching materials and low salaries for teaching staff. Recently, there has been significant exodus from the state health care system; about 30 000 health personnel left this sector, including about 7000 physicians. The attrition rate increased from 3% in 1990–1991 to 5% in 1994–1995. Some loss may be attributed to a shift to the private sector

(about 3000 physicians and 7000 nurses). Some loss may also result from the emigration of ethnic Russians.

Higher-level health professionals, including physicians and pharmacists, must undergo re-certification every 5 years to retain their licence to practice. The activity of all health professionals is regulated by the law and by professional associations.

The government recently revised the system of admission to medical schools and reduced the student–teacher ratio by restricting numbers of students. During the past 3 years, the number of students entering has declined by about 40%. At the same time, admissions to nursing schools increased, intended to carry out the policy aim of one physician to seven nurses. In addition, the Council of Deans of the medical institutes has radically revised the medical curriculum, seeking to improve the standard of medical education in Uzbekistan.

Physicians

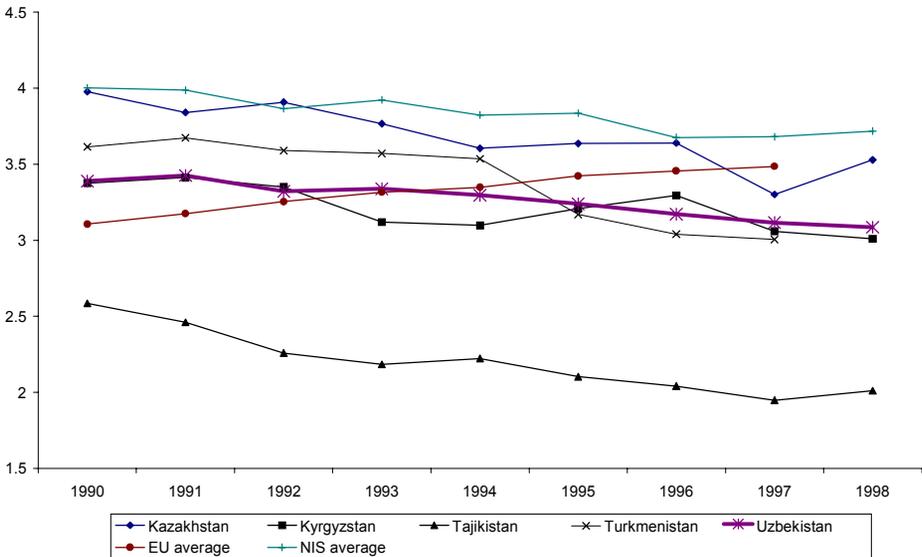
The number of physicians has been relatively low compared with other central Asian republics. The number of physicians per capita was increasing until 1993, as is typical in central Asia, but has since shown a steady decrease and has been below the EU average since 1994 (Fig. 9).

Medical training is provided by the seven medical schools in the country. The Turkistan University, which includes the medical school, was established in 1920 and separated as the Medical Institute in 1930s. In 1960s, the Samarqand Medical Institute was established. Today Uzbekistan has seven medical schools with therapy, paediatrics, dental care, pharmacy, and sanitary and epidemiology faculties and four faculties for internal medicine. These faculties provide undergraduate training.

Admission to medical school is restricted through an entrance examination, which also tests knowledge in one foreign language. The basic medical training is 5 years (previously 6 years), leading to the bachelor degree in medicine. It is followed by a 2-year pre-registration period in medical practice after which trainees receive a diploma in medicine. Those wishing to pursue an academic career have a different postgraduate programme. The fee for basic medical undergraduate education amounts to 160 000 som (US \$1430) and, for the practical pre-registration period, 400 000 som (US \$3570). Those who perform best at the admission examination are exempted from fees.

Several medical institutes in Uzbekistan are providing a new programme of postgraduate general practitioner training; the first general practitioners graduated in 1999. The programme is strongly supported by the United Kingdom Department for International Development. In order to work in the new primary

Fig. 9. Number of physicians per 1000 population in Uzbekistan and selected countries, 1990–1998



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

health care centres, physicians are also retrained for 3 months at several sites. The training of general practitioners is fragmented throughout different training programmes being implemented throughout the country.

Table 9 shows the numbers of physicians working in different specialties and Table 10 the numbers of each type of intermediate-level health professional.

Sanitary-epidemiological personnel

Uzbekistan has about 13 000 sanitary-epidemiological health personnel, of whom about 5000 have specialist medical training in sanitary epidemiology. The remainder work as sanitary-epidemiological auxiliary personnel.

Stomatologists and dentists

In Uzbekistan, dentists and stomatologists have 5 years of higher education at the faculties of stomatology of the medical institutes. The educational programme for dental assistants lasts 3 years.

Table 9. Numbers of physicians in different specialties, 1997

Specialty	Number	Per 10 000 population
Internal medicine	17 555	7.5
Surgery	8 789	3.8
Obstetrics	5 365	2.3
Paediatrics	11 668	5.0
Ophthalmology	889	0.4
Otolaryngology	887	0.4
Neurology	1 252	0.5
Psychiatry	676	0.3
Dermatovenerology	879	0.4
Dentistry	4 119	1.8
Sanitary-epidemiological services	1 722	0.7

Source: Department of Statistics in Health, Ministry of Health (4).

Table 10. Numbers of intermediate-level health personnel in different specialties, 1997

Specialty	Number	Per 10 000 population
Feldshers	18 276	7.9
Midwives	20 794	8.9
Nurses at medical institutions	178 830	77.0
Sanitary-epidemiological auxiliary personnel	3 662	1.6
Disinfection personnel, instructors	2 859	1.2
Laboratory technicians	11 620	5.0
Dental technicians	1 633	0.7
Radiological technicians	1 682	0.7

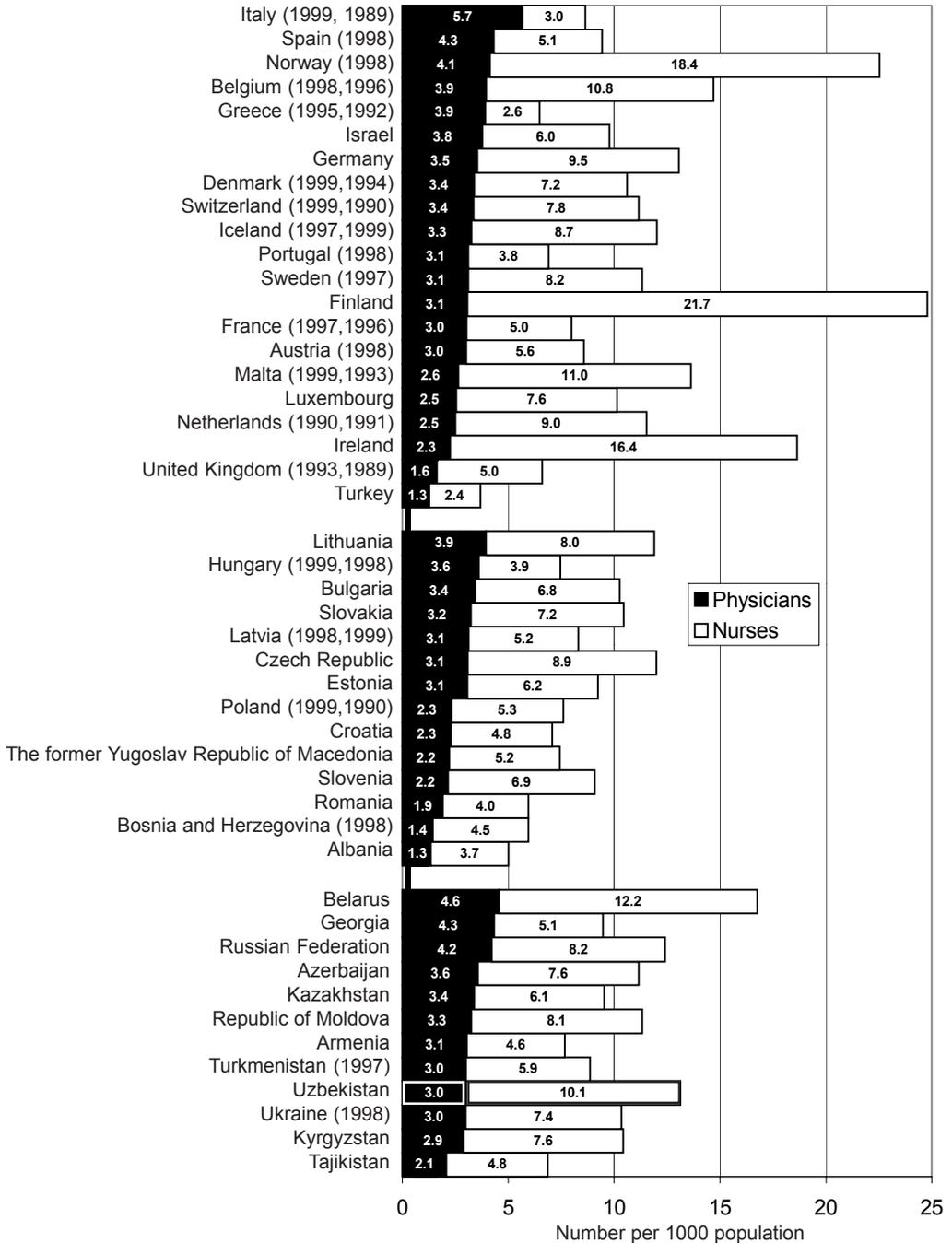
Source: Department of Statistics in Health, Ministry of Health (4).

Nurses and midwives

Most health care facilities employ nurses. Training is between 2 (intermediate-level education) and 3 (higher education) years at a nursing institute. Specialist nursing training is available for sub-specialties such as operating theatre work.

The nursing and midwifery professions have had their status enhanced during recent years. Uzbekistan has introduced a chief nurse, and higher education for nurses was introduced in 1999, with about 200 nurses enrolled in the first programme to become so-called universal nurses. Higher education for nurses lasts 3 years.

Fig. 10. Number of physicians and nurses per 1000 population in countries in the WHO European Region, 1999 or latest available year (in parentheses)



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

The number of certified nurses and midwives per capita declined during the 1990s (Table 8). This may, in part, have resulted from the low status and low pay of this profession.

Feldshers

Feldshers are health professionals with an education between that of nurses and physicians. They receive nursing and midwifery training with additional training in diagnosis and prescribing. They work in the feldsher–midwifery posts and have the authority to prescribe a restricted number of drugs. The feldshers will, in future, work with the rural medical centres.

Pharmacists

Ownership of pharmacies and training of pharmacists has been an important focus of health care reform in recent years. During 1994, all pharmacies were privatized, making pharmacists one of the first professional groups in Uzbekistan that were allowed to work in the private sector. The decline in the reported number of pharmacists since 1993 (Table 8) is related to the privatization of pharmacies, which are then no longer included in the statistics on health establishments under the Ministry of Health. At the same time, the Tashkent Pharmaceutical Institute, the central educational institution for pharmacists, has substantially revised the curriculum for pharmacist education. The curriculum is planned to be further developed in pharmacotherapy and quality assurance and should incorporate problem-based training. The Institute has started to offer short refresher courses and is considering introducing a system of continuing professional development. Training towards rational drug use and prescribing is strongly emphasized.

Pharmaceuticals and health technology assessment

Pharmaceuticals

Before independence, the Ministry of Health in Moscow controlled the drug regulation and procurement system in Uzbekistan. Since independence, Uzbekistan has faced the challenge of maintaining the supply of drugs and vaccines and developing and implementing its own national drug policy.

In 1997, Uzbekistan has adopted a first Act on Drugs and Pharmaceutical Activities. The Department of Drug and Medical Equipment Quality Control of the Ministry of Health is the main national institution responsible for supervising the implementation of the Act and drug regulation. It was set up in 1995 by presidential decree as the drug control body with both executive and regulatory functions. It is the sole state policy institution in the fields of quality control, standardization and certification of drugs, medicinal foods and medical equipment. The main goal of the Department is to ensure implementation of a comprehensive national drug policy. The Department leads and coordinates the following subdivisions: a state centre for expertise and standardization of medical means (which includes the quality control laboratory), a vaccine and microbiology laboratory, the pharmacotoxicology unit and the units for quality control of medical equipment and scientific methodology and information. There are also several committees, including: the pharmacological and pharmacopoeia committees; the formulary committee; the new medical equipment committee; the licit drugs committee; and the pharmaceutical inspectorate registration office. In 1999, Uzbekistan passed the Narcotics and Psychotropic Substances Act.

Uzbekistan adopted a national pharmaceuticals policy in 1999 that provides a comprehensive framework for coordinated development of the pharmaceutical sector.

An official state register of pharmaceuticals approved for medical use in Uzbekistan contains about 3500 products listed based on the brand name, and the international nonproprietary name is also indicated. These products are officially permitted to be prescribed and used in health care. The register contains drugs produced in Uzbekistan and drugs from the NIS and from other countries. Pharmaceutical regulatory information is updated in a pharmaceutical information bulletin published regularly.

Clinical trials are necessary to register domestic products. Efforts are being made to comply with the WHO and the EU Good Clinical Practice guidelines and to align with the international standards for randomized controlled clinical trials.

The Licensing Committee of the Ministry of Health certifies pharmacies, wholesale distributors and manufacturers. Further, a Licit Drug Committee has been established to fulfil its commitments under the United Nations International Narcotics Control Board, and this has been placed under the umbrella of the Department of Drug and Medical Equipment Quality Control.

Uzbekistan has adopted the essential drug concept. The national essential drug list contains about 240 products, including over-the-counter products. This list is based on the WHO Model List of Essential Drugs. In addition, the

Ministry of Health is exercising price regulation for the 20 most basic products that are to be available at every pharmacy. The regulation of the availability of these 20 products in every pharmacy for a fixed consumer price applies to all pharmacies regardless of ownership.

The Uzbekistan national essential drug formulary that was published in 1998 provides updated and objective drug information to all prescribers. The essential drug concept needs to be implemented further through education and the development of treatment guidelines.

Drug distribution

Uzbekistan inherited a well developed drug distribution system from the Soviet era. This included the centralized state Farmatsija system and its regional divisions and pharmacies.

Uzbekistan has 3600 pharmacies, of which 2220 are formerly state owned and privatized, the remaining being newly established pharmacies that are highly decentralized. The pharmacies are almost completely privatized, either as part of a self-supporting state joint shareholding association, Dori-Darmon (the former sole drug distributor) or as a for-profit collective or individual pharmacy. This successful privatization effort has helped to ensure competition and provided new opportunities for circumventing the shortages of foreign drugs.

Dori-Darmon is the main source of drugs for hospitals. Each hospital places an annual order with Dori-Darmon, and deliveries are normally made on a weekly basis. There are also private drug distributors, which mainly supply drugs to pharmacies, polyclinics and private practices. The sanitary-epidemiological services directly distribute vaccines.

Although the idea of paying for drugs dispensed in pharmacies is now well established, even if some prices are strictly controlled, most patients in hospital continue to get treatment free of charge. However, in practice, state-owned health facilities have a shortage of even the most essential drugs such as antibiotics, analgesics and anaesthetics. This supports the existence of a illegal pharmaceutical market. A growing proportion of patients often have to provide their own medicines and, in some cases, consumables. Before admission, patients are often provided with a list of drugs and supplies to bring.

Domestic drug production met less than 10% of the demand in 1999 and has never been extensively developed. Most of the production is not of medicines from the national list of essential drugs but of herbal drugs and galenicals (preparations with organic ingredients), although some sera and vaccines are also produced. In addition, the domestic drug operations do not yet meet the standards set. From 1992 to 1993, only 3% of the essential drugs needed were

produced domestically. In 1993, the government decided to reorganize the pharmaceutical industry into a joint stock company called Uzpharmprom, which aims to increase the range and quantity of domestic production of drugs. By 1999, there were about eight drug manufacturing companies throughout the country.

Uzbekistan has a long-term strategy for increasing domestic drug production and seeks to become self-sufficient in the production of essential drugs, infusion solutions, vaccines, blood preparations, disposable blood transfusion systems and blood substitute products. Substantial investment has been made in the domestic industry, and it is aimed to apply international good manufacturing practice standards to domestic pharmaceutical production. The manufacturers have major difficulty in obtaining the raw materials needed for production. Intensive training and education is required to implement the good manufacturing practice standards in practice. Meeting some of the local needs and also exporting to neighbouring countries and beyond can relieve the cost pressures arising from the purchase of foreign-produced drugs.

Foreign drugs for public-sector needs are purchased in two ways. Dori-Darmon is responsible for all purchases of drugs from the NIS, and Uzbekmedexport, a private company, undertakes all public-sector purchases from other countries. Uzbekmedexport relies on Dori-Darmon for technical information and advice.

The limitation on foreign-currency exchange and an unfavourable taxation system might explain the existing black market for pharmaceuticals.

Since 1994, prices have been fixed for the 20 most basic drugs. For all other products, price regulation is based on maximizing wholesale and retail mark-ups (20% and 25% respectively).

Medical equipment

A committee set up in 1992 within the Pharmacological Committee of the Ministry of Health is responsible for registering medical equipment.

The private company Uzmedtehnika is the largest supplier of medical equipment. Uzmedtehnika purchases most equipment abroad but has recently started domestic production of equipment based on international quality standards (syringes, infusion sets, sutures and basic surgical instruments). Imported equipment usually undergoes a registration procedure before being imported to Uzbekistan. Uzmedtehnika contracts with health care providers for medical equipment supply, repair and regular maintenance. Following the presidential decree of June 1998, Uzmedtehnika has introduced an investment programme that aims to attract foreign investors for the development of medical

technology in Uzbekistan. Projects include medical laser technology, tuberculosis drug dispensers and an advanced digital radiology unit.

There is a shortage of specialized ambulances, mobile fluoroscopes and laboratories, mobile dispensaries, X-ray film, chemicals for laboratory testing and spare parts for existing equipment. A similar situation applies to smaller medical supplies, such as syringes, for which there is a black market.

Financial resource allocation

Third-party budget setting and resource allocation

Public funding for health care is generated from the state budget and from regional and district revenues. The Ministry of Finance sets the budget based on projections derived from data from the previous year. It is based on line items, and there is an 18-item budget in which 11 lines are used for the health budget. It is adjusted for inflation, population and population growth. The structure of the health budget, averaged at the national level, is as follows: salaries, 30.4%; drugs, 13.2%; food for hospitals, 15.3%; administration, 18.1%; other, 23%.

The national budget-setting process starts in October. Each region presents its budget proposal to the Ministry of Finance in conjunction with an activity report for the first 9 months of the year. The Ministry of Finance assesses these reports, which then form the basis for setting the budget for the following year. From October to December, the budget is approved by the Supreme Assembly and then allocated to each region by the Ministry of Finance. Each region is free to use the budgeted funds according to the local needs of the population once the budget has been allocated, guided by general guidelines, such as suggested salaries, issued by the Ministry of Health.

Local financial resources flow from the regional level to regional health facilities and from the district government to the district health facilities. The distribution to health facilities in reality is still largely based on the national norms on which the budgets were prepared. Some funds remain in the region to cover managerial costs and investment and to fund regional facilities; some are further allocated to the districts. Two areas in the Farghona oblast are developing fundholding models for the self-management of rural medical centres (17).

In the long term, it is planned that the budget allocation process should be more responsive to local needs. Initial steps have been taken in this direction with a proposal for a simple capitation allocation formula for budget allocation to regions that incorporates population characteristics (4). Moreover, local administrations are authorized to compose the overall local budget in accordance with funds received from activities for promotion of alternative forms of health services.

Allocation of resources for capital investment is more centralized. The Ministry of Health identifies the need for new equipment. The Ministry of Finance then purchases equipment, which is, in turn, distributed through the Ministry of Health. The need for new equipment can only be flagged up by the region but is subject to approval through both the Ministry of Health and Ministry of Finance.

Payment system for sanitary-epidemiological services

A dual financing system is in place for the sanitary-epidemiological services, starting from the regional level. One source is direct funding under the regional budget (since 1991). The second source is funding generated through local income and fines. A decree of the Cabinet of Ministers in 1998 ruled that all income from fines is to be redistributed to the sanitary-epidemiological stations. The funds are used for very specific services, including emergency activities, vaccination, disinfection and supplies.

Payment of hospitals

State hospitals are funded by line items based on the number of hospital beds in the previous year regardless of the number of patients treated. Staffing costs are determined by the number of beds.

The payment method is prospective and is calculated based on historical patterns. The formula for each patient is a calculation based on guidelines issued by the Ministry of Health that takes into account 11 line items, including food; drugs; treatment costs; service costs related to medical equipment; administration; and salaries. The formula does not include capital investment costs for the hospital, which are administered through a separate budget line. Reimbursement is not adjusted for case mix. Most hospital service providers probably base their budget claim on the defined maximum length of stay, which is set at twelve days per patient, and the period of illness that will be covered

through the state system. After this, patients either have to pay or be transferred to another hospital. The Ministry of Health accepts that the mechanism of per capita financing is often only formally used and has to be further refined to account for social, economic and demographic factors (17).

A similar method is suggested for the initial financing of emergency hospitals. Later it is planned to create more flexibility in the management of the hospital budget for each hospital director through programme budgeting, performance-related pay and target payments (17). In addition, the government is seeking to promote private capital investment to modernize and upgrade medical equipment in the hospitals.

Nearly all state-owned hospitals have some beds managed on a self-financing basis through fee-for-service payments by patients. This varies greatly from hospital to hospital. For central district hospitals, self-financing is estimated to account for about 6% of beds. Emergency hospitals will also offer some fee-for-service health care services.

Payment system for outpatient facilities

Payment for outpatient facilities and polyclinics is on a lump-sum based on the number of people treated. Most specialized measures in outpatient facilities, such as endoscopy, ultrasound and radiological examination, fall outside the state health care system and are financed through direct payments by the patient. For the rural medical centres, a rural medical centre budget based on a capitation rate, is currently being piloted in the Farghona, Sirdaryo and Nawoiy oblasts.

Payment of physicians

Most physicians working in health care facilities are government employees paid on a salaried basis. The level of government pay is low. The average monthly salary of a physician working for the state is 7000–9000 som (about US \$60–80). Payment is graded according to the duration of employment at the hospital. Extra income is generated through working at night. Physicians who work solely at night receive 8000–10 000 som. It is inevitable that physicians have to generate extra income, as the state salary is low. Some income is generated through informal payments made by the patients. There are no reliable data as to the extent and the volume of such payments.

Private practitioners can generate income officially through direct payments by the patients. The income of private practitioners is unknown.

Payment of nurses

Nurses are paid by salary and earn 6000–7000 som (about US \$50–60) per month, which is a low income in Uzbekistan and is often supplemented by informal payments.

Health care reforms

Aims and objectives

The primary aim since independence has been to provide high-quality, affordable health services. The health care reform process in Uzbekistan has six key objectives: improving child and maternal health, promoting privatization, improving the quality of health services, containing costs by reducing the public share of health care financing, exploring additional resources to fund the health care system and decentralizing and enhancing resource allocation.

- *Improving child and maternal health.* A survey of maternal and child health in 1993–1996 initiated effort and measures to improve the health status of the population with special emphasis on maternal and child health (17). This programme was financed by establishing the Presidential Fund for a Healthy Generation.
- *Promoting privatization.* The introduction of a market economy has stimulated a trend towards privatization in the context of four main objectives: increasing the efficiency of the health care delivery system; increasing the quality of health care services; decreasing the public share of health care financing; and enhancing the choice of the Uzbek consumer.
- *Improving the quality of health services.* Public and political perceptions and expectations have been changing, with an increasing orientation toward the standards in place in other, mainly western European, systems. This has led to the development of measures to raise the overall quality of services. The government has recently opted to revise and reform the education and training system to increase capacity in order to enhance the quality of health care services.
- *Containing costs by reducing the public share of health care financing.* The shortage of public funds requires rationalizing the system. There is said to

be a need to reduce excess capacity in hospital beds and facilities and the number of physicians. There are also moves to reduce the package of basic services covered under the state budget.

- *Exploring additional resources to fund the health care system.* The introduction of health insurance has attracted much attention by policy-makers and health care providers. The measures enacted so far have concentrated on private-sector resources, on user charges and generating resources through domestic and international investors.
- *Decentralizing and enhancing resource allocation.* With the dissolution of the USSR, the central planning and control approach has lost favour, and the government has introduced steps to decentralize the system. These reforms have mostly concentrated on moving control from the national to the regional level. The stated objective is to make the allocation of resources more responsive to local needs.

Content of reforms

Reforms to the organizational structure

The current system has a long referral chain covering six layers of care (Fig. 11). It is conceivable that patients with serious diseases have to pass all of these (17). It is planned that, in the long run, the system will be condensed from six layers to three. These will be primary health care, a system of outpatient and general hospital secondary care and highly specialized tertiary hospital care (Fig. 11).

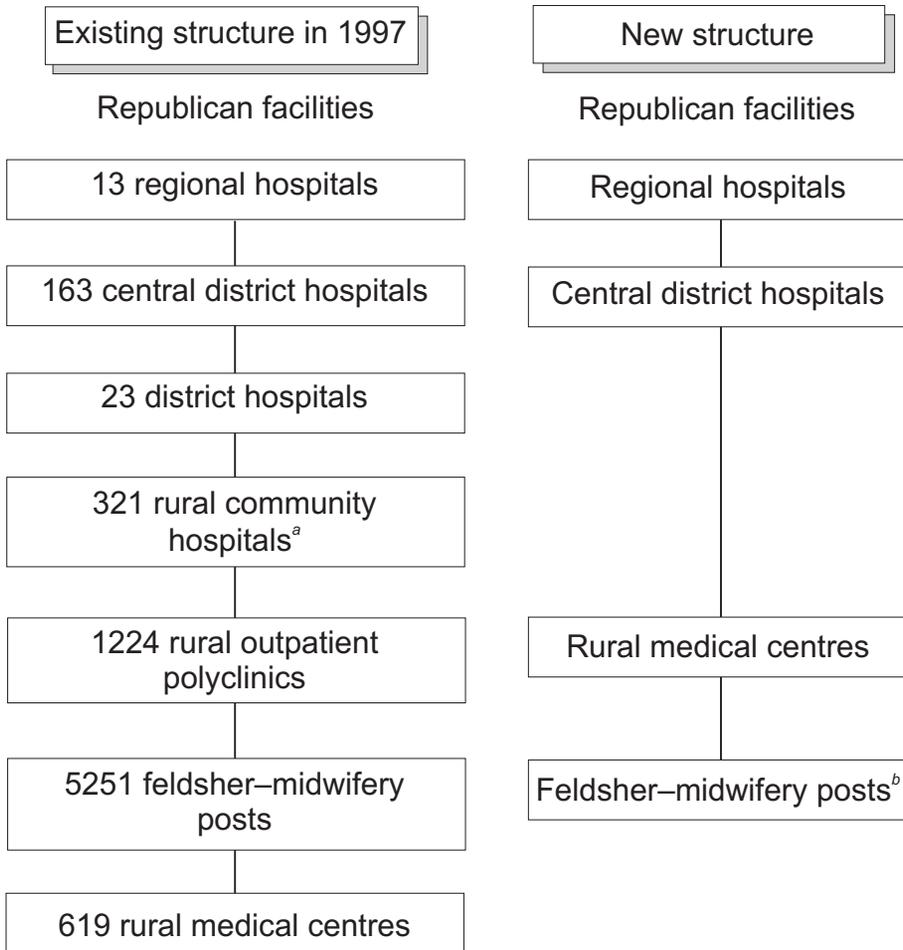
General practitioners would provide primary health care services at polyclinics and medical centres. Hospitals would provide basic hospital care at the regional or district level; and state scientific medical centres and medical institutes would provide the most specialized care.

It is foreseen that feldsher–midwifery posts will be privatized or closed in the longer term; rural outpatient polyclinics and rural hospitals would be combined into the new rural medical centres. Most of these will have to be newly constructed and will deliver general practice-based primary health care.

A new system of emergency medical care introduces three functional subsystems:

- first aid: treatment of conditions without direct threat to life to be covered under the traditional regional system;

Fig. 11. Health care delivery and reform in rural areas



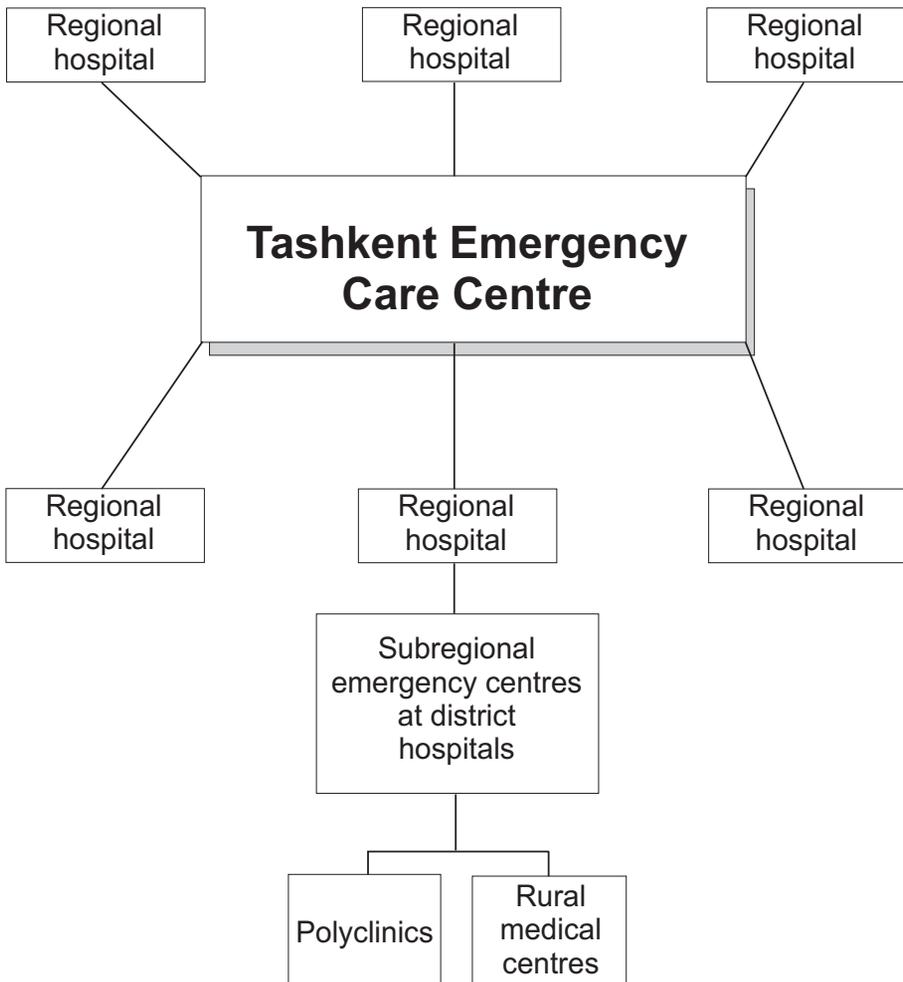
^a Most of the rural hospitals will be closed or reorganized, but some will most likely remain in remote areas such as mountains and semi-desert regions.

^b Most of the feldsher-midwifery posts will be closed or reorganized, but some will remain in remote areas.

- emergency medical care: treatment of conditions for which the life of the patient is directly threatened; and
- disaster management: the management and treatment of cases under catastrophic conditions and extreme circumstances.

The new system will be integrated partly in the existing infrastructure of health care facilities and partly in newly established or reconstructed and refurbished facilities, such as the case with the Tashkent Emergency Care Centre, which will be charged with complex emergency care cases, such as burn and multi-trauma cases (Fig. 12). The regional branches of the emergency care units will be operating within the regional hospitals, and subregional emergency centres will operate within district hospitals. First aid will be provided either in polyclinics at urban sites or rural medical centres.

Fig. 12. Uzbekistan's infrastructure plan for emergency care for 2005



The first emergency health care clinic was opened in Samarqand. It started to provide services in November 1999. The clinic has highly specialized departments, including five departments of surgery, traumatology, urology, gynaecology, obstetrics and paediatrics; resuscitation rooms; three internal medicine departments; and a department of rehabilitation. The hospital has over 400 beds, 300 nurses, 160 physicians, 440 ancillary staff and a computed tomography scanner. It is further planned to purchase a helicopter for emergency rescue. It is not known whether this will make redundant the existing emergency care infrastructure integrated into the network of primary and secondary care facilities.

The Tashkent Emergency Care Centre was being constructed in 1999 and will serve as a major hub for emergency health services.

It is not clear how emergency health care services will relate to first-aid stations and how the new institutions will generate their income in future; a number of the services provided fall outside emergency health care and outside the state-funded health care package.

In addition, there is concern that the emergency services system is taking priority over the primary care reform initiative in particular, since substantial levels of funding are being allocated for building and renovation, whereas some regions have budgetary problems in building new rural medical centres.

WHO-assisted health care reform projects

Uzbekistan adopted the health for all policy after joining the World Health Organization in 1992. Concentrated cooperation between Uzbekistan and WHO started in 1993, and a WHO Liaison Office was established in Tashkent in 1995 as a result of a collaborative agreement signed between WHO and Uzbekistan. Since then, collaboration was focused on the areas of child health; reproductive health; and preventing and controlling infectious diseases (including diphtheria, polio, HIV/AIDS, tuberculosis, diarrhoea and cholera). With WHO's assistance, the country has developed a national formulary that is currently undergoing consultation and revision. WHO has also influenced the reform of health care strategies and has promoted the initiation of a transition from a hospital-centred health care system towards a focus on primary health care. This process includes upgrading nursing and midwifery education and developing a national policy on quality of care. In addition, the Mujnak district pilot project is aimed at improving primary health care in the Aral Sea zone, which has many needs. The project has three components: training nurses and physicians in primary care (1); improving infrastructure and supplies in rural health facilities and hospital outpatient departments, communicating between

facilities and providing logistical support to the local health promotion centre and the district sanitary-epidemiological services (6); and improving water supply and quality (2).

The national health policy of the country is still under development, with WHO targets being adjusted to the local context.

Reform priorities, 1991–1998

With independence, Uzbekistan had to start to establish its own priorities for health care reform. In the first years of independence between 1991 and 1998, there were a number of ad hoc reforms. There was no coherent long-term national health care reform process. Measures were mainly directed towards the following objectives:

- health care financing:
 - decentralizing the health care system, with strengthening of regional and district responsibility for allocating funds and, to a limited extent, health care planning;
 - privatizing pharmacies and enabling registered private physicians to establish private practices; and
 - initiating a new payment system for hospitals; moving from per-bed allocation towards a capitation mechanism (not fully delivered);
- health care resources:
 - reducing hospital beds and shifting resources towards day care, home care, outpatient surgery, outpatient specialist care and community group social care; and
 - reforming the education and training of health professionals, including introducing postgraduate training in general practice and reforming the curriculum for pharmacists;
- national policies and programmes;
- improving maternal and child health care, including family planning.

Reform priorities, 1998–2005

In 1998, the Cabinet of Ministers issued a presidential decree on the reform of the health care system in Uzbekistan. The decree contains priorities for health care system reform for 1998–2005 and, as an annex: a list of health care facilities delivering state-funded health care; a list of health care facilities liable to undergo transition towards paid services; the programme of developing rural

medical centres throughout the country, 2001–2005; workforce and medical education forecasts; and a programme of re-profiling medical schools into professional colleges in 1999–2005. The decree includes:

- a plan for the establishment of a nationwide network of emergency medical care centres, including an implementation time scale;
- the introduction of higher education in nursing care;
- a plan for the establishment of a nationwide network of rural and urban medical centres delivering primary health care to the population of Uzbekistan;
- the further development of the private health care sector; and
- provisions for the monitoring and implementation of reform measures.

The decree also states the need for fundamentally reforming health care financing. It confirms the establishment of the Tashkent Emergency Care Centre with regional branches, outlines its structure and sets regulations for the operation of the emergency health care system. The Centre was newly constructed in cooperation with the Tashkent City Ambulance Station and will be staffed with specialists. The Ministry of Health specifies the maximum length of time patients are allowed to stay in the new emergency centres. The Ministry of Health is developing a list of diseases eligible for emergency health care services under the state budget, treatment protocols and service volume projections for the diseases listed. After 2005, the patient, the employer or, in the future, an insurance fund will have to fund all services not falling within the state package: mainly elective, specialist and dental diseases. It is anticipated that, in the new system, three of five health service interventions will be outside the state health care system.

The decree establishes rural medical centres throughout the country, requiring that all relevant players collaborate in local plans for the development of urban and rural medical centres. With regard to the promotion of the private health care sector, the decree offers tax exemption for private health care facilities within 2 years of their establishment on land for private facility construction and operation and for private and public investors. It also grants rental benefits for private facilities.

Pending reform proposals

There has been interest in implementing a national health insurance scheme in Uzbekistan since independence.

A draft law on health insurance has been the subject of extensive consultation since 1995. The law would regulate the legislative, economic and logistical basis of health insurance. Compulsory health insurance would be provided for

all citizens of the Republic and would be administered by state health insurance institutions in accordance with a statutory insurance framework: guaranteeing volume, quality and conditions for health care services. Voluntary health insurance would provide insurance for additional health services.

Under the statutory scheme, employers would act as insurers. The Council of Ministers of the Republic of Uzbekistan, the Council of Ministers of Karakalpakstan and regional and district authorities would act as insurers for the non-employed population under the compulsory scheme.

The draft law prohibits health care facilities from acting as insurers. Insurance under the statutory scheme for the non-employed and disabled population and employees of state organizations would be paid by local executive bodies from their budgets. The minimum rates would be fixed by the Cabinet of Ministers with the approval of the Supreme Assembly. The draft bill also contains the following aspects: the rights of the population; benefit packages; conditions for the contracts between the insurers and health care providers; establishment of insurance contributions by employee and employer; financing of health care providers under the health insurance system; and establishing health insurance funds. In addition to this, the bill regulates the activities of health care providers operating under the insurance scheme, the rights and obligations of the insurer; and the relations between agencies within the system.

The draft law takes no account of demographic trends or employment structure and is unclear about the generation of income for insurance funds. The bill also does not deal with the management of health care contracts between funds and health care providers. In effect, it proposes a savings account without risk-sharing (19).

The launch of the insurance scheme was originally scheduled for 1999 (11). It is uncertain whether the human and financial resources necessary to implement and administer the national health insurance programme are present.

Development of a national drug policy

A national drug policy was drafted with WHO support in 1999 and is undergoing consultation. The draft national drug policy has three priorities:

- improving the access to rational drug treatment for poor and vulnerable groups;
- quality assurance; and
- improving health sector management.

The draft national drug policy addresses these measures by means of training and continuing education and drug regulation through regional branches of the state quality control and inspection system, including local quality control laboratories. Specific measures for ensuring consistent monitoring and feedback on the efficacy of prescribed treatment and the evaluation of treatment outcomes are to be developed further.

Reform implementation

Previously, reform items were implemented under the Ministry of Health. A special commission was set up to facilitate and monitor the implementation of the health care reform programme 1998 to 2005. The commission is supposed to work by ensuring that respective ministries, health care providers and organizations are operating according to the decree and by providing quarterly progress reports to the Cabinet of Ministers. The commission is revising the legal and normative base for the health care system in Uzbekistan to harmonize it with the new government programme. It is expected to provide expert input on attracting investment from international organizations, foundations and others to implement the government programme. The commission is also expected to advise on introducing the health insurance system, fundamental reorganization of health care financing, privatization of health care facilities and the further promotion of private practice.

Some responsibility for health care reform has recently been delegated to regional and local councils.

The Department of Inspection Control, which was established by presidential decree in 1998, is also charged with monitoring reform implementation and works by reviewing local reform implementation documents and the regular quarterly visits by regional health administrations. The Department also has a mission to protect the rights of patients, for example, in the private health care sector. However, all inspection control can be revised by a central body, set up to protect the private sector. It acts upon a direct mandate from the Cabinet of Ministers.

The responsibilities of the Department of Inspection Control and of the commission overlap in terms of monitoring health care reform.

The 1998 decree states that implementation of the reform will be completed in 2005.

Conclusions

The health care system in Uzbekistan has been moving from central planning and government financing to a mixed public and private system since independence in 1991. Similar to other central Asian republics, these years have adversely affected the health status of the Uzbek population. Economic recession as a result of decreasing central subsidies and decreasing export markets have taken their toll on the population. Health needs are greater among women and children and the rural population.

A number of ad hoc health care reform measures were set in motion to align the health care system to the needs of the population and to refocus on the financing and delivery of health care services, which were found to be essential to maintaining stability in the post-Soviet civil society. These have focused on improving child and maternal health; containing costs, primarily by reducing the public share of financing health care; decentralizing the management of health services; selective backing of privatization; and improving the quality health services, most notably in primary health care.

Uzbekistan has seen improvements in the indicators reflecting child and maternal health. In other areas, Uzbekistan still faces many challenges in adapting its health system better to serve the needs of its people in an efficient and sustainable fashion.

Based on a long tradition of universal health care coverage of the population, several types of inequity have emerged during the 1990s. They are associated with the budget crises and a decline in the proportion of GDP spent on health care from 6% to 3%. As the government health budget has shrunk, people have increasingly had to pay for health services and drugs, which disadvantages those on subsistence incomes. There is also concern as to whether the population exempted from co-payments receives adequate health care compared with those who pay co-payments.

Although the government has sought to support tax revenue with a health insurance scheme for some time, the health insurance models that have been developed so far have not included the necessary economic, workforce and demographic projections such a system needs to be robust. Specific expertise is also lacking.

Efficiency gains are marginal. The health care system remains very fragmented, with consequent service overlaps and inefficiency. For example, health services provision and, in particular, diagnosis is still duplicated between facilities at the different levels. However, Uzbekistan has seen dramatic reductions in hospitals and beds, which can explain some savings in secondary care.

A remaining problem on the system level is that decision-making still appears to be highly centralized for the planning of new facilities, and some of the decisions that take place locally (such as on staffing and budget allocation) are still based on central norms derived from the Soviet system, which leads to discrepancies in health resource allocation relative to need. This, in addition to varying expertise, might be a factor explaining the substantial variation in health status across regions. The administered rather than managed health care system allows very limited community involvement, but the local neighbourhood council system operating for social services is a promising system to be exploited in planning and providing health care services.

The country's move towards privatization in health care is not uniform and leaves some areas of concern, such as in private medical practice, for example, where there is an evident lack of regulation. In other areas, for example, pharmaceuticals and medical equipment supply, privatization has been incomplete and state shareholding has resulted in the state retaining significant control.

In the mid- to late 1990s, the government gave priority to primary health care services. New rural medical centres were created, and the remaining Soviet model was rationalized, including the closure of feldsher–midwifery posts, rural outpatient polyclinics and rural hospitals.

With the Presidential Decree of 1998, rural medical centres were further confirmed and an improvement in health personnel training and retraining was announced. Nevertheless, the priority towards primary health care was being somewhat contradicted with a new additional focus on the development of resource-intensive hospital-based emergency care services and the expansion of a private health care services market, which will explicitly involve more out-of-pocket payments at the point of services. Thus, there are justified concerns that the resource-hungry emergency health care system is taking financial priority over the development of the primary health care sector in the

public budget, in particular affecting public budget resources going to poor people and to rural areas and for primary and outpatient care services. Thus, it is unclear how the emergency health care system fits into the overall system; further developing primary care may be a more efficient way to use resources.

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Annex 1

Legislative framework

The current health system is regulated by the Constitution of Uzbekistan (3), laws, presidential decrees and decrees of the Ministry of Health. Current law is mostly inherited from the Soviet era and covers every detail of the health sector. Because the law relies on norms and standards, it can be rather restrictive. Following the ratification of the Constitution, the Supreme Assembly has adopted the following laws and presidential decrees related to health services to ensure the rights of citizens guaranteed by the Constitution and to introduce required change.

- Presidential Decree No. 36 of 26 January 1994 on priority directions of further development of the process of decentralization and privatization in the Republic of Uzbekistan.
- Presidential Decree No. 745 of 21 January 1994 on the development of economic reforms in health care.
- Resolution of the Cabinet of Ministers No. 17 of 19 January 1994 on products and services, stating the legal, economic and organizational basis of the certification of products and services and detailing the rights, duties and responsibilities of those involved.
- Resolution of the Cabinet of Ministers No. 132 of 11 March 1994 on decentralization and privatization of Ministry of Health pharmacies in the Republic of Uzbekistan.
- Resolution of the Cabinet of Ministers No. 354 of 11 July 1994 on emergency measures for the initiation and stimulation of private ownership.
- Resolution of the Cabinet of Ministers No. 378 of 21 July 1994 on initiation of private medical practice.

- Law on standardization adopted in 1994, describing the safety, sustainability and protection of the health, property and the environment for the consumer and the state of products and production processes; describes increasing product quality and competitive ability in accordance with technology, people's needs, and economics.
- Law on the protection of the health of the citizens of the Republic of Uzbekistan adopted in 1996, specifying the “maintenance of citizens' rights in the field of health care”, “availability of medical care to all members of the population” and stating the requirements for products, services and work in terms of safety for the individual, property and the environment.
- Law on the protection of consumers' rights adopted in 1996.
- Law No. 391 on drugs and pharmaceutical activity adopted in 1997, covering regulation on the use of drugs, including production, import and export; the establishment of a quality control system; regulation of who can be responsible for the production, manufacture, packaging, storage, distribution and destruction of drugs, medical supplies and medical equipment; determining the right of information and regulating advertisement information to the public and medical personnel; and determining the right of pharmacies to organize, manage and trade in drugs. It also provides a state guarantee of access to essential drugs and specifies that the government establish and carry out the national drug policy, including the approval and financing of drug supply to health programmes.
- Presidential Decree No. 2107 of 10 November 1998 on the state health care reform programme of the Republic of Uzbekistan, 1998–2005.
- Law of 19 August 1999 on AIDS-preventive measures.
- Law on state sanitary surveillance, adopted in 1999.
- Law on narcotics and psychotropic drugs, adopted in 1999.
- Law on compulsory treatment of alcohol and drug addicts, adopted in 1999.