European Observatory on Health Care Systems

Health Care Systems in Transition

Tajikistan





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

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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 Norway and Spain, the European Investment Bank, the World Bank, the London School of Economics and Political Science, and the London School of Hygiene & Tropical Medicine in association with the Open Society Institute. This partnership supports and promotes evidence-based health policy-making through comprehensive and rigorous analysis of the dynamics of health care systems in Europe.

The aim of the HiT initiative is to provide relevant comparative information to support policy-makers and analysts in the development of health care systems and reforms in the countries of Europe and beyond. The HiT profiles are building blocks that can be used to:

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

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

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

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

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

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

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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, Elizabeth Kerr, Suszy Lessof and Ana Rico.

Administrative support, design and production of the HiTs has been undertaken by a team led by Phyllis Dahl and comprising Myriam Andersen, Anna Maresso, Caroline White and Wendy Wisbaum.

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Introduction and historical background

Introductory overview

Tajikistan, one of the former Soviet republics, declared its independence in September 1991 after the breakup of the USSR. Its 143 100 km^2 are primarily mountainous, with the high Pamir mountain range in the south and lowland plains in the west. A land-locked country, it is surrounded by Uzbekistan to the west, Kyrgyzstan to the north, China to the east, and Afghanistan to the south (Fig. 1). The post-independence development of Tajikistan has been badly affected by civil war, by interruptions to inter-country trade, and by its location in a politically volatile region.

Nearly three quarters of its 6.1 million population live in rural areas. The capital, Dushanbe, increased to around one million with the influx of refugees during the civil war but now numbers around 536 000.

The country is divided by mountain ranges and most of the population lives in valleys in the north and south-west. During the winter roads are often impassable so that travel between some regions is via Uzbekistan and Kyrgyzstan. The climate varies considerably according to altitude, with very hot summers in the lowlands and temperatures way below freezing in the mountain towns in winter.

The ethnic composition of the population altered after independence and during the civil war, when many died and others left the country. The Russian percentage of the population has decreased (perhaps half have left the country), leaving two thirds Tajiks, one quarter Uzbeks, and the remainder other ethnic minorities (*18*). The population remains ethnically diverse, with many languages and dialects. Tajik (from the Persian or Farsi language group) is the official state language, but Russian remains the main language of business. The main religion is Islam (perhaps 90% of the population) most being Sunnis, with some Pamiri Tajiks belonging to the Shia branch of Islam (followers of the Aga Khan).

Fig. 1. Map of Tajikistan[1]

Source: Central Intelligence Agency, The World Factbook, 1999.

Modern-day Tajiks trace their history back to two clans, Bactrians and Sogdians, who were dispersed around the region by the Persian kings around 700 BC. The region was part of the Saminid empire in the ninth and tenth centuries. Other conquerors include the Greeks, Sarmatian nomads, the Chinese, Mongol Huns, Turkic tribes, and the Arabs who introduced Islam. The Bukhara emirate, established in the fifteenth century, became part of the Russian Empire in the late nineteenth century. After the Russian Revolution of 1917 and the civil war, Tajikistan became an autonomous entity within the Union of Soviet Socialist Republics, and in 1929 became the Tajikistan Soviet Socialist Republic, with Dushanbe as its capital city. The borders drawn by Russian map-makers cut across traditional lands. For example, many Tajiks live in Uzbekistan and many Uzbeks live in Tajikistan.

Central economic control and specialization across the USSR meant that the central Asian republics, including Tajikistan, did not derive full benefit from their own substantial natural resources and did not develop self-sufficient economies. On the other hand, people were provided with education and employment opportunities and universal health coverage. By the 1980s, economic stagnation, growing nationalism and the Afghanistan war aggravated the social tensions within Tajikistan.

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

Demographic and health indicators

Tajikistan has the youngest population structure of the former Soviet countries with 70% aged under 30 years. The population has grown steadily given a high fertility rate. However, about 60 000 were killed during the war and many people left the country (mainly Russians and other non-Tajik groups including many skilled workers).

Preliminary results from the 1999 census estimated the population at 6.1 million (*18*). This is less than the 6.3 million previously estimated by the State Statistical Agency. This preliminary figure suggests that, despite the out-migration of some 437 000 people in the period between the censuses, Tajikistan still has one of the world's highest birth rates.

Demographic and health statistics from Tajikistan must be treated with caution, however, since data collection systems broke down during the civil war, particularly in rural areas, and there are several other problems (*19*). The higher mortality rates in urban compared to rural areas may be due to recording problems, plus the practice of recording deaths where they occurred (such as urban hospitals) rather than the place of residence. The introduction of registration fees precludes poor families (the majority of the population) from recording births and deaths. In 1999 the birth registration and certification fee was US $5 while the monthly average family income was US $6. A survey across both urban and rural areas found that over 80% of both births and infant deaths were not registered (*19*). A birth certificate is required when children start school so that many parents wait until then to register their children.

Although the birth rate has been falling since the mid-1970s, which may be partly due to under-registration, the overall rate remains very high compared to other countries. The number of live births per 1000 population has decreased from 9.3 in 1990 to 18.4 in 1998 (Table 1), which is much higher than the European Union average of 10.9. The fertility rate is the highest of the central Asian republics with women on average in their reproductive years bearing three to four children, with higher rates in rural than urban areas. Tajik culture favours large families, as do rural households, and this tradition was reinforced during Soviet times. For example, women who bore more than seven children were hailed as "Mother Heroes" (*19*). Tajikistan therefore has a young population profile with 44% below the age of 15 years, which puts a heavy dependency burden upon its working population.

Life expectancy for both men and women has fallen during the 1990s. In 1998, life expectancy at birth for women was 71.3 years and 65.6 years for men (Table 2). The high infant mortality rates throughout the early 1990s, perhaps associated with the civil war and its aftermath, appeared to improve from 1995, although as pointed out earlier this may be partly a recording artefact.

Table 1. Demographic indicators

Indicators	1990	1991	1992	1993	1994	1995	1996	1997	1998[b]
Population (millions)	5.2	5.3	5.6	5.6	5.7	5.8	5.9	6.0	–
% population aged 0–14	43.0	43.3	43.3	43.7	44.0	43.9	43.7	–	–
% population aged over 64 years	3.8	3.9	3.9	3.9	3.9	3.9	3.9	–	–
Total fertility rate	–	5.0	5.1	4.8	4.0	4.1	–	–	–
Live births per 1000 population	39.3	39.8	32.3	33.6	28.5	29.0	22.8	24.9	18.4
Crude deaths per 1000 population	6.3	6.2	6.6	8.9	7.0	6.0	–	–	–
Annual population growth rate %[c]	–	2.8	0.9	1.1	1.3	1.6	1.5	1.7	1.4

Source: WHO Regional Office for Europe health for all database, [b] UNDP 1999 citing State Statistical Agency, [c] Falkingham 2000 citing State Statistical Agency.

Infant mortality is particularly high in the first weeks of life from respiratory infections, diarrhoea, and developmental disorders. Tajikistan issued an order in 1995 that the WHO definition of live births be adopted, but this definition is not systematically used. Tajikistan infant mortality rates are under-estimates, since the prevailing Soviet definition does not count premature and low birth weight babies who did not survive the first week. Further, it is in the interests of hospitals not to record neo-natal mortality. The Tajikistan infant mortality rate of 30.7 per 1000 live births is much higher than the European Union average of 5.8 and the average for countries of the former USSR of 21.7 (*23*).

Maternal mortality (the number of deaths per 100 000 live births) is very high and increased from 41.8 in 1990 to 93.7 in 1995, but has apparently improved since. The maternal mortality rate is ten times higher than the European Union average. Anaemia, along with poor nutrition, is regarded as a key factor in this high mortality rate. An estimated 60% of women of reproductive age suffer from anaemia (*18*). Another factor may be the high and steadily increasing proportion of home births, particularly in rural areas, accounting for one quarter of all births in 1997 and perhaps one half in 1998 (*22*). The rising proportion of home births suggests the breakdown of the local health care system and the financial inability of families to pay for medical care.

The rate of abortion has decreased in Tajikistan since independence with 18 abortions per 100 live births in 1997, although there is some doubt about this figure since abortions are not necessarily always recorded. This rate is much lower than the former USSR average and comparable to the western European rate. Women have little access to family planning advice and cannot easily afford contraceptives. Access to family planning and counselling has improved recently with the help of international agencies, with contraception used by 30% of women of childbearing years in 1997 (*7*).

Communicable disease has returned as a major threat to Tajikistan population, with the breakdown in the clean water supply and sewage infrastructure, as well as a breakdown in public health measures such as mosquito control and immunization. Statistics for 1995–1997 show large increases in cases of tuberculosis, malaria, typhoid fever and diphtheria (*22*). Waterborne diseases have increased as the water supply is not safe and less than 10% of the population are connected to a sewage system (*22*).

The rising incidence of tuberculosis constitutes a major crisis with 34 cases per 100 000 reported in 1997 (*22*) compared to the low European Union rate of 14 cases per 100 000. Tuberculosis incidence has risen also in the other countries of the former USSR and is classically associated with poverty. TB prevalence in 1997 was 8297 cases (*22*).

Table 2. Health indicators

Indicators	1990	1991	1992	1993	1994	1995	1996	1997	1998[c]
Female life expectancy at birth[a,c]	72.3	72.8	70.9	68.2	68.5	71.2	–	–	71.3
Male life expectancy at birth[a,c]	67.1	67.4	65.2	56.5	63.2	65.5	–	–	65.6
Infant mortality rate (per 1000 live births)[a]	40.4	40.4	48.1	46.5	42.4	30.6	–	–	–
Maternal mortality (per 100 000 live births)[a,d]	41.8	53.2	69.9	74.0	87.6	58.2	–	–	–
Abortions (per 100 live births)[a]	25.6	24.3	26.2	21.5	13.6	19.6	21.3	18.2	–
Tuberculosis incidence (all forms) per 100 000 population[a]	47.0	39.6	30.1	11.7	15.7	35.2	28.1	35.5	–
Typhoid fever incidence per 100 000 population[b]	33.5	23.7	–	27.7	23.4	26.7	269	613	–
Malaria incidence per 100 000 population[b]	3.3	5.5	7.3	11.1	42.4	106	282	497	–
SDR ischaemic heart disease, all ages per 10 000[a]	280	252	244	272	290	285	–	–	–
SDR circulatory system diseases, all ages per 10 000[a]	490	482	518	604	640	593	–	–	–
SDR cerebrovascular diseases, all ages per 10 000[a]	134	151	155	152	139	115	–	–	–
SDR malignant neoplasms, all ages per 10 000[a]	114	111	146	97	82	66	–	–	–
SDR external causes injury & poison, all ages per 10 000[a]	57	54	78	271	76	58	–	–	–

Source: [a] WHO Regional Office for Europe, health for all database; [b] WHO 1999; [c] UNDP 1999 citing State Statistical Agency; [d] Falkingham 2000 citing State Statistical Agency.

The incidence of malaria has risen alarmingly to 612 per 100 000 in 1998 (*22*). There were 6103 cases reported in 1995, 29 064 in 1997, and an outbreak in early summer 1998 before the anti-mosquito campaign was implemented (*22*). This rise is said to be associated with a breakdown in spraying with insecticide. The rising incidence is particularly alarming since this disease is relatively new for Tajikistan and the population has little immunity.

The rates for waterborne diseases such as typhoid fever and cholera have continued to rise, as have acute intestinal infections. There were more outbreaks of typhoid fever and salmonella during 1997 (*8*). There were 382 fatal cases among the 29 738 reported with typhoid fever in 1997 (*17*). Viral hepatitis (276 per 100 000) is almost ten times higher than the European Union average, but lower than the central Asian republics average.

Diphtheria re-emerged in 1993 with rates much higher than in neighbouring central Asian republics. The USA Center for Disease Control and Prevention reported 1464 cases of diphtheria in Tajikistan in 1996, which was the highest population percentage in the former USSR (*20*). The incidence of diphtheria began to drop from 1996 after an active immunization campaign with the help of UNICEF. In 1997, 94% of children were reported as immunized against measles (the lowest percentage was 80.0 in 1995), but this rate is doubtful since there were 64.2 per 100 000 cases of measles in 1997 (*23*). In 1997, 3540 cases of measles were reported (*22*).

The rates for illegal drug use, HIV and sexually transmitted diseases (STDs) have also risen recently (*16*). STDs are likely to be considerably under-reported since a diagnosis of syphilis often brings hospitalization, job loss and the tracing of contacts. Heroin use is an increasing problem, particularly among young injecting drug users. Tajikistan is located in a region where opium poppies are grown and the country is on the illegal drugs trade route, particularly across the border from Afghanistan, with the associated problems of criminality, bribery and corruption.

The picture for noncommunicable disease is not clear as yet since systematic and reliable statistics are not available. The drop in some rates could be due to a drop in reporting due to the civil disruptions in the country and to a lack of suitable diagnostic techniques. Age-standardized death rates of ischaemic heart disease apparently fell during the mid-1990s to 285 per 10 000 in 1995. This seems unlikely since rates in other central Asian republics have been increasing since the early 1980s. The 1995 Tajikistan rate of 285 per 10 000 is lower than other central Asian republics, lower than the 405 in the other newly independent states of the former USSR, but higher than the 117 in the European Union. Age-standardized death rates for circulatory disease rose during the 1990s. Mortality rates for cerebrovascular disease have fluctuated, and cancer mortality

has apparently dropped. Age-standardized death rates from injury and accidents rose during the civil war, especially in 1993, the peak year of the war.

Conditions associated with nutritional deficiencies are common. The mountainous soil lacks many micronutrients, and iodine deficiency disorders such as goitre and intellectual retardation have risen during the 1990s. About 35% of the population is said to be iodine deficient, which is wholly preventable if the iodized salt programme was properly implemented (*22*). Most women are said to suffer from anaemia, associated with iron deficiencies from various causes (*22*). There is limited dietary information but the traditional diet is high in fatty meat and refined carbohydrates (most food is fried) with little vegetables and fruit consumed despite being easily grown (*17*). A survey of children under five years in 1999 in Khatlon in the south, the poorest of the oblasts, found acute malnutrition among 6–7% of the children, but adequate weight for height among over 90% (*1*). There was also evidence of iron and iodine deficiencies, while access to health services was poor, especially since families had to pay a small (unofficial) fee for even basic services such as immunization.

The lifting of import restrictions in the 1990s has been accompanied by increased consumption of tobacco and alcohol, which are contributing factors to some noncommunicable diseases.

Tajikistan also has substantial environmental problems that pose risks to human health (*17*). The destruction and deterioration of sanitation and the water supply has already been mentioned: for example, less than 50% of the rural population have access to clean water (*17*). Soil salinity is increasing and deforestation in some areas has worsened heavy mudslides and flooding. Earthquakes are a regular occurrence. Water erosion has washed away much arable land: for example, mechanised cotton production destroyed many old terraced hillside slopes (*17*). There are high concentrations of chemicals in the soil from agricultural activities and industrial pollution is largely uncontrolled. For example, in 1997, 40 million cubic meters of industrial wastewater were released into Tajik rivers. Air pollution in the republic was reported to be high around industrial sites (*17*). Hazardous substances such as carbon monoxide, nitrogen oxide, sulphur dioxide, formaldehydes and sodium anhydrate are released into the atmosphere from outdated industrial equipment, water heating stations, incinerators and vehicles.

Socioeconomic indicators

Tajikistan is among the world's twenty poorest nations with perhaps 80% of the population below the poverty line. In 1998 GDP per capita was about

US $215 (*18*). The country has little arable land for its population given the mountainous terrain and population pressure, and was developed primarily as an agricultural and minerals supplier to the Soviet Union (*13*). The Tajikistan economy suffered badly after the collapse of the USSR, with the loss of subsidies from Moscow (perhaps 40% of government revenue), as well as most of its export market, followed by the disastrous effects of the civil war. The northern region jutting into Uzbekistan and Kyrgyzstan is the most industrially developed, and most of the country's cotton production is in the southern Amu-Darya river basin. The eastern Badakhhshan area is very mountainous and is the poorest and most inaccessible. This area has strong Islamic traditions.

The Tajikistan population has suffered from a continuous drop in living standards during the 1990s. The GDP dropped most sharply, by –29%, in 1992 during the war, with some positive growth restored in 1997 (Table 3). Systematic and reliable official socioeconomic data, however, are lacking, and GDP as well as other economic estimates vary. The country has huge foreign debts including to Russia and Uzbekistan. In 1998, the external debt was US $880 million (*17*).

The inflation rate soared to a peak in 1993, after price liberalization and huge increases in food prices, but had dropped to 43% by 1998. The switch from Russian to Tajikistan roubles in 1995 meant a massive devaluation of the currency. A full time series is not available but real wages in 1996 were only 5% of their 1991 level (*17*). Real wages plummeted by 20% between 1995 and 1996 and in 1997 were 30% of their 1995 level (*9*). In October 1999, US $1 = 1436 Tajikistan roubles.

Table 3. Macroeconomic indicators

Indicators	1991	1992	1993	1994	1995	1996	1997	1998
GDP real growth rate (% change)[b,d]	–7.1	–29.0	–11.0	–18.9	–12.5	–4.4	–1.7	5.3
Annual inflation rate (%)[a,d]	112	1 157	2 195	350	609	418	88	43
Index of real GDP, 1990=100[c]	92.9	66.0	58.7	48.0	42.0	40.2	–	–
GDP per capita, US$[d]	1 116	52	133	141	82	174	179	215
Real GDP PPP $ per capita[a]	2 180	1 740	1 380	1 117	943	–	–	–
Government expenditure % GDP[d]	49.6	65.7	60.7	61.4	29.4	17.9	17.0	15.8
Registered unemployment rate[a]	–	0.3	1.1	1.7	2.0	2.6	2.8	3.2

Source: [a] WHO Regional Office for Europe, health for all database; [b] UNICEF TransMONEE database 3.0; [c] IMF 1998; [d] European Bank for Reconstruction and Development 1999; [e] UNDP 1999.

In 1998, a minimum monthly "food basket" for an adult was priced at US $28, but the average monthly salary was only US $11 (*18*). Clearly, people have to find other ways to survive apart from relying upon a single wage.

Real GDP had fallen to 40% of its 1990 level by 1996 (Table 3). Domestic production has improved recently, however, and growth is expected to continue (*21*). Real GDP per capita (in terms of purchasing power parity) fell from US $2558 in 1990 to US $943 in 1995 (Table 3), GDP per capita in 1998 was US $215.

Government expenditure dropped from 65% of GDP in 1992 to 16% in 1998 (Table 3). Upon independence, Tajikistan acquired a 45% budget deficit previously covered by subsidies from Moscow. The collapse of the economy and the loss of any significant sources of government revenue (such as foreign investment, export earnings and adequate taxation) have meant that government expenditure had to be drastically reduced.

In 1996, about 60% of the workforce were employed by government or on collective farms (*9*). According to Ministry of Labour data, 51 100 persons (or 2.7%) among the 1.84 million active workforce are unemployed (*17*). This official unemployment figure (3.2% in 1998) also excludes the thousands of government workers on "unpaid leave". The true level of unemployment is much higher at around perhaps 30% (*11*). Not all those registered, however, actually receive unemployment benefits since the Social Protection Fund has been in deficit and unable to pay pensions and benefits. The northern Leninobod industrial province has been hit hard with 44% registered unemployed, compared to less than 1% in the Dushanbe area. The industrial sector is near collapse and many industries only operate a few months of the year, given shortages in raw materials and spare parts.

Agriculture is the main economic activity even though only 7% of the land is arable. The expanding agricultural sector makes up 37% of GDP (*17*). Agriculture employs nearly half of the workforce and 15% of newly-created jobs were in this sector. Crops constitute 88% of the total agricultural output, the rest being dairy and livestock products. Cotton was the main agricultural export in Soviet times. The main Tajikistan exports in 1997 were 32% aluminum, 25% electrical energy, 22% cotton, 4% precious and semi-precious stones, and 3% fruits and vegetables. Other sectors such as finance and forestry began to improve from 1996 onwards (*17*).

The land reform of 1997 privatized much state-owned property giving farmers lifetime leases and the right to sell their property, which helped to increase production and reduce food shortages. About one quarter of agricultural land is now privately owned (*4*). In 1997, private sector farms produced 46% of agricultural production, including two thirds of livestock products and 42% of

crops (*17*). The number of small private farms (dekhan farms) has increased from 200 in 1994 to over 10,200 in 1999 (*18*).

The privatization of industry began from 1996 with small businesses. The state still owns most big enterprises, although 13 out of 400 big enterprises were privatized by 1997, while some are in the process of being transformed into joint stock companies (*4*).

The country is well endowed with potential hydroelectric power, and has significant mineral resources yet to be developed. Foreign investment has been slow given the civil war and the retention of economic activity in the hands of the state. The state aluminium company is running at less than half capacity, and the state electricity company has frequent power cuts with resulting disruption to industry and society.

Further fighting hampered the economic reforms begun in 1996. After the peace agreement in June 1997, the government moved to continue economic reform with international assistance.

The World Bank and the International Monetary Fund (*9*) have assisted financially since 1996 with structural adjustment credits. After the 1997 peace agreement, the World Bank issued US $50 million credit, while the IMF entered into a three-year programme with US $22 million credit (*4*). Some economic indicators improved in 1997 and 1998 with GDP growth and slowing inflation. The government economic reform agenda includes private sector development, financial sector reform, restructuring agriculture and poverty alleviation. At a meeting of international donor organizations in May 1998, the need was urged to accelerate the implementation of the peace agreement.

Poverty levels in Tajikistan, which were high in the 1980s with about 50% of the population earning below a poverty line income, have worsened considerably in the 1990s with over 85% of the population in poverty (*6*). Another measure of poverty is when a household must spend more than 70% of its income on food. In Tajikistan in 1998, this was so for over 70% of households (*18*). Households with young children are worst affected, and some geographic areas more than others (*17*). Although poverty levels are hard to measure in a country with a large informal economy, and where the mainly rural population has access to some land, indicators of economic, social and personal wellbeing all confirm the growing inequalities and poverty in the country. Households have been forced to find various ways of surviving given unemployment and low or unpaid wages. For example, a household survey found that salaries comprise only about 20% of total family income (*22*). In 1998, Tajikistan ranked 108 among 174 countries on the Human Development Index (HDI), (with a steady drop each year since 1993) but held this ranking mainly on the basis of

its high population literacy level, despite falling life expectancy and falling national economic output (*18*).

Government

Since independence in September 1991, a civil war, continuing outbreaks of violence, and three changes of government have seriously delayed the transition to democracy as well as reform of the economy. The country returned to an uneasy peace by 1998 and embarked upon rebuilding its society and economy. The issues involved in the civil war and continuing violence are complex including political, religious, regional and clan divisions and loyalties (*3,13,14*).

Rahmon Nabiev, the Communist Party first secretary from 1982 to 1985, became the first president of independent Tajikistan in November 1991. Nabiev won the presidential elections that retained the Communist party in power. Opposition grew in response to the lack of democratic reform, and public demonstrations during late 1991 and early 1992 demanded more democracy. Widespread violence began in May 1992 and President Nabiev was driven from office. The neo-communists regained power, however, by the end of 1992, with Emomali Rahmanov as President. Fighting continued intermittently during 1993, until agreement was reached at the end of the year between the government and opposition forces, which allowed for the repatriation of refugees. The UN monitored a ceasefire in September 1994.

The toll from the brutal civil war includes perhaps 60 000 people killed, more than 35 000 homes destroyed, and 2000 commercial and industrial properties destroyed (*17*). The Khatlon region was particularly badly affected. About 15% of the population were displaced from their homes or fled the country, although by mid 1995 many had returned. However, a significant part of the skilled labour force migrated, including Russians and other non-Tajik groups. Refugees began to return from 1997 onwards, but about 200 000 are still registered as refugees in other countries (*17*).

In November 1994, following a referendum, a new constitution was enacted, and Emomali Rahmanov (People's Democratic Party of Tajikistan) was elected as President for a five-year term (and was re-elected for a further term in November 1999). In a renewal of the civil war, fighting broke out in December 1996. Representatives of all parties involved in the war (principally the government and the outlawed United Tajik Opposition) then agreed to talks. The General Agreement on the Establishment of Peace and National Accord was signed in Moscow in June 1997, by President Rakhmonov and by Mr Nuri, head of the United Tajik Opposition. The Commission for National Reconciliation (CNR) was created as a forum to foster cooperation between

the different groups. There are pressures to integrate United Tajik Opposition (UTO) members into the structure of government. Russian-led peacekeeping troops, however, are still deployed along the long and troubled border with Afghanistan. Security within the country also remains uncertain, with killings and kidnappings of prominent Tajik citizens and also foreigners by renegade military groups and unaligned local warlords in 1996 and 1997.

The President appoints the Prime Minister, Yahyo Azimov since February 1996, appoints the Council of Ministers, and also appoints judges to the Supreme Court. The unicameral Supreme Assembly (Majlisi Oli) had 181 members popularly elected to serve five-year terms. The Committee for National Reconciliation has proposed a new two chamber parliament, with 91 directly elected deputies in the lower chamber, and 45 representatives in the upper chamber (*18*) (UNDP 1999). There are many political groups in addition to the ruling Communist Party and its affiliates, which secured about 100 out of 181 seats in the 1995 parliamentary election. In 1999, there were six official political parties. The separation between the three branches of government, the executive (president and ministers), legislative (parliament) and the judiciary (the courts) are not always clear.

There are four levels of administration in Tajikistan: national, oblast (province), rayon (district), and kishlak (village). The 1994 constitution defines the administrative duties of the territorial administrative units and their relationship to central government. At each level there is an executive body (hukumat) and a representative (appointed) advisory body (majlisi). There are oblast/city and rayon level administrations (hukumats), as well as village administrations (jamoats). The heads of oblasts and rayons are appointed by the executive arm of government (usually the President).

The country is divided into five main administrative units. The regional and local administrative areas have been changed several times since 1992. The three oblasts are Khatlon (main city Kurgan-Tyube), Leninabad or Khujand (main city Khujand), and the Gorno-Badakshan autonomous oblast (main city Khorog). This latter region, previously controlled by opponents of the government, is geographically inaccessible and operates more autonomously. Dushanbe City also has oblast status. In addition, there are 13 special districts (rayons of republican subordination or RRS) that are independent from oblasts and report directly to the central state. The country has 58 districts (rayons) and 22 towns.

Organizational structure and management

Organizational structure of the health care system

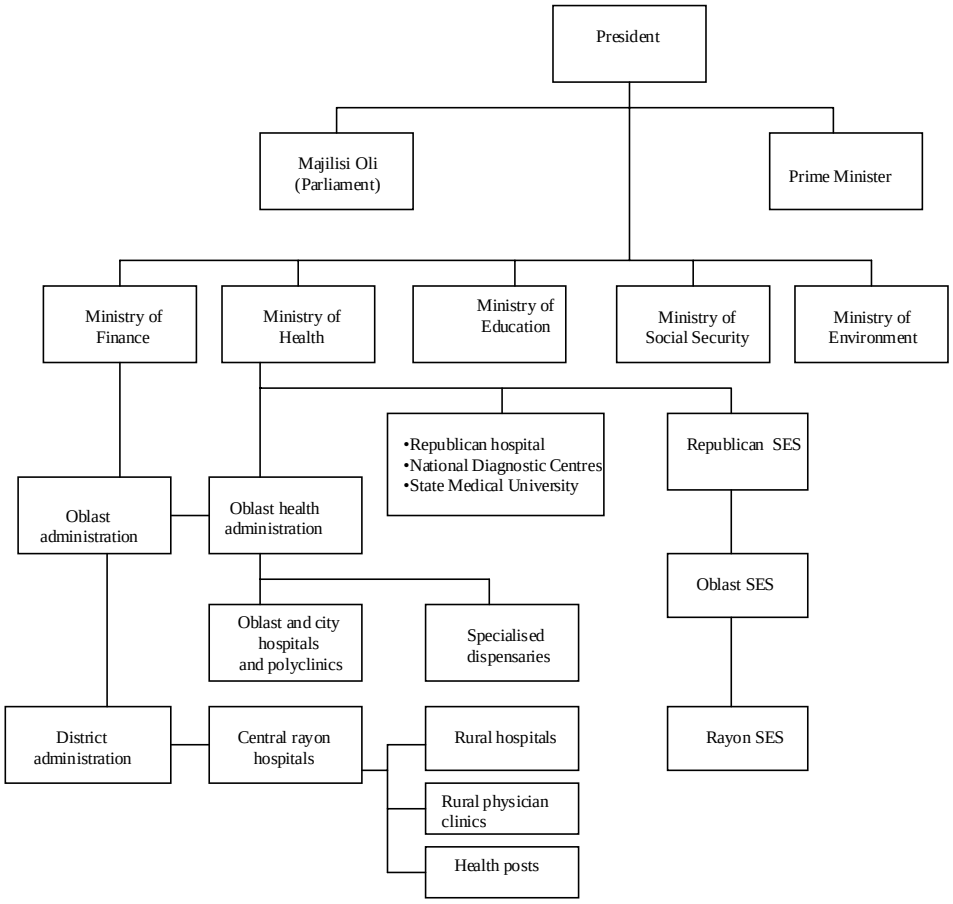
The structure of the present health system has evolved from the Soviet model of health care with so far few structural changes. The state remains the main public funder and provider of health care services in Tajikistan. Private payments, however, are believed to now be larger than public sources of revenue. At the republic level, the Ministry of Health runs national-level health care services, while local authorities (oblast and rayon) administer most regional and local health care services. The organization of health services follows the administrative structure of the country with services divided into the four horizontal tiers of administration, and also into separate vertical pillars for national programmes. The overall structure is set out in Fig. 2 and the main actors are summarized below.

Ministry of Health

The Ministry of Health is responsible for health policy for the country, but has no control over the overall health budget, and directly manages only national level health facilities. Although not fully implemented, its main responsibilities were defined in the 1997 Law on Health Protection as follows:

- development of health care policy and identification of priorities;
- implementation of national programmes such as disease control;
- coordination of the health care system of the country;
- direct management of republican level institutions, scientific research institutes and educational institutions for health professionals;
- formulating policies on pharmaceutical and other medical products and regulating their registration, licensing, production and sale;

Fig. 2. Organizational chart of health care system



- setting standards for quality of care in public and private health care policies;
- provision of sanitary and epidemiological services for the population;
- development of human resources and training policies for health professionals;
- licensing and certifying individuals and institutions engaged in health services;
- ensuring international collaboration and making international agreements in the field of health.

The organizational structure of the Ministry of Health, set out in a 1995 government resolution, was updated in August 1998. The minister has four deputies, each with defined responsibilities. The Ministry of Health includes the following twelve departments: health care delivery, mother and child health, sanitary-epidemiological services, reform planning and coordination, training institutions and personnel, science and research institutions, emergency care and mobilisation, economy and finance, accounting and book-keeping, control and protocols, division of transfers, and the administrative division. In addition, there are three self-financing departments (external economic relations, drugs quality control, and capital construction). Their operating costs are meant to come from income generating activities such as contracts, registration and licences.

The State Scientific Centre for Expertise and Certification was established as a self-financing centre by government resolution in June 1996. It regulates pharmaceuticals, medical equipment, medical and sanitary-hygienic products, prophylactic products and cosmetics.

An advisory board, the "Kollegia", assists the minister. This comprises nine members: the minister of health, the four deputy ministers, the chief of the department of science and scientific institutions, the director of the Tajik pharmacy enterprise, the rector of the medical university, and the rector of the institute for postgraduate training.

Ministry of Finance

The Ministry of Finance is responsible for the budgeting process including the financial allocation to health care. The Ministry of Health plays little part in these budgetary decisions. Central government health budget funds from the Ministry of Finance go to oblast administrations (hukomats) to be managed by their finance departments.

Oblast and rayon administrations

Local authorities are responsible for most social services including health and education services. Within each administration (hukumat), activities are divided between supervisory departments (such as finance) and line departments (such as health). An oblast health department manages regional-level health facilities, such as large hospitals and polyclinics, and has dual accountability to the Ministry of Health (on professional matters) and to the oblast administration. Tajikistan has a hospital-centred service management structure since the central management of most health services is located in hospitals.

The chief physician of the central rayon hospital administers all health services in the rayon (district), one result being that the final budget allocation usually favours the hospital. The chief doctor has deputies responsible for rural clinics, polyclinics, disease prevention, and mother and child services.

Parallel health services

Government ministries also run health care facilities (hospitals and polyclinics) for their employees, including the Ministries of Internal Affairs, Security, Taxation, Railways, and Tajik Air. These health facilities generally are better than the mainstream facilities and have more medical supplies and pharmaceuticals. Since these Ministries fund health care from their own budgets, this expenditure does not appear in overall government health expenditure. These parallel health care services include five hospitals with a total of 530 beds.

The previous Soviet model of workplace-based health services is partially intact but suffering from lack of funds since production levels have dropped. Large factories and enterprises (still mainly state-owned) provide inpatient and outpatient services for their employees. They provide and maintain the facilities with the running costs supplemented by oblast or rayon administrations. In 1998, there were 477 polyclinics located in enterprises (*11*).

Professional associations and unions

Professional associations of doctors and nurses did not exist in Soviet times. These are now establishing themselves, but have no formal role in accreditation or regulation and have little influence so far over health policy. A National Association of Nurses was recently established. A Physicians' Association exists but is not very active as yet.

Trade unions are now independent from the state, under a 1992 law, but work "in partnership with the government". The Trade Union Federation of Tajikistan is the peak organization for all the unions, with perhaps over 80% of the workforce unionized, and its chairman is on various key government committees (*10*). There is a national trade union of health workers with branches at regional and local level. These unions are active in negotiating with government on wage levels. Tajikistan became a member of the International Labour Office (ILO) in 1993.

Planning, regulation and management

Under the former Soviet system, overall health policies and budgets were determined in Moscow and handed down to Dushanbe. The allocation of resources within the framework of state ownership followed rigid central planning guidelines, passed on down the administrative hierarchy, using quantitative indicators (the Soviet Semashko model) based on indicators such as number of hospital beds and number of staff. There was little coordination across vertical and horizontal divisions of the health services. Structural and funding distortions have produced an emphasis upon hospital services at the expense of primary health care.

Since independence in 1991, policy is made by the Tajikistan government through legislation, presidential orders (prikaz) and by ministerial regulations. The policy, planning and regulatory capacity of the Ministry of Health has recently begun to be developed. The ministry had a policy adviser post but not a policy unit. A team was established in 1999, however, (the Somoni project) to coordinate the development of a health plan for the nation, with technical assistance from the WHO Regional Office for Europe.

The ministry developed a national health for all strategy in 1995 using the WHO health for all guidelines. Several national programmes were adopted in 1995 in order to address issues such as infectious diseases. A series of policies has been announced and implemented on aspects of the health care system. A comprehensive national plan for reforming the health care system is currently being drawn up.

Health planning remains focused upon the budgetary process (explained later). Budget proposals are developed in the health care facilities, using standardized budget lines and passed up the administrative hierarchy for approval.

Health information statistics are collected but the system has broken down in some areas. Most statistics are processed manually with some computer capability centrally in the Medical Statistics Branch of the Ministry of Health. Tajikistan issued an order to adopt the ICD-10 (international classification of diseases) codes by 2000, but achieving this goal seems unlikely.

The Ministry of Health has no human resources planning capacity. Staff deployment is done on the basis of population normatives: that is, staff per 1000 population. The Ministry determines the number of admissions to training institutions but has not made future projections.

The Ministry of Health has regulatory powers over the pharmaceutical and medical industry, the purchase of high technology and the accreditation and licensing of medical personnel and institutions. No standards have yet been developed on the quality of care in health care facilities.

The republican (Ministry of Health) and oblast health departments own and administer health care facilities. Facility managers have little discretion, however, being tied to detailed budget lines. The chief physician manages a hospital advised by a medical board of deputies and other senior specialists. The chief physician answers to the government administration (republican, oblast or rayon). The chief physician is appointed by the administration but must be approved by the Ministry of Health. The chief physician may terminate the employment of the deputies subject to approval by the administration. Rayon health departments answer to oblast health departments (with budgets handled by finance departments). Rural health services are administered from the central rayon hospital. The heads of rural health services (nurse posts, physician clinics and village hospitals) all report to the chief physician of the central rayon hospital.

Decentralization of the health care system

The health care system remains under the control of the state national and regional authorities. Some delegation of limited policy powers and administrative powers from national government to oblast administrations, however, was made possible under earlier laws. These are the 1991 law on "Local administration and local economy" and the 1994 law "On local government". These allow the directives issued by the Ministry of Health to be considered by the oblasts, which develop policies in line with these directives and allocate resources accordingly.

The health system remains state-owned and administered rather than pluralist. The policy on the extent of privatization is as yet unclear. Some elements of privatization have been introduced either as a matter of policy or by default. The Government passed legislation legalizing private ownership in 1990, on denationalization and privatization in 1991, and allows joint stock companies. Private health services are regulated by the 1997 Law on Health Protection of the Population. Article 14 allows physicians to engage in private medical practice that can be reimbursed from user fees, employer contributions and from health insurers. Pharmacists and dentists now run private businesses but there are only a few private physicians (although an unknown number

supplement their public sector salaries by informal private consultations). Out-of-pocket payments by the public constitute a substantial but unknown part of health expenditure for pharmaceuticals, official user fees for health services are increasing, and there are also widespread unofficial payments to physicians.

The pharmaceutical sector is to be privatized in order to stimulate the domestic production of pharmaceuticals and to improve the supply of drugs. The two likely candidates for privatization are TajikFarmatsiya (the central drug supply organization) and TajikMedtechnika (central medical equipment supply organization). A number of retail pharmacies have been privatized but hundreds of new small pharmacies or street booths operate privately although are not officially registered.

Health care finance and expenditure

Main system of finance and coverage

The Tajikistan health system traditionally was well-funded, and in the early 1990s spending was still around 5-6% of GDP. Health funding collapsed, however, in the mid-1990s as the economy worsened, having sunk to below 2% of GDP. Average per capita expenditure on health care has fallen dramatically from around US $69 in 1990 to US $2.50 in 1998 (Table 5). The population increasingly has been forced to pay out-of-pocket for their own health care.

The Republic of Tajikistan public finance structure consists of the republican budget, budgets of about 70 local governments (oblast and rayon), and two extra-budgetary funds: the Social Protection Fund and the Road Fund (*9*). The annual budget determines the fiscal relations between levels of government. Fiscal decisions are highly centralized and made in Dushanbe. Taxes are collected by the State Tax Committee and are managed by the Ministry of Finance while some revenue is redistributed to local authorities. Local authorities receive back most personal income tax collected from their populations plus 85% of land taxes. Around 75% of overall state revenue is generated locally (mainly from income taxes collected by the State Tax Committee) and the remaining 25% from a variety of sources. The collapse of the economy and the protracted civil war have led to a severe government fiscal imbalance, with large budget deficits most years, due to dropping sources of revenue, weak tax collection and poor controls on expenditure. Tax collection branches have now been established in local districts in order to improve tax collection (*4*).

The health care system in Tajikistan, in terms of official statistics, is primarily state-funded through taxes collected by the national government. This data suggests that the state provides nearly two thirds of the health budget revenue (Table 4). The Tajikistan Living Standards Survey, however, suggests that out-of-pocket payments constitute two thirds of all health spending (*21*). This issue is discussed later.

Table 4. Percentage of main sources of finance

Source of finance	1991	1992	1996	1997
Public				
Taxes	99	63	63	65
Statutory insurance	–	–	–	–
Private				
Out-of-pocket (official*)	1	1	1	1
Private insurance	–	–	–	–
Other	–	–	–	–
External sources	–	35	37	34

Source: Ministry of Health.
Notes: *Out-of-pocket does not include informal payments; external sources only include funds channelled through the Ministry of Health.

The health budget has major shortfalls each year that currently are partially covered by international aid. A second major source of revenue, therefore, is external funding from international donors – at least one third of revenue, although the full extent is unknown (as discussed later).

A third (and probably largest) source is out-of-pocket payments from consumers. Official user charges are recorded at around 1% of revenue, but are likely to be higher and are increasing, since health care facilities are allowed to charge approved prices for certain services. Patients often buy their own pharmaceuticals given severe shortages of drugs in hospitals and clinics. In addition, it is widely acknowledged that patients are making significant informal (under-the-table) payments to physicians for health services. These sources of revenue are discussed later.

The 1997 Law on Health Protection identifies several potential sources of funding for the public sector. These include: a) government budget resources at all levels; b) special purpose health care funds; c) foreign exchange allocations; d) compensation funds from by legal entities or by individuals for injuries to health; and e) resources generated from entrepreneurial and other extra budget activities.

There are no insurance schemes at present, either state or private, although the introduction of an insurance scheme remains government policy (*2*). The Ministry of Health drew up a draft health insurance law in 1996. The aims were that insurance would be a form of social protection for the population, a means of obtaining additional resources, and a source of reliable funding for health services. The proposal was for a mandatory scheme covering a basic benefits package, with supplementary voluntary insurance. An insurance agency responsible to government would be set up that could contract with health care providers. The details of the scheme have not been decided and the proposal

has been delayed. The view is that the present economic conditions do not favour the introduction of health insurance.

Complementary sources of finance

The main complementary sources for finance for health care are out-of pocket payments and external assistance.

Out-of-pocket payments

Out-of-pocket payments are both official and unofficial. The increasing scale of these payments indicates that the largest proportion of health revenue is now coming from health care users. The Tajikistan Living Standards Survey suggests out-of pocket payments constitute about two thirds of all health spending (*21*).

Official payments have increased. Some health care organizations now have self-financing status, meaning that they are allowed to charge for services. These include the National Diagnostic Centre, the Republican Centre of Stomatology (Dentistry), the Republican Centre of Blood Transfusion and the Republican Centre of Rehabilitation Surgery.

An increasing number of hospitals and clinics also now charge patients, given that the public budget is insufficient to keep services running. Patients are charged for certain services according to a price list approved by the Ministry of Health. Some groups are exempt from charges such as veterans and invalids of the Great Patriotic War, infants under three years old, invalids from childhood, and other groups such as tuberculosis patients. Patients must pay for a long list of goods and services. These include optical services, orthopaedics, resort treatment, cosmetic supplies and cosmetic operations. Charges are now made for other services including X-rays (TR700), dentistry (TR300), abortions, urine and blood tests, and sickness certificates (TR250). The average per capita monthly income in 1998 was 4657 Tajikistan roubles.

Unofficial out-of-pocket payments are common, but there is little information on the full extent of these payments. These under-the-table payments (in cash or in kind) are considerable in other central Asian republics (*6*), and indeed throughout the countries of the former USSR. A World Bank survey in two poor regions in 1999, Dangara and Varzob, found that nearly 40% said that they had paid official charge or "gifts" for ambulatory medical treatment. Over 90% in the Living Standard Survey reported paying for food or treatment during hospitalization (*5*). Total out-of-pocket health payments were estimated at 30%

of household expenditure (*21*). The scale of these amounts suggest that health care staff, or at least some, are substantially supplementing their very low official salaries.

External sources of funding

International assistance to Tajikistan has concentrated upon humanitarian assistance with more than 30 international organizations working in the country (*22*). Meetings of the various donor organizations were held in 1996 to work towards a more coordinated approach. External assistance to the economy as a whole for 1990–1997 was estimated at US $246 million, of which about US $16 million was for health projects (*17*). External assistance on humanitarian projects for 1998 amounted to US $93.8 million (*18*). The World Bank and the IMF have entered into three-year structural adjustment programmes (*4*).

At least one third of state health care funds in 1997 came from external donors (Table 4). There is no accurate accounting, however, since this amount refers only to funds channelled through and recorded by the Ministry of Health. Further, much of this aid was in kind, such as pharmaceuticals, food, medical equipment and other medical products. Much aid, especially during the civil war, was sent directly to hospitals, polyclinics and primary care facilities.

The long list of organizations with a health focus or interest include the following: United Nations Children's Fund (UNICEF), United Nations Population Fund (UNFPA), United Nations High Commissioner for Refugees (UNHCR), the World Health Organization (WHO), the World Bank, United States (USAID) and Abt Associates (in Khulyab), Federation of the Red Cross and Red Crescent Societies (IFRC), Médicins Sans Frontières, Aga Khan Foundation, and Medical Emergency Relief International (MERLIN).

The World Bank has begun two major health projects. A social sector rehabilitation project, US $25 million from 2000–2003, in the Leninabad and Khatlon regions, is in two parts. The first part, restoration of essential social services, includes the rehabilitation of 300 health posts (FAPs) and rural physician clinics, and outpatient departments in about 20 central district hospitals. A basic package of equipment will be supplied to these facilities and 12 000 medical staff will be trained. The second part aims to strengthen local government and community-based organizations through staff training and community development funds. In particular, primary health care training will be supported.

The second major project on primary health care, US $5.8 million from 2000–2003, is in two of the poorest regions, Varzoba and Dangara. This project includes a contribution from the Swiss government and from the Tajikistan

government. The project will fund the training and development of primary health care staff, equip facilities, fund primary health care via population capitation funding, and develop management capacity.

Other recent large health sector loans are listed below:

- Islamic Development Bank loan for cardiovascular treatment for US $8 million;
- OPEC Fund US $5 million loan to the Republican Centre of Cardiovascular Surgery in 1998;
- UNICEF US $3 million for medical supplies for women in rural areas;
- Médicins Sans Frontières US $1.4 million for typhoid control;
- Aga Khan Foundation US $18–19 million for Gorno-Badakshan area;
- Asian Development Bank loan is under discussion.

Health care benefits and rationing

The 1994 constitution of the Republic of Tajikistan entitles all citizens to access to free of charge health care. Further, the government is responsible for the provision of services. The 1997 Law on Health Protection confirms these principles.

All inpatient care costs are meant to be covered although not necessarily all outpatient services. However, access to health services and supplies have, in practice, decreased dramatically in recent years, with the damage to health facilities, shirinking health budgets, and increasing formal and informal user charges. Pharmaceuticals and other goods and services often are not available in health facilities. Patients must buy their drugs and even provide their own food and laundry. Health care users increasingly have to pay unofficially for health treatment, which raises serious equity issues given the low incomes of most of the population. Many people clearly cannot afford medical treatment, while others are postponing and delaying treatment.

Health care expenditure

Health care was relatively well funded prior to the mid-1990s. For example, health care expenditure appears to have been maintained, amounting to up to 6% of GDP in 1994 (Table 5). The trend data on GDP and also health expenditure, however, must be treated with caution since estimates from different sources

vary. For example, the Ministry of Finance and the International Monetary Fund give different estimates of GDP.

Funding for the health sector collapsed in 1995 as the economy worsened and since then has remained below 2% of GDP. This figure is projected to improve slightly in 1999. The level of spending in Tajikistan is similar to some other central Asian republics but far below the level spent in other countries (Fig. 3). The current average is 3% GDP in countries of the former USSR, 5.3% in central and eastern Europe, and 8.5% average in the European Union (*23*). The substantial amounts of consumer payments, however, are not included in these estimates.

Table 5. Trends in health care expenditure, 1992–1999

Total expenditure	1992	1993	1994	1995	1996	1997	1998	1999
Value in current prices (millions)[b]	3 679	34 297	110 059	943	4 011	8 259	7 602	–
Per capita in 1993 prices (TR)[a]	15 049	6 013	4 223	6.4	5.2	5.4	3.8	–
Value in current US $ (millions)[b]	–	–	–	12.94	13.53	14.43	15.4[a]	–
Share of GDP (%)[b]	5.7	5.4	6.4	2.1	1.3	1.3	1.1	1.6[a]
Share of state budget (%)[b]	9.8	10.4	11.6	7.8	7.7	8.1	67	7.1[a]
Per capita US $[b]	–	–	–	2.23	2.29	2.41	2.54[a]	–

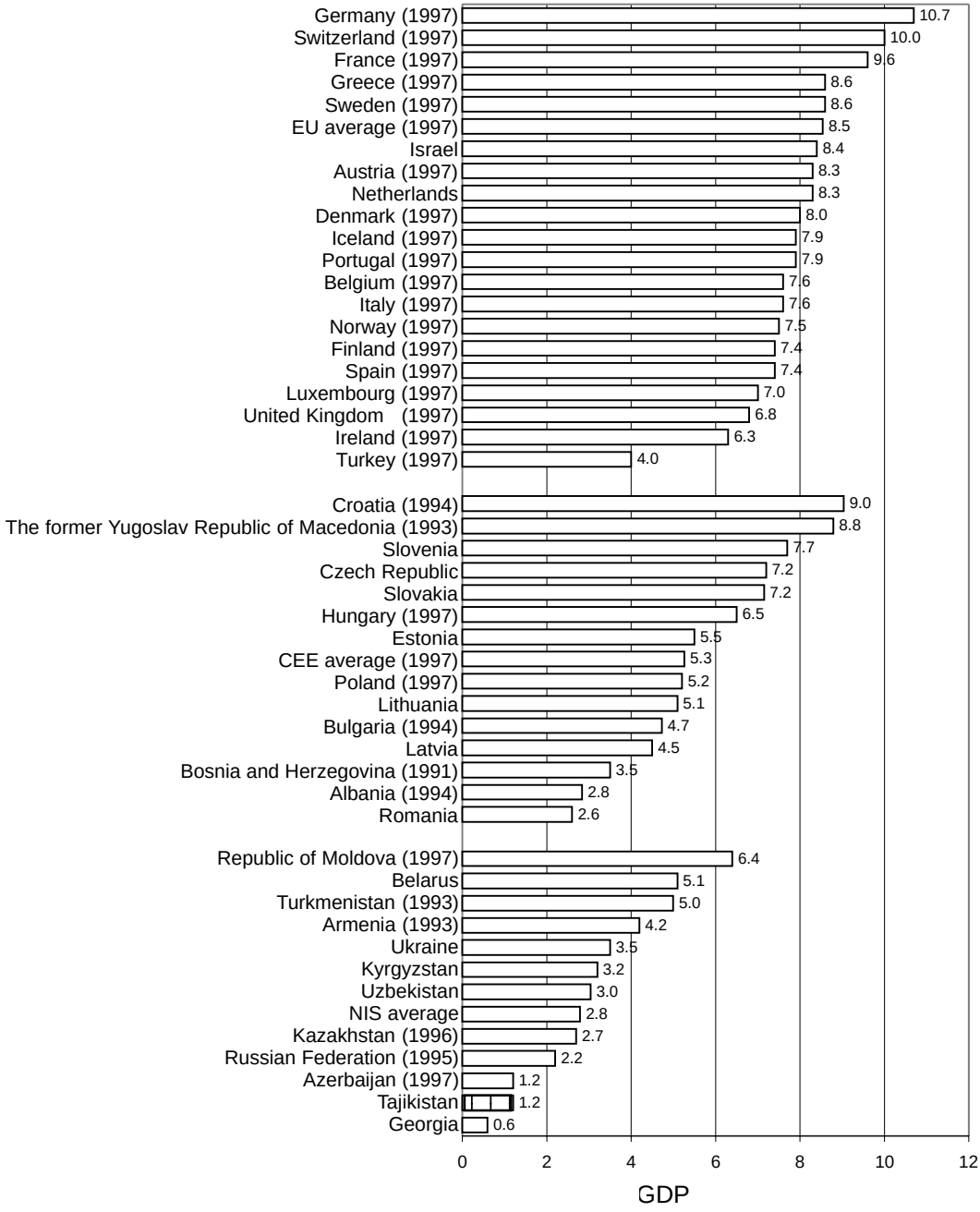
Source: [a] Ministry of Finance 1999; [b] World Bank 1999.
Note: * Russian roubles 1992–1994, Tajik roubles 1996–

The magnitude of the health system funding collapse is dramatic. In 1990 the state budget for health was around US $352 million or US $69.11 per capita, while in 1998 the government spent US $15 421 million or US $2.54 per capita. This leaves the Republic of Tajikistan with one of the lowest health budgets (less than US $3 health expenditure per capita in 1998) among the countries in the WHO European Region. This amount would be perhaps ten times higher in terms of real purchasing power, but still puts Tajikistan below the Russian Federation in terms of health purchasing power (Fig. 3).

Per capita amounts (in Tajik Roubles) show the collapse from 1995 onwards in real terms (in 1993 prices) (*6*). The health share of the total state budget has not dropped markedly over the decade although it has decreased from 8.9% in 1994 to 7.1% in 1998.

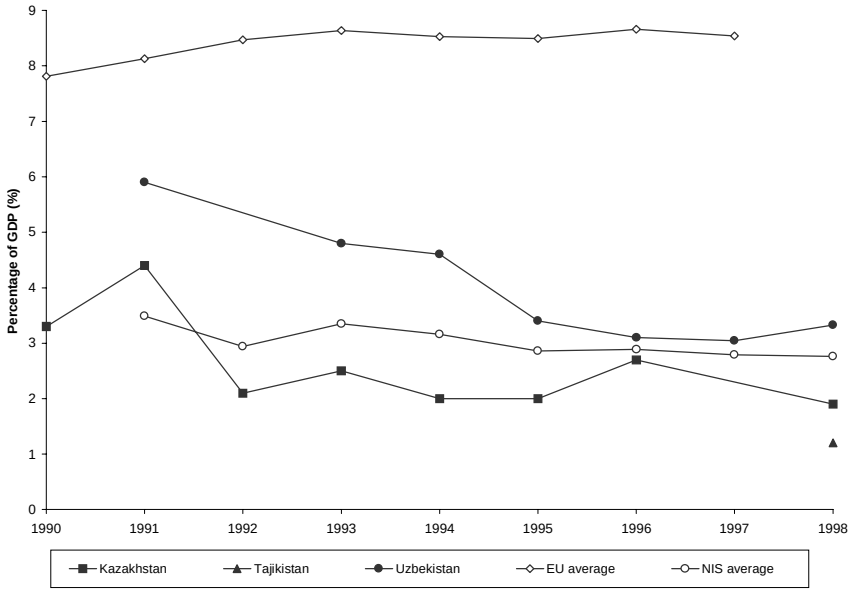
Hospitals take the largest proportion of the health budget with nearly 80% in 1992 and 78% in 1998 (Table 6). Inpatient and outpatient care within the hospital sector is not separately budgeted. Primary health care was allocated 11% of the state health budget – which includes the nurse posts (FAPs) with 2% and the polyclinics with 9%, while the Sanitary Epidemiology Service

Fig. 3. Total expenditure on health as a % of GDP in the WHO European Region, 1998 or latest year



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

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



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

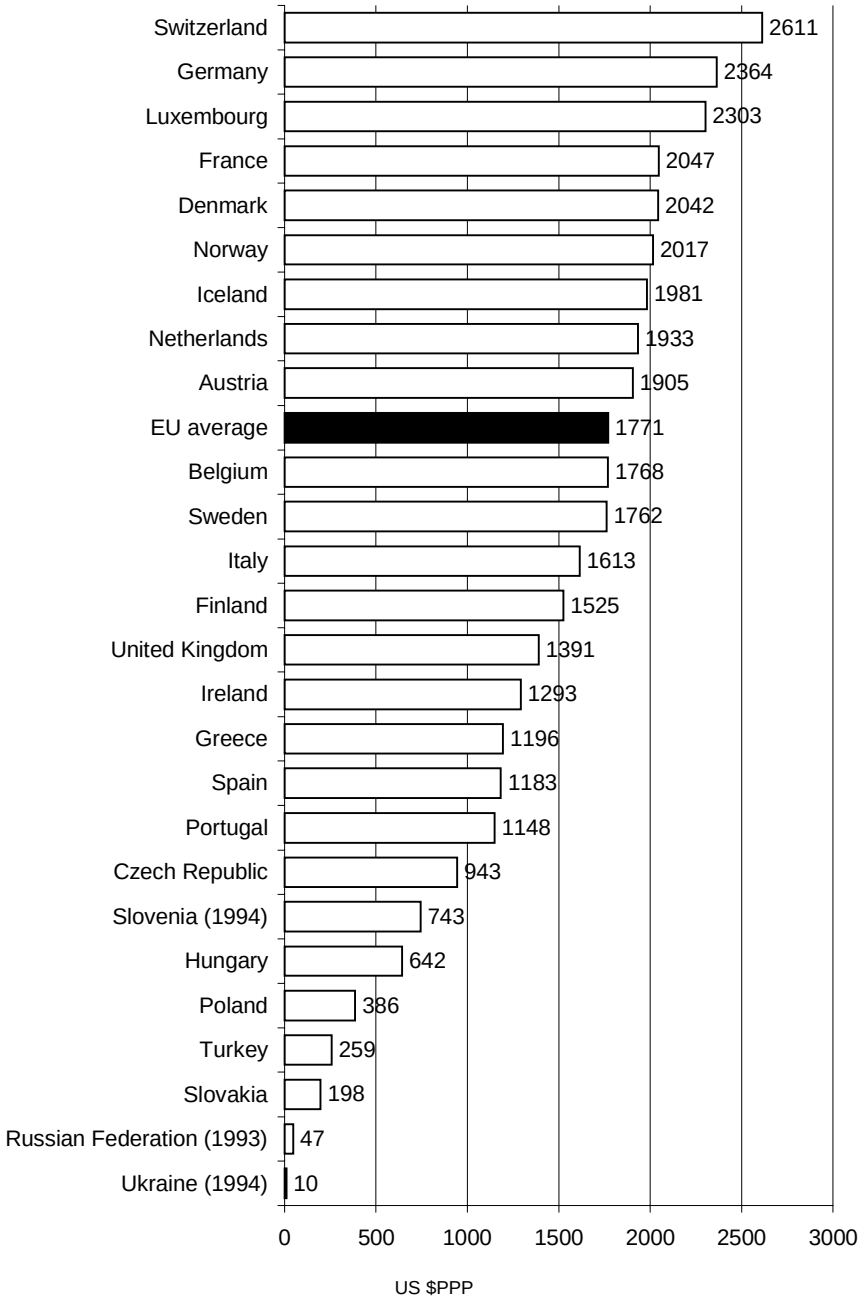
(SES) received 3% (Ministry of Health 1998). Primary health care, therefore, receives only a small share of health care resources. Spending also varies between districts, so that for example, the Farhar rayon in the Khatlan oblast, spent only about 7% of its total health budget on primary care in 1998 (*15*).

Pharmaceuticals took 13% of the state health budget in 1992. Between 1994 and 1999, the state spent about 16% of its health budget on pharmaceuticals (Table 7). In addition, consumers pay a large, but unknown amount to buy drugs. Government drug expenditure (US $0.49 per capita in 1998) does not allow even basic treatment.

Capital investment in the health care system has been negligible for the last few years. There were no capital investment plans nor any plans to construct new facilities except for renovations paid for by international aid. The funds for basic repairs and maintenance are not available and nor are funds for equipment purchase. In 1998, the budget allocation for capital investment was TR455 million or 3.3% of the total health budget. In areas badly affected by the war as well as years of neglect, such as Eastern Khatlon, nearly half the health facilities need repair (*15*).

Budgets are allocated to health facilities according to detailed line item (as under the previous Soviet model) and the spending emphasis varies depending

Fig. 5. Health care expenditure in US $PPP per capita in the WHO European Region, 1997 or latest available year



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

upon the level of government (Table 7). For local authorities, the largest items are salaries (24%), utilities (20%) and food (20%), while republican authorities spend around 35% of the budget on drugs and 22% on equipment.

Table 6. Health care expenditure by category, (%) of total expenditure on health care

Total expenditure on: as share of total expenditure	1991	1992	1993	1994	1995	1996	1997	1998
Hospitals[a]	77	79	–	–	–	–	–	78
Pharmaceuticals[b]	13	13	–	13.8	8.4	10.7	11.4	15.7
Investment[b]	–	–	–	–	–	–	–	3.3

Source: [a] WHO Regional Office for Europe health for all database; [b] Ministry of Finance.

Between 1996 and 1998, the proportion of the total health budget allocated to salaries decreased from 36% to 17% (or from 49% to 23% if social insurance deductions are included), utilities increased from 9% to 13%, food from 15% to 31%, and capital investment dropped from 4.2% to 3.5% (*11*).

At the hospital level, salaries, utilities, food, and medicines take most of the budget. The budget for primary health care is mainly for salaries with some institutions receiving a small amount for drugs.

Table 7. Health spending by line item, 1997

Line item	Local	Republican	State
Salary	24.0	8.1	20.3
Social protection fund	6.8	3.0	5.9
Utilities	20.1	3.8	16.2
Business trips	0.4	0.3	0.4
Food	20.2	3.2	16.2
Drugs	9.9	34.6	15.7
Equipment: Furniture, etc.	4.4	21.6	8.5
“Soft” equipment	3.7	3.3	3.6
Capital investment	2.3	6.2	3.3
Capital repair	6.6	4.0	6.0
Other expenditures	1.4	12.0	3.9

Source: Ministry of Finance.

Health care delivery system

The delivery of health care services is divided between four administrative levels: national (republican), regional (oblast), district (rayon) and village. The Ministry of Health runs national-level institutions, and local administrations run other health care services. In rural areas, primary care is delivered through nurse posts, rural physician clinics, and small rural hospitals. In urban areas, primary and secondary care is delivered by polyclinics, basic secondary care by district (rayon) hospitals, specialized secondary care in regional (oblast or city) hospitals, and more complex care in national hospitals. The health care system is hospital-centred, so that treatment in hospital rather than in the community is common, with long inpatient stays.

Primary health care doctors (internists, paediatricians and obstetrics-gynaecologists) in rural physician clinics and urban polyclinics, tend to diagnose and refer onwards rather than undertake treatment themselves. They are said to rarely see more than 12 patients a day. Primary care physicians also fill out an excessive amount of paper. They issue birth and death certificates, sickness certificates, examine fitness to undertake jobs, and submit detailed statistical reports. The intention is to transform many physicians in the rural physician clinics and the urban polyclinics into family physicians (general practitioners). Training of family physicians began in 1999, as explained under the section on *Human resources and training.*

The 1997 Law on Health Protection entitles citizens to choose a doctor or health care facility. This is sometimes interpreted as allowing a patient to go directly to any health care facility, which means that no gatekeepers control the referral system.

Utilization indicators have fallen during the 1990s, given the disruption to services during civil unrest, the breakdown in available services, no funds to pay staff, repair equipment and purchase medical supplies, and the inability of the population to pay for medical care. More than 80 health posts and some hospitals and polyclinics were partially or completely destroyed during the civil war, mainly in rural areas. In addition, over 800 vehicles were stolen and

enormous amount of medical equipment stolen or damaged (*19,21*). The majority of health posts, clinics and hospitals urgently need repairs and many lack basic let alone more technical equipment. For example, many lack equipment to sterilize medical and surgical instruments. Many rural facilities do not have heating, water or sanitation.

Health care facilities have undergone considerable change throughout the 1990s, both unplanned change due to the civil war, as well as recent efforts to restructure the health care system and to close hospital beds.

The types of health care services (shown in Table 8), are described in the following sections. It should be noted, however, that different sources give different counts on the number of health facilities, given the proliferation of administrative levels, the different types of facilities, and the changes under way.

A patient flowchart through the health care system is shown in Figure 5.

Table 8. Health care facilities, number

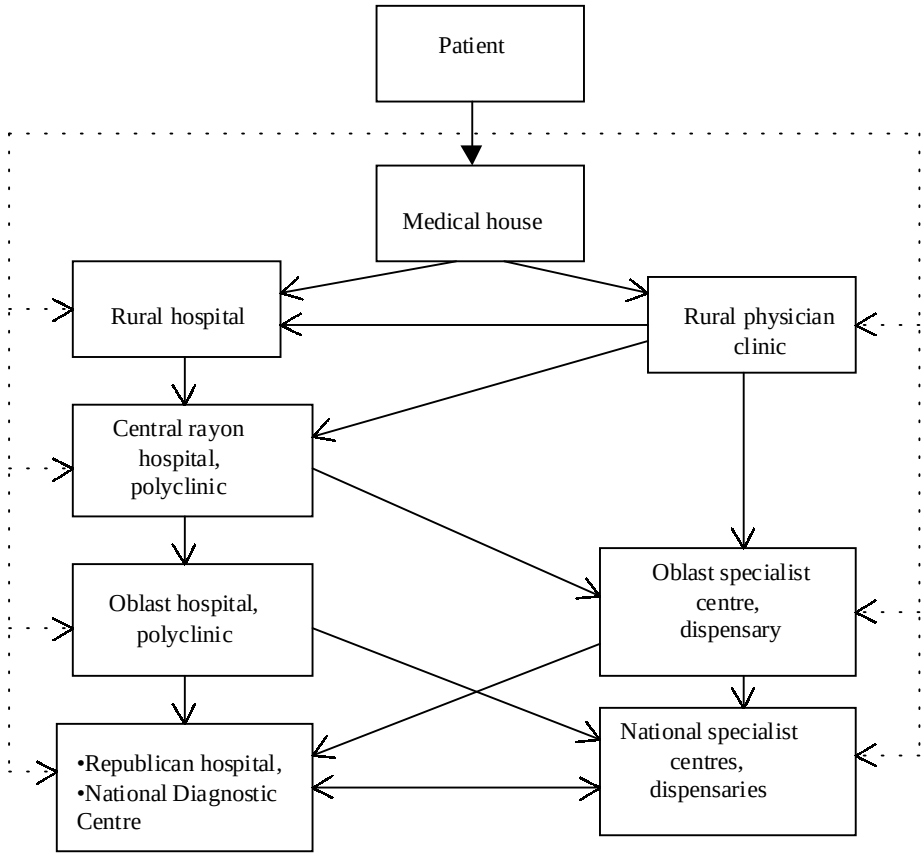
Facilities	1995	1998
Medical houses (formerly FAPs)	1 577	1 630
Rural physician clinics (SVAs)	486	480
Rural district hospitals (SUBs)	198	212
Central rayon hospitals (CRBs)	55	56
Regional (oblast/town) polyclinics	57	75
Ministry and enterprise clinics	–	–
Maternity hospitals	–	–
Oblast/town hospitals	28	35
Specialist hospitals and dispensaries	78	97
National hospitals	–	10

Source: Ministry of Health.

Primary health care and public health services

An extensive network of primary health care services was developed in Soviet times but suffered considerable damage during the periods of civil unrest, and with lack of funds has seriously deteriorated during the 1990s. The policy intention is to upgrade primary care, as discussed later in the section on *Health care reforms*.

Fig. 5. Patient flowchart, health care facilities



Medical houses

Medical houses (bungohi tibbi), renamed in December 1997, were formerly called feldsher-midwife posts (FAPs). There were over 1600 in 1998. These are meant to be the first contact point with health services for people in rural areas. A medical house usually was allocated two staff. Staffing is to be increased to a feldsher, nurse, midwife and "social protection nurse". The training for feldshers (physician assistants) was upgraded from a three-year to four-year course from 1996. The first group will graduate in 2000 but it is not yet clear

how the functions of the new feldshers will differ from the old. The plan is to add another type of professional, the "social protection nurse" (a public health nurse). These four staff would give a high staff to population ratio, which may not be realistic, given the difficulties in attracting staff to remote areas and in affording their salaries.

Medical houses cover rural areas with a catchment population of under 1500. Medical houses also are established in isolated villages of under 300 people if the village is more than 4 km away from other health facilities. Medical houses are funded from village administration (jamoat) budgets and from the revenues of local collective farms. The problem is that local resources are insufficient to pay the salaries of staff. Staff in some areas claim not to have been paid for months. Many medical houses are left unstaffed or understaffed, the buildings have deteriorated, and there are no funds for repairs or to buy the necessary medical supplies. Families often cannot afford to buy medicine for their children so that infectious diseases are left untreated.

Medical houses offer immunization, basic first aid, home visits to the sick, simple prenatal care and medical referrals. The referral system has collapsed, however, because fuel shortages have disrupted ambulance services and most rural patients are without private transport. People therefore delay treatment until their illness is severe. Further, the lack of supplies and personnel in many medical houses means that patients who can afford to do so go directly to a physician or to the central rayon hospital.

The FAPs, now medical houses, generally are not busy. An analysis of activity across 19 districts in Khatlon oblast found that on average a medical house sees only 11 patients per day (*15*).

Rural physician clinic (SVA)

Rural physician clinics (480 in 1998) are financed by local administrations (jamoats and hukumats) from funds provided by the Ministry of Finance and by local taxes. These clinics are subordinate to central rayon hospitals. Clinics are staffed by four or five doctors (internist, dentist, paediatrician, gynaecologist, and possibly another specialist) and work more reliable hours than the medical houses. Most have basic laboratory facilities for testing blood and urine.

Polyclinics

Polyclinics in towns offer preventive, diagnostic and rehabilitative services. Polyclinic services are very fragmented with separate polyclinics for adults, children, and women's reproductive health. Polyclinics in large towns are based in 34 hospitals, and 11 are free standing. There are also oblast level polyclinics,

dental polyclinics and two family planning polyclinics. The staffing guidelines call for one internist for 1700 people, one paediatrician for 800 children and one obstetrician-gynaecologist for 6000 women. There are also clinics of varying size within enterprises and ministries. A large number of specialized dispensaries (at rayon, oblast and national level) also provide outpatient as well as inpatient services.

Public health services

Tajikistan has major environmental problems that affect population health. The country has frequent floods, mudslides after heavy rains due to deforestation and soil erosion, and earthquakes. Vakhsh valley has severe water erosion that will require many years for rehabilitation. The soil is polluted with domestic waste both in rural areas and cities.

Most of the population lives in rural areas with poor living conditions due to polluted water supply, lack of sewage, and agricultural pollution including insecticides and fertilizers, and pollution from stockbreeding farms. Some industrial areas are badly polluted in cities such as Tursunzade, Javan, Sarband, Isphara and Taboshar.

The Ministry of Environment is responsible for environmental issues. The Ministry of Health is responsible for sanitary surveillance through the Sanitary Epidemiological Services (SES). In addition to the Ministry of Health, a number of other governmental bodies (Ministry of Agriculture, State Committee of the Republic of Tajikistan on Industrial Affairs, Ministry of Irrigation and Water Supply) participate in the environmental health protection and disease prevention.

The function of the SES is to prevent, control and monitor infectious diseases, to safeguard occupational health, to ensure food safety, and to limit any adverse environmental health impacts. At the peak of the vertical SES structure is the Republican SES in Dushanbe and under it the oblast and rayon branches. SES laboratories analyse patient samples, monitor industrial pollution and test the water supply; oblast level laboratories undertake bacteriological, parasitological, toxicological, viral and water analysis. The SES confirm any cases, investigate the source and take the necessary measures. The SES is unable to adequately perform these traditional functions, however, given the breakdown in the country's infrastructure and the run-down state of the SES laboratories. There were 22 SES stations in 1995 but many had ceased to function and some have since been closed.

National programmes for the control of infectious diseases were adopted from 1995 onwards and are being implemented with the assistance of

international agencies. Immunization is a major function of the SES especially logistical support and monitoring. The immunization schedule was expanded in 1994 (given serious outbreaks in a number of infectious diseases) in collaboration with UNICEF and WHO. The intention is to immunize all children under six years of age against six diseases (tuberculosis, diphtheria, whooping-cough, tetanus, poliomyelitis and measles). Several vaccines are to be given in combination, which will reduce the 19 contacts per child to 11 to complete the immunization schedule.

The level of immunization of measles in Tajikistan in 1997 was reported to cover 95% of children (Fig. 6) although this seems unlikely given the various measles epidemics.

In order to improve and control environment, a National Environmental Health Action Plan has been developed and is being implemented. A coordination committee has been established under the Tajik Government to develop and adopt a State Ecological Programme.

A new National Centre for Health Promotion was established in 1999. This is a new area for Tajikistan and the new centre plans to organize a national conference on health promotion, related to the WHO Health21 strategy. It will also promote other WHO programmes such as CINDI, health-promoting schools, and tobacco and drug abuse prevention strategies.

Secondary and tertiary care

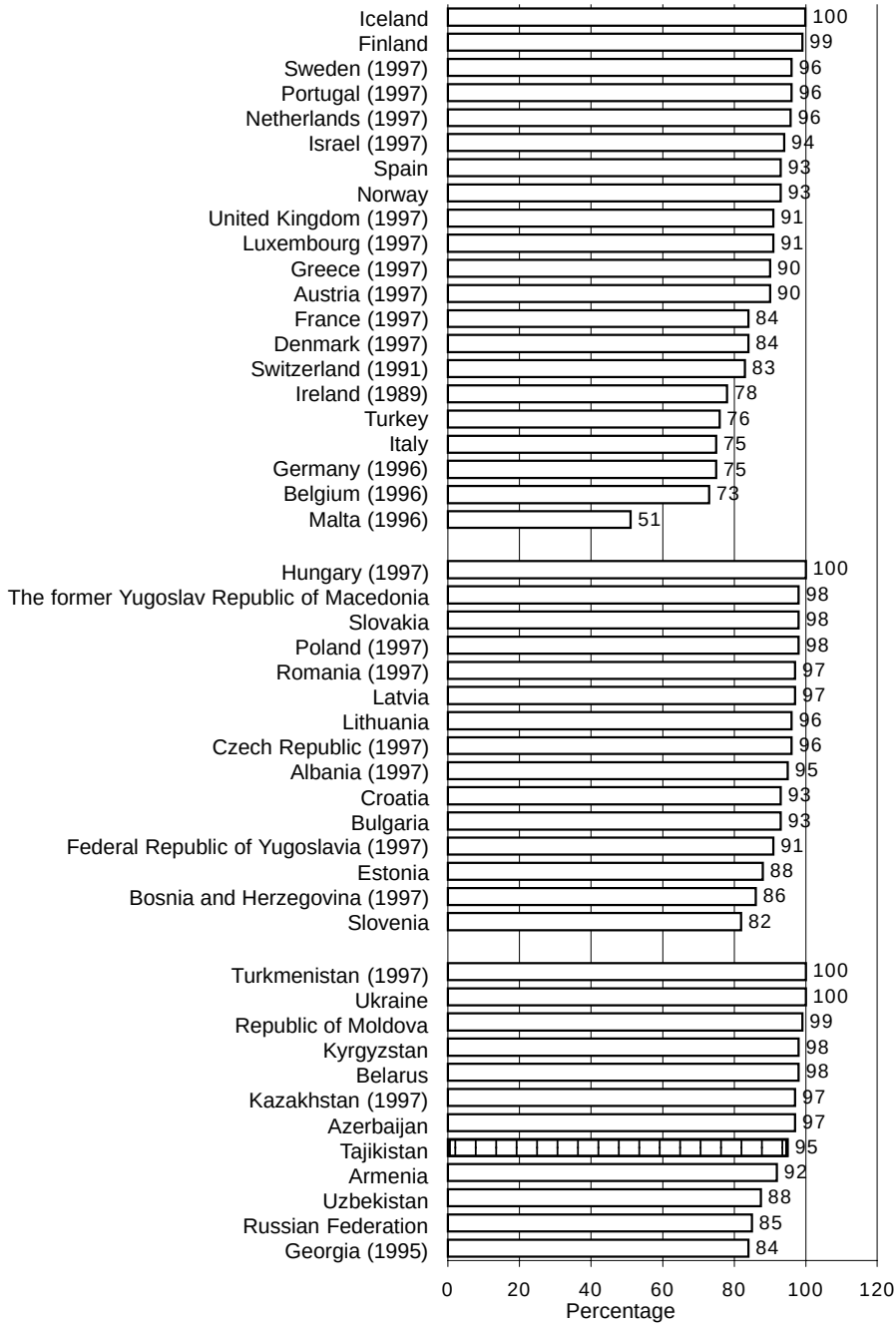
Inpatient care and specialized care (secondary and tertiary levels)

The health care systems of the countries of the former Soviet Union were characterized by the following elements. They had a large number of hospitals and hospital beds, a hierarchy of hospitals (according to the country's administrative structure) at national, regional, local and village level, many specialized hospitals, and patients had long stays in hospital and high admission rates.

Rural hospitals (SUBs)

Small rural hospitals (SUBs) with 25–75 beds offer basic nursing care and some medical and obstetric services. There were over 200 village hospitals in

Fig. 6. Levels of immunization for measles in the WHO European Region, 1998 or latest available year



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

1998. These "hospitals" are in very poor condition with run-down buildings, unheated in winter, few supplies or bedding, and very little diagnostic and therapeutic equipment. Most beds are unoccupied. The intention is to close or transform these into outpatient facilities, as discussed later.

Central rayon hospitals

These are located in the largest town in the district, have about 100–300 beds, are staffed by a range of specialists, and many also house a polyclinic. There were about 56 of these in 1998.

Oblast/city hospitals (regional and urban hospitals)

These have about 600–1000 beds and offer a fuller range of specialities and more technical equipment. Usually located in the main town in the oblast, there were over 30 such hospitals in 1998.

Specialized hospitals

These are very numerous since many disease categories and population groups are treated in separate hospitals: for example, children's hospitals, cardiology, tuberculosis, psychiatric, neurology, maternity and emergency hospitals. There are also over 70 maternity hospitals located at either district or regional level. The specialized *dispensaries* are for people with long-term illnesses such as tuberculosis, dermatology and sexually transmitted diseases, endocrinology, oncology and drug addiction. Patients get better qualified health care staff and more advanced examination and treatment than at primary care level. Dispensaries are located at both regional and national level.

Specialist hospitals are an integral part of the Soviet model hospital system and mergers with general hospitals are difficult to achieve. TB hospitals that typically admit patients for several months also are numerous. WHO protocols on TB treatment (DOTs) have not yet been implemented throughout the country, since this requires purchasing drugs and a transfer of resources from the TB hospitals to active outpatient treatment.

National hospitals (republican) provide more advanced care and usually are teaching and research hospitals. In Soviet times, highly specialized tertiary care was carried out in Moscow or Leningrad. There were several national level hospitals in 1998 in Dushanbe. These include the National Diagnostic Centre, the Republican Clinical Hospital plus specialized hospitals for cancer, neurology, cardiology, obstetrics and gynaecology, paediatrics, psychiatry and TB. These also act as teaching hospitals.

Ambulance services

All district, regional and national hospitals have ambulance services for emergency care.

The hospital system

The number of hospitals including acute care hospitals has increased in Tajikistan during the 1990s, despite the devastation caused by the war. There were 365 hospitals in 1990 and 411 in 1997. Of these, these were 349 were acute care hospitals in 1990 and 396 in 1997 (Table 9). First, the number of hospitals has increased and second, most hospitals in Tajikistan are categorized as acute care hospitals despite very long lengths of stay. The overall number of hospitals in Tajikistan apparently increased by 13% between 1990 and 1997. As pointed out earlier, however, most small village hospitals can hardly be categorized as hospitals and many have ceased functioning as such.

The President of the Republic of Tajikistan issued an order (prikaz) in 1993 that hospital beds should be reduced by 30%. In 1996, a prikaz was issued to reduce beds by another 20%. Between 1992 and 1997, using WHO figures, there was a 32% decrease in the number of all hospital beds, and a 27% reduction in acute care hospital beds (Table 9).

The extent of the real reduction is difficult to interpret. First, many beds were no longer in use due to war damage or lack of funds; second, some beds

Table 9. Hospitals and beds, number and population ratio

Type of hospital	1990	1991	1992	1993	1994	1995	1996	1997	1998
All hospitals, number[b]	365	374	386	389	408	412	416	411	–
Hospitals per 100 000 population[b]	7.0	7.0	7.0	7.0	7.2	7.2	7.1	6.8	–
Total hospital beds[a] 41 945	–	–	62 712	–	62 251	58 793	51 077	48 025	
Total hospital beds[b]	56 534	59 565	62 242	59 531	50 132	46 483	42 856	42 058	–
Hospital beds per 1000 population[b]	10.8	11.1	11.2	10.7	8.8	8.1	7.3	7.0	–
Acute care hospitals, number[b]	349	358	369	372	390	397	401	396	–
Acute care hospitals per 100 000[a]	6.7	6.7	6.6	6.7	6.9	6.9	6.8	6.6	–
Acute care hospital beds, number[b]	48 895	52 011	54 508	52 577	45 228	42 303	40 854	39983	–
Acute hospital beds per 1000[b]	9.3	9.7	9.8	9.5	8.0	7.3	7.0	6.6	–

Source: [a] Ministry of Health; [b] WHO Regional Office for Europe health for all database.

existed in the hospital budget statistics but were not actually occupied by patients; third, there was less than 60% bed occupancy in 1996 suggesting excess bed capacity. Nevertheless, there has been a significant reduction in the official number of hospital beds. Whether this reduction will bring a reduction in costs is another matter, since the number of hospitals has not been reduced. Significant budget savings are made by closing hospitals not hospital beds.

The ratio of hospital beds for the population has fallen in the countries of eastern Europe throughout the 1990s (Fig. 7). The number of acute hospital beds per 1000 population in Tajikistan has fallen sharply since 1993 but is still well above the average for European Union countries (Fig. 8). This level of provision is beyond the capacity of the health budget.

Admissions to hospital have halved from 21.5 per 100 population in 1990 to 11.0 in 1997 (Table 10). This is among the lowest population admission rates among the countries in the WHO European Region (Table 11). The bed occupancy in acute care hospitals has also dropped substantially from 94% occupancy in 1990 to 60% in 1996 (Table 10). Most countries have hospital occupancy rates of 80% or above. These two indicators suggest severe deterioration in the capacity of the hospital system to provide services.

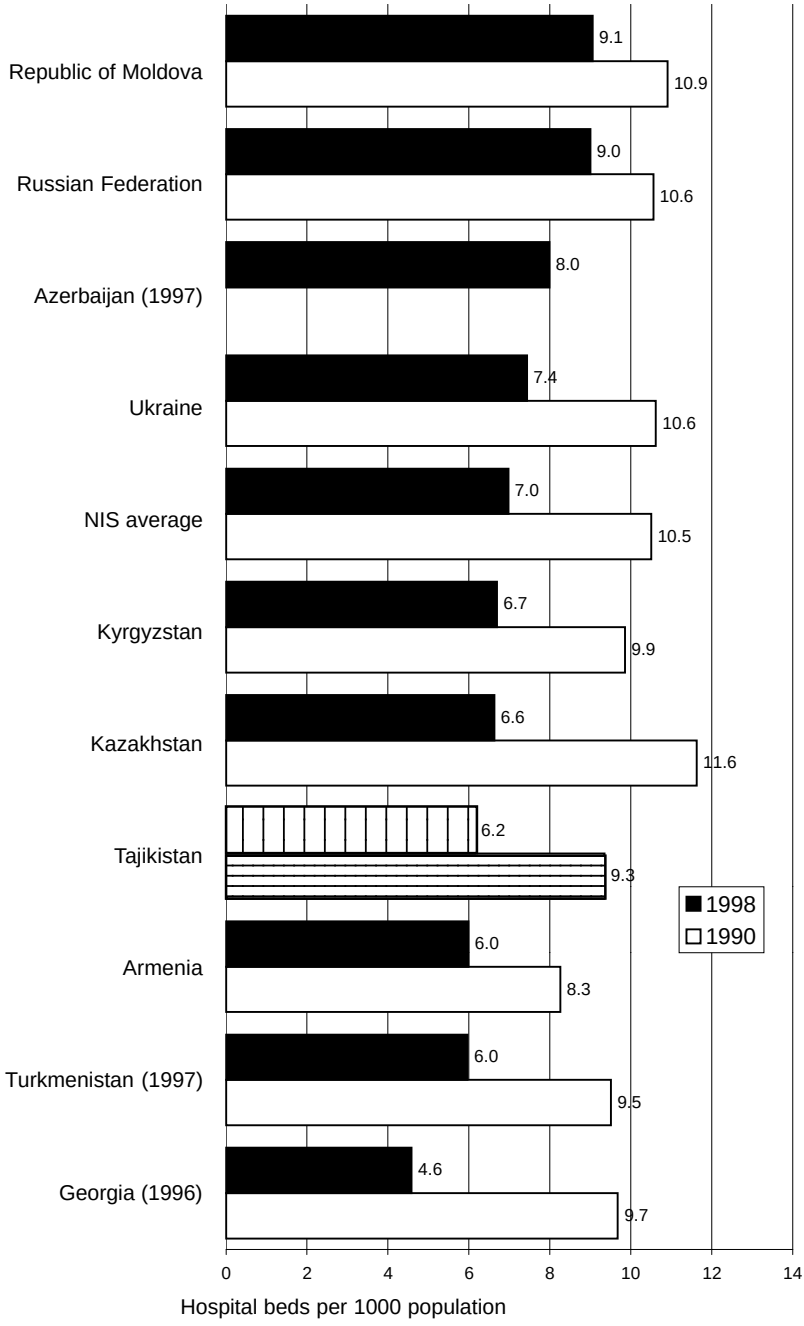
Table 10. Inpatient facilities utilization and performance

Indicators	1990	1991	1992	1993	1994	1995	1996	1997
Admissions per 100 population	21.5	21.7	16.5	16.7	15.1	12.8	10.9	11.0
Occupancy rate (% acute hospital beds)	93.8	88.1	66.5	64.9	65.0	62.8	59.9	–
Average length of stay in days	14.3	14.6	14.5	14.7	15.6	15.0	15.0	15.0

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

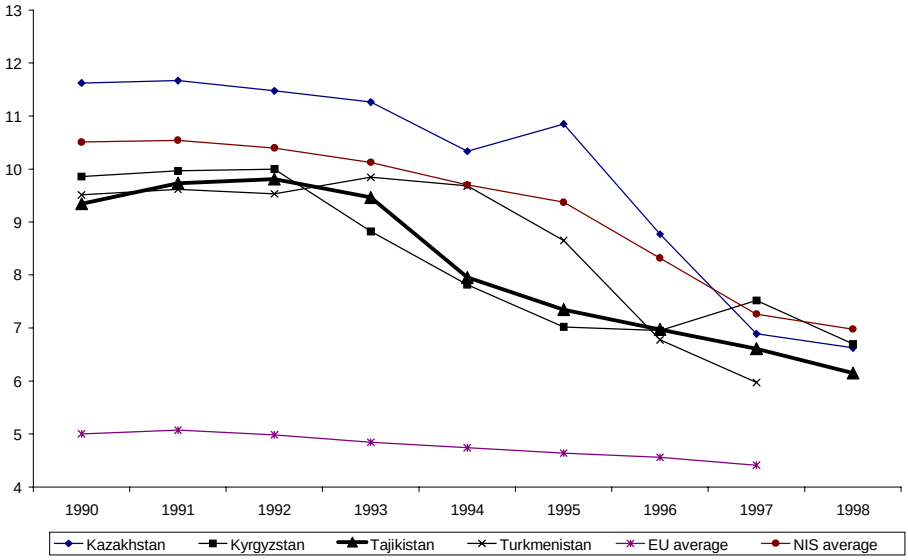
The average length of stay remains very high with fifteen days in 1997 (Table 10), as is common in countries of the former USSR, compared to less than twelve days in most western European countries (Table 11). There are various reasons for the lengthy stay in Tajikistan. The funding formula rewards hospitals for keeping patients in hospital. Inpatients get free medication but outpatients must pay, which is an incentive for staff to keep people in hospital to ensure treatment. Much outpatient treatment in EU countries is done on an inpatient basis in Tajikistan. Treatment protocols also require much longer stays than apply in EU countries, and require admissions that in other countries would be treated on an outpatient basis. For example, TB hospitals admit patients for up to three months, hepatitis and malaria cases are admitted for one month,

Fig. 7. Hospital beds in acute hospitals per 1000 population in the newly independent states (NIS), 1990 and 1998 (or latest available year)



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

Fig. 8. Number of hospital beds in acute hospitals per 1000 population in Tajikistan and selected countries, 1990–1998



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

and even influenza patients are hospitalized. The need to update and improve clinical practice remains a considerable challenge. A reduction in average length of stay, therefore, requires new hospital funding methods, different treatment procedures, access to better treatment resources and better alternatives for both ambulatory care and post-hospital care.

Hospital reform also requires more analysis of cost efficiency, given the very low throughput of patients, and very large variations, between hospitals unit costs such as patient cost per bed day. (*15*).

Reform plans for the hospital system include the following:

- closing small rural hospitals and upgrading the polyclinic (ambulatory) level
- upgrading central rayon (district) hospitals to provide a wider range of services
- developing day hospital treatment
- opening nursing homes for dependent long stay patients
- setting standards to improve the quality of health services.

Table 11. Inpatient utilization and performance in acute hospitals in the WHO European Region, 1998 or latest available year

Country	Hospital beds per 1000 population	Admissions per 100 population	Average length of stay in days	Occupancy rate (%)
Western Europe				
Austria	6.4[a]	24.7[a]	7.1[a]	74.0[a]
Belgium	5.2[b]	18.0[b]	7.5[b]	80.6[c]
Denmark	3.6[b]	18.8[b]	5.6[b]	81.0[b]
Finland	2.4	20.5	4.7	74.0[c]
France	4.3[a]	20.3[c]	6.0[b]	75.7[a]
Germany	7.1[a]	19.6[a]	11.0[a]	76.6[a]
Greece	3.9[f]	–	–	–
Iceland	3.8[c]	18.1[c]	6.8[c]	–
Ireland	3.4[a]	14.9[b]	6.7[b]	82.3[b]
Israel	2.3	18.4	4.2	94.0
Italy	4.6[a]	16.5[a]	7.0[a]	76.0[a]
Luxembourg	5.6[a]	18.4[d]	9.8[b]	74.3[d]
Malta	3.9[a]	–	4.5	72.2[a]
Netherlands	3.4	9.2	8.3	61.3
Norway	3.3	14.7[b]	6.5[b]	81.1[b]
Portugal	3.1	11.9	7.3	75.5
Spain	3.1[c]	10.7[c]	8.5[b]	76.4[c]
Sweden	2.7[a]	16.0[b]	5.1[b]	77.5[b]
Switzerland	5.2[b]	14.2[e]	11.0[a]	84.0[a]
Turkey	1.8	7.1	5.5	57.3
United Kingdom	2.0[b]	21.4[b]	4.8[b]	–
CCEE				
Albania	2.8[a]	–	–	–
Bosnia and Herzegovina	3.4[g]	7.4[g]	9.7[g]	70.9[g]
Bulgaria	7.6[b]	14.8[b]	10.7[b]	64.1[b]
Croatia	4.0	13.4	9.6	88.2
Czech Republic	6.5	18.4	8.8	70.8
Estonia	6.0	17.9	8.8	74.6
Hungary	5.8	21.7	8.5	75.8
Latvia	–	–	–	–
Lithuania	–	–	–	–
Poland	–	–	–	–
Romania	–	–	–	–
Slovakia	7.1	19.3	10.3	77.9
Slovenia	4.6	15.9	7.9	75.4
The former Yugoslav Republic of Macedonia	3.5[a]	8.1	8.9	66.5
NIS				
Armenia	6.0	6.0	10.7	30.2
Azerbaijan	8.0	5.6	–	–
Belarus	–	–	–	88.7[d]
Georgia	4.6[b]	4.8[b]	8.3[b]	26.8[d]
Kazakhstan	6.6	14.9	13.0	91.2
Kyrgyzstan	6.7	15.8	12.9	81.7
Republic of Moldova	9.1	16.9	15.4	77.6
Russian Federation	9.0	19.9	14.0	82.5
Tajikistan	6.2	9.7	13.0	59.9[b]
Turkmenistan	6.0[a]	12.4[a]	11.1[a]	72.1[a]
Ukraine	7.4	17.9	13.4	88.1
Uzbekistan	–	–	–	–

Source: WHO Regional Office for Europe health for all database.
Note: [a] 1997, [b] 1996, [c] 1995, [d] 1994, [e] 1993, [f] 1992, [g] 1991, [h] 1990.

Social care

Social problems have increased in the context of civil war, ongoing civil disturbances, population movements both within and outside the country, criminality associated with the increasing trade in illicit drugs, and the economic crisis associated with the collapse of the USSR and the transition to a market economy. Around 80% of the population are estimated to live below the poverty level, as discussed earlier. Vulnerable groups include families with young children, the unemployed, and all pensioner groups.

A Social Protection Fund, established in 1996, took over the pension fund, social insurance fund and employment fund. This Fund was in deficit for its first two years, with much lower revenue than expected from the 38% of payroll tax levied on employers (*4*). This was reduced to 30% in 1998 to improve compliance. Pension payments were delayed in 1996 due the Fund deficit but a small reserve had been built up by 1998. About 33% of the government budget was spent on social protection in 1997. Expenditure was equivalent to 1.7% of GDP in 1996 and 0.3% in 1997 (*17*). The monthly pension is very low, the value having eroded, equivalent to US $2.60 in 1998. The value of pensions relative to salaries (which have also eroded in value) has declined from 50% in 1995 to 35% in 1998 (*18*).

In Tajikistan 10% of the population receive social security benefits. These include children under eight years, the unemployed, elderly people, students and orphans under 16 years. The level of cash benefits is very low and leaves many people below the poverty line, but even this small amount is an important addition to many on low incomes.

Social care for invalids and elderly people, as well as other groups with special needs such as psychiatric patients, intellectually disabled and physically disabled, are divided between two departments: the Ministry of Health and the Ministry of Social Protection (and its local offices). Social care is based mostly upon institutional care and community care services are poorly developed. In general, dependent people living in the community must rely upon their families. Hospitals, however, are used for long-term care, for perhaps several thousand dependent people. The Ministry of Social Protection has eight homes for older or disabled people, and about 50 homes (internats) for children, orphans or the victims of war and poverty. These homes are very dilapidated and lack sufficient operating funds.

Nongovernment organizations (NGOs) are new entities for Tajikistan. A large number of small community groups also have grown up since independence. This suggests some strengthening in the civil society of the country. A

1998 law on public organizations allows people to set up formal groups and 415 organizations were registered in that year (*17*). These cover a wide range, one influential group being the National Union of Women of Tajikistan. The Red Crescent Society is the main welfare organization offering practical support such as food, and it also established a nursing home in 1996. A Society for the Disabled was established in 1989 and offers practical help from branches around the country. A large number of NGOs are women's associations (*18*).

Human resources and training

Tajikistan has a large number of health personnel as required under the former Soviet norms. These are virtually all employed in the public sector. At its peak in 1992, the "medical care, physical training and social security" sector constituted 5.8% of the workforce, but had dropped to 4.9% in 1996 (*9*).

The number of professional staff (physical persons) in the health care sector in 1998 totalled 47 448, comprising of 11 771 physicians, 34 452 nurses, 758 pharmacists; the rest were stomotologists (dentists), biologists, physicists, chemists, engineers, technicians and economists (*12*).

A large number of people have left the health sector mainly due to low salaries and migration. Many skilled people left the country during the civil war although some have since returned. Numbers of physicians and nurses dropped between 1990 and 1997 (Table 12). This suggests that 1750 physicians left the system between 1990 and 1997.

The number of physicians has decreased from 2.6 per 1000 population in 1990 to 1.9 in 1997. Tajikistan is unusual having fewer physicians for its population than other Soviet countries, and lower than some countries of the European Union. The number of physicians for its population apparently continued to decrease during the 1990s (Fig. 9).

Nurses per 1000 population dropped by 26% between 1990 and 1997, from 8.2 in 1990 to 5.2 in 1997. Tajikistan therefore has fewer physicians and nurses for its population than many countries in the WHO European Region (Fig. 10). Nurses in Tajikistan are less well qualified, however, as discussed later. In terms of staff proportions, Tajikistan is closest to the United Kingdom, but the latter country has a well developed government health care service and well-qualified general practitioners who handle the bulk of health care.

The Ministry of Health has announced plans to decrease the number of physicians and increase the number of nurses, in order to arrive at a ratio of one doctor to six nurses. The feasibility of this target is uncertain.

Table 12. Health care personnel numbers, 1985–1997 (physical persons)

Staff	1990	1991	1992	1993	1994	1995	1996	1997	% change 1990–1997
Physicians	13 526	13 144	12 544	12 132	12 638	12 104	11 964	11 777	-13%
Dentists	792	766	875	936	926	956	959	953	+20%
Nurses	42 888	42 425	40 473	40 181	38 484	35 911	31 988	31 680	-26%
Auxiliary nurses	–	1 462	1 173	–	–	–	–	–	
Midwives	6 822	6 624	6 045	5 500	5 311	4 797	4 796	4 484	-34%
Pharmacists	626	690	639	230	200	440	802	758	+21%
Physicians graduating	586	687	918	1172	1037	859	853	843	+44%
Nurses graduating	3 650	3 605	4 049	4 165	3 553	–	–	–	

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

Table 13. Health care personnel per 1000 population, 1985–1997

	1985	1990	1991	1992	1993	1994	1995	1996	1997
Physicians	2.5	2.6	2.5	2.3	2.2	2.2	2.1	2.0	1.9
Dentists	0.1	0.2	0.1	0.2	0.2	0.2	0.2	0.2	0.2
Certified nurses	7.3	8.2	7.9	7.3	7.2	6.8	6.2	5.5	5.2
Midwives	1.3	1.3	1.2	1.1	1.0	0.9	0.8	0.8	0.7
Pharmacists	0.10	0.12	0.13	0.12	0.04	0.04	0.08	0.14	0.13
Physicians graduating	0.2	0.1	0.1	0.2	0.2	0.2	0.2	0.2	0.1
Nurses graduating	0.5	0.7	0.7	0.7	0.8	0.6	–	–	–

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

Tajikistan has an uneven distribution of physicians across the oblasts ranging from 7.4 per 1000 population in the Dushanbe City to 1.08 in the republic subordinate rayons (Table 14). There are few physicians in remote areas with, for example, 0.36 per 1000 in Beshkent district. There are more doctors in cities than in rural areas.

Physicans in Tajikistan, as in other countries of the former USSR, are highly specialized (Table 15). Only 13.5% of physicians in 1997 were general physicians (internists). The three groups, that in aggregate undertake the work closest to a general practitioner or family physician, are internists, paediatricians and obstetrics-gynaecology, who together comprise 40% of all physicians.

Physician training

Physicians are trained in the Tajik State Medical Institute in Dushanbe and its branch in Khodjand. Physician training is very specialized according to the

Table 14. Number of physicians per 1000 population, 1998

Oblast	Physicians per 1000 population
Dushanbe City	7.44
Leninabad oblast	2.31
Gorno-Badakshan autonomous oblast	2.16
Khatlon oblast	1.08
RRS	1.08
Total	**2.04**

Source: Ministry of Health 1998.
Note: Physicians include pharmacists, stomatologists and sanepid physicians.

Soviet model and still uses outdated Russian texts. The Medical Institute is divided into 24 faculties with 68 specialities (*11*). The main faculties are therapeutics (adult medicine), paediatrics (children under 15 years), sanepid, pharmacy and stomatology. The number of medical graduates has diminished slightly since 1993 (Table 12). Between 700 and 800 students were admitted into the course each year, but this was reduced to 698 in 1998.

The medical course was changed in 1996 to a five-year course, followed by a two-year hospital residency, with subsequent specialty years as a hospital resident. Graduates gain the right to independent practice after further post-graduate training in family medicine or in another specialty (Table 16). The consensus in Tajikistan is that the country needs general practitioners to deliver primary health care services. The therapy and paediatrics faculties were merged in 1996 in order to train generalist physicians. The same teachers, however, teach the new undergraduate course.

A retraining programme in family practice has begun for practising physicians. A training centre was established in the postgraduate training centre. Four trainers were trained abroad and began in 1999. The seven-month training course is done in two blocks of time with a two-month break in the middle. The first group of trainees are from Dushanbe. Funds have been secured to roll out this course to other oblasts.

The Tajik Medical Institute of Postgraduate Training is a separate institution from the University and provides all post graduate training for health professionals. The Faculty of Family Medicine opened in 1999 and six teachers were appointed. The staff have little experience or education in family practice, however, and the course lacks equipment and textbooks.

"Middle level" personnel training

In the former Soviet Union, all health professionals other than physicians were called "middle level" personnel. Middle-level personnel now have two levels

Table 15. Physicians by specialty, 1997

Specialty	Number	%
Internists	1 586	13.5
Paediatricians	2 087	17.7
Obstetricians-Gynaecologists	1 034	8.8
Surgeons	638	5.5
Stomatologists	687	5.9
Anaesthetists	575	4.9
ENT	265	2.3
Ophthalmologist	160	1.4
TB/pulmonary	188	1.6
Psychiatrists	116	1.0
Neurologists	203	1.7
Infectious diseases	320	2.7
Ambulance physicians	134	1.1
Other	3 778	32.1
Total	**11 771**	**100.0**

Source: Ministry of Health.

of training: in four medical colleges (in four year courses) and in nine medical schools (in lower level two year courses). The middle level nursing personnel, in term of numbers per 1000 population in 1998, comprised 4.1 nurses, 0.8 feldshers and 0.8 midwives.

The intention is to upgrade and expand nurse training. Nurses previously were trained in medical vocational schools, which they entered after eight years schooling; that is, at about age 14 years. The first level of core training for nurses is two years, with entry after ten years of schooling, with 2355 nurse trainees enrolled in 1999. This is equivalent to an auxiliary nurse in western European countries. The alternative and higher level course is four years in a medical college, where 650 trainees were enrolled in 1999. The first batch of graduates from the four-year medical colleges will graduate in 2000.

Feldshers (doctor's assistants) undertake longer training which was upgraded in 1996 to a four-year course in medical college. These doctor's assistants work mainly in rural areas, and may become an important group in the health care system given the scarcity of physicians in rural areas.

The Tajik Medical Institute of Postgraduate Training began a course in 1999 to train practising nurses in family health care. All further education is run by this institute. Health professionals in Soviet times were required to attend a refresher course every five years, but this requirement has not been maintained. Tajikistan health care professionals over the last few years have begun to attend international training courses, and national workshops with visiting experts have been held in Tajikistan on a range of topics (*22*).

Table 16. Medical education, 1996 onwards

Level		Faculty (department)	
	Physicians	Stomatologists (dentists)	Pharmacists
I	5-year bachelor degree, no entitlement to practice	4 years	4 years
II	Residency (specialization) Residency 2 years	2–4 years depending on specialty	Residency 2 years
III	1–3 years specialization	2 years specialization	2 years specialization

Pharmaceuticals and health care technology assessment

The pharmaceutical system was centralized in Soviet times under Tajik Farmatsiya. Drugs and medical supplies were purchased once a year mainly from the former Soviet Union, and then stored and distributed around the country. That system has now broken down and the drug supply is inadequate and irregular. The government drug supply now relies on aid from external donors, accounting for over 40% of pharmaceuticals in some areas (*18*).

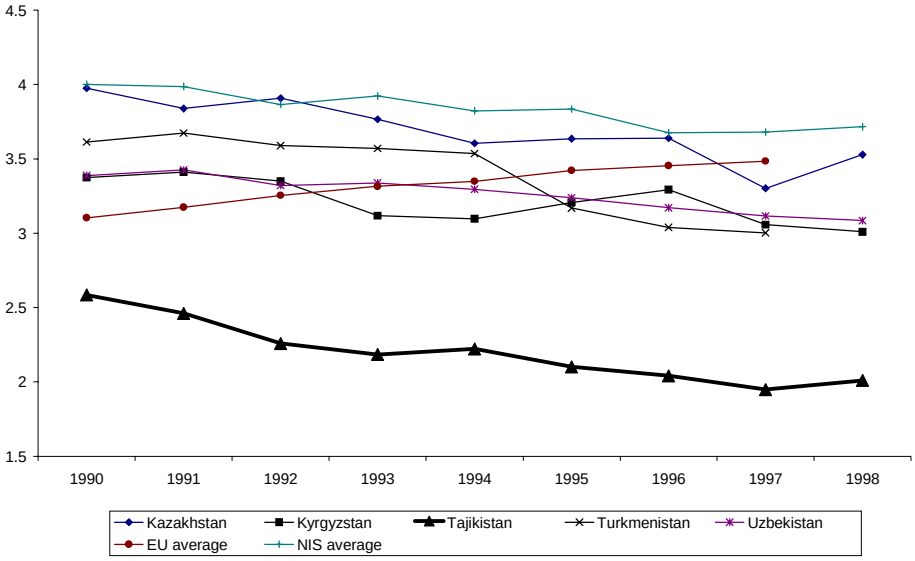
No drugs yet are produced in the country except very limited products in hospital pharmacies. A joint venture with an Indian company, Tajik-Adjanta, was recently established and a plant is under construction, but no feasibility study has been undertaken to assess its viability. The country traditionally has a large range of herbal medicines. The Ministry of Health established a centre in 1997 to research the production of herbal-based pharmaceuticals.

The policy is to privatize the retail pharmaceutical sector. Tajik Farmatsiya was almost bankrupt in the mid-1990s, being rescued by a state loan. The Ministry of Health has put forward a proposal to reorganize the state company as a joint-stock company, and to privatize the retail pharmacy network but no decision has yet been made. In the last five years, hundreds of small private pharmacies and booths have begun to trade, although only 100 are officially registered (*21*). The licence fee at US $710 in 1998 is far beyond the capacity of small businesses.

The Ministry of Health undertook consultations on a national drug policy, which was adopted in 1998. A Drugs Act is being drafted. The drug policy will only succeed, however, if there is an adequate supply of essential drugs in the country. At present, government drug expenditure (US $0.49 per capita in 1998) does not allow even a basic supply.

Public institutions get an annual drug budget from the Government but the amount finally received is usually much less than the amount allocated. Health

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



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

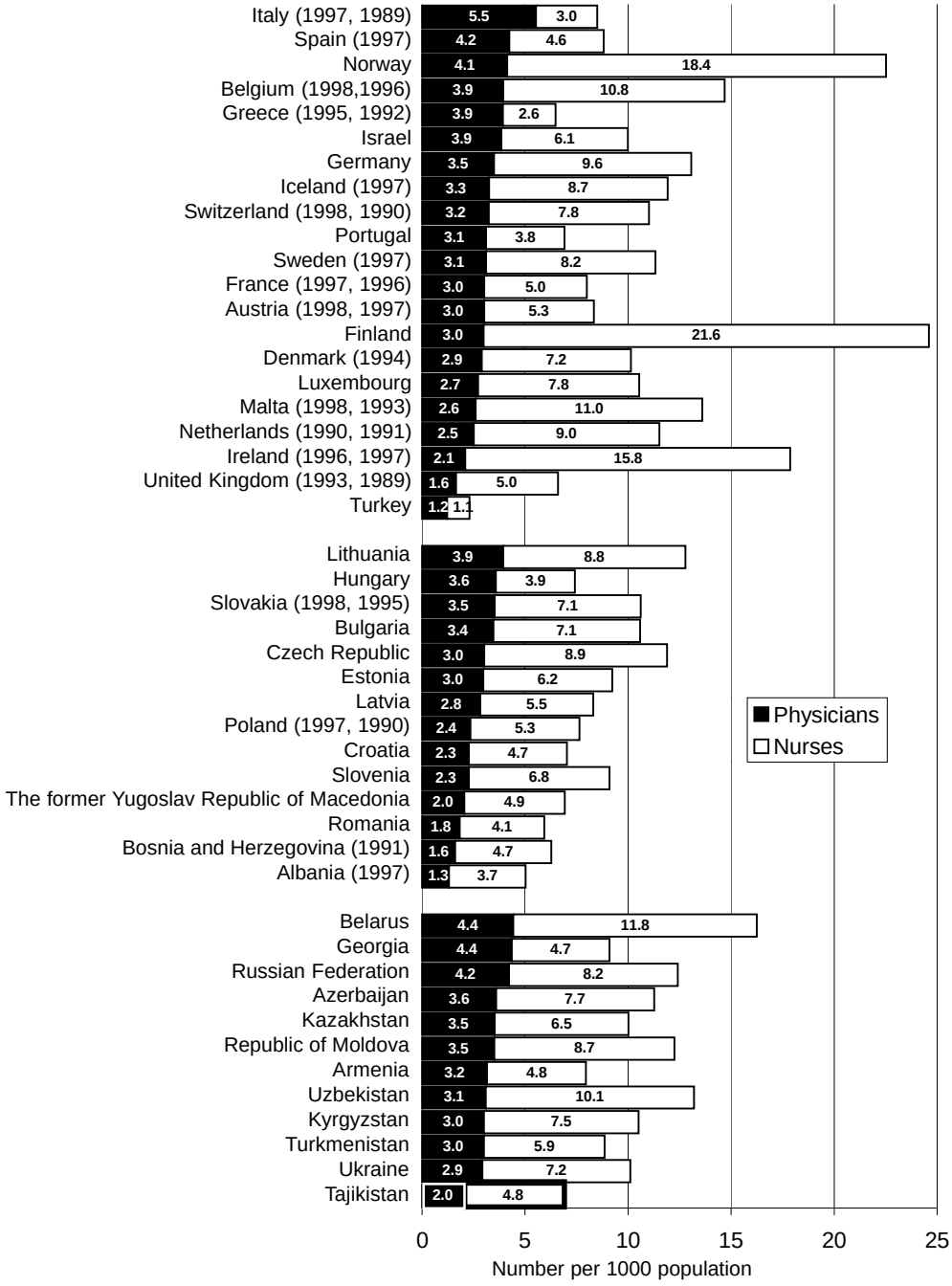
facilities purchase from wholesalers, but the funds are insufficient to purchase an adequate supply of drugs and so many hospital patients have to purchase their own, as do ambulatory care patients.

Before independence, drug quality assurance, registration and licensing were managed in Moscow. Tajikistan has begun to develop its own drug regulatory system. Criteria for drug registration have been set but are not strictly implemented. The regulation that only registered drugs can be imported and sold is not followed and many unregistered drugs are available on the market, and are sold well beyond their 'use by' date.

The State Centre for Registration and Quality Control of Pharmaceuticals and Medical Equipment was established in 1996 to certify, register and licence all national and imported pharmaceutical and medical products. By 1998, the centre had registered 333 pharmaceutical products. The centre runs a drugs quality control laboratory. It also has a pharmaceutical information department that disseminates information on generic drugs and recommended prescribing practices to health care facilities.

A list of essential drugs was announced in 1994 by ministerial degree and is revised regularly. The 1998 list contains 278 generic items adapted from the WHO model list of essential drugs. This list is not widely used by physicians

Fig. 10. Number of physicians and nurses per 1000 population in the WHO European Region, 1998 or (latest available year)



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

for prescribing and treatment, however, and over-prescribing remains a problem, especially of expensive brand name rather than cheaper generic drugs, as does the excessive use of antibiotics and injections. A revision of medication treatment regimes is long overdue, and efforts are being made with international assistance to change prescribing practices, particularly for diseases such as malaria, diarrhoea and respiratory infections.

Medical equipment is assessed and purchased by the Tajik Medtechnica. In practice, however, there is little money to buy or spare parts let alone new technology, or to maintain and repair equipment.

Financial resource allocation

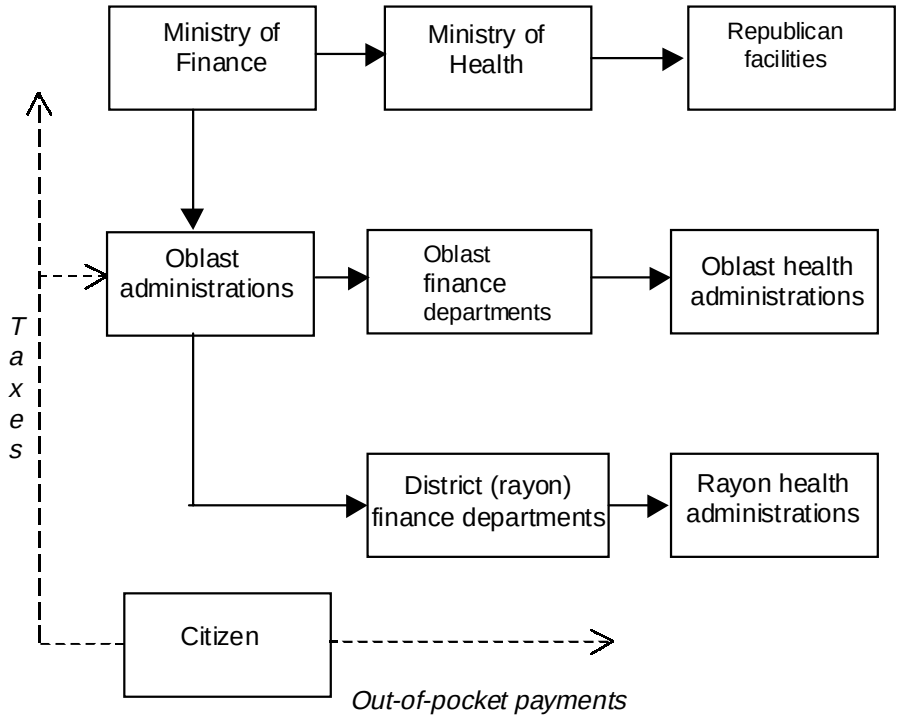
Third-party budget setting and resource allocation

The budgetary process and relations between levels of government are set out in the 1994 Law on Local Government and the 1997 Law on Budget Organization and Budget Process. Health care providers are funded mainly through oblast/rayon budgets, according to norms on the number of beds and other factors. Budgets are set for each of the administrative units: republic, oblasts, cities, rayons and jamoats; the Social Protection Fund and the Road Fund run their own budgets. Local authorities have their own limited sources of revenue also, but receive substantial earmarked transfer payments from the republican budget. The national parliament (Majlisi Oli) must approve the annual budget for the country, while the representative councils (Majlisi) at the regional level consider their own budget plans.

The Ministry of Finance determines and allocates the health budget not the Ministry of Health. The Ministry of Health is allocated the republican budget, and the Hukumats of oblasts, cities, rayons are allocated the local budgets. The health care budget in 1998 was divided between the republic with 18.7% and the local authorities with 81.3%. The Ministry of Health budget is for republican health care facilities, national health programmes and capital investment; the local budget is for health care facilities of oblasts, cities and rayons and health development activities at the local level. The financial flow is shown in Fig. 11.

Each facility compiles its own annual budget request, based on norms such as staff and beds, in large part based upon their historical budgets divided into 18 line items. These budget plans are passed to the financial departments at each administrative level. The regional (oblast) plans also are forwarded to the Ministry of Health, which collates the overall health budget for the country. This is then sent to the Ministry of Finance. The Ministry of Finance makes the budget decisions, reducing each budget request in line with the available revenue. At each stage of the budgetary process, therefore, the actual funds get

Fig. 11. Financing flow chart



smaller: the proposed budget, the estimated budget, the allocated budget, and the actual expended budget. The end result is that a health care facility receives far less than its running costs and habitually runs up large debts.

The finance departments in each administration (republic, oblast and rayon), not the facility manager, pay salaries and other items such as utility bills. A virtual accounting system operates in many countries of the former Soviet Union. Health administrations run into debt with suppliers who, in turn, cannot pay their taxes, so that a utility company will record that they were paid for energy supplied to facilities on condition that the local administration records that the company paid its taxes.

The managers of health facilities have little financial discretion since budgets are tied to line items, and since managers cannot disburse the funds. Managers must send a form, for example, requesting medical supplies, to the finance department of the local administration, and if there is enough funds in the budget line the request is approved and funds sent directly to the supplier.

The Ministry of Finance budgetary allocation to oblasts are based upon historical budgets but also upon other political considerations. The oblasts vary in what proportion of their budget comes from central revenue, with 40% the lowest to 90% in the case of Gorno-Badakshan. Oblast administrations can choose whether to top up the health budget from their own funds. The end result is that per capita health expenditure varies across oblasts and is not related to social or health need indicators, the poorest oblasts spending the least per capita (Table 17).

Table 17. Per capita health expenditure by oblast, 1997

Oblast	Tajik roubles per capita
Dushanbe City	1 481
Leninabad oblast	1 615
Gorno-Badakshan autonomous oblast	1 292
Khatlon oblast	853
RRS	1 481
Total	**1 098**

Source: Kaspar 1998.

In 1998 state health funding per capita across regions, ranged from US $1.30 in Khatlon oblast to US $2.49 in Leningrad and US $3.48 in Dushanbe (*15*). Tajikistan, in common with the other central Asian republics is considering how to develop more equitable resource allocation mechanisms, such as population needs-based subsidies.

Capital investments are centrally decided and approved by the parliament as part of the annual budget. Capital investment decisions depend upon political and policy priorities such as the distribution of funds across oblasts and the priority attached to particular projects.

The health care budget is distributed to local authorities mainly on a historical basis (based on the previous year's budget) using the norms inherited from Soviet system, also taking into account performance factors such as the number outpatient visits and number of occupied bed-days. The long-term intention is allocate central funds to the regions using a needs-based population formula. A weighted capitation formula is being developed that includes demographic, health status and socioeconomic factors. Currently, the health care organizations and the Ministry of Health cannot keep any savings. The about US $2 million saved by the reduction in hospital beds was not kept in the health sector (*21*). There are few incentives, therefore, for health services managers to pursue more cost-effective strategies or to increase staff productivity.

Payment of hospitals

Hospital annual budgets are based on normative guidelines and the previous year's budget, as agreed with the Ministry of Finance, the total being divided into detailed line items. The funds that health facilities receive generally are far less than the planned budget.

Hospitals now charge patients for approved services. The facilities produce a price list that must be approved by the Ministry of Health. Some republican institutions now rely upon user charges for a substantial part of their operating funds.

Budgets are still mainly based on bed numbers. Hospitals therefore have a financial incentive to maintain (or claim) large numbers of beds, to admit the maximum numbers of patients, and to keep patients in hospital for as long as possible. There is no incentive, therefore, for efficient bed utilization.

To improve cost-effectiveness, the intention is to move from input to output based payment mechanisms. The first step will be to replace the itemized budget lines with global budgets. These more flexible global budgets would be based upon a baseline service costing, but this will be difficult in the absence of accurate cost information. There is little current incentive for health managers and providers to deliver cost effective services unless they can keep any ensuing savings. In the long term, some form of diagnosis related group (case-based) payment systems may be developed.

Payment of physicians

Physicians and other health workers are paid a basic salary supplemented by a bonus based upon factors such as qualifications, speciality, position, years of experience and type of work. Salaries are based upon an annual pay (tariff) scale agreed between the union federation and the government. The bonus is paid on top of the basic salary, which is higher for specialities such as surgery and obstetrics-gynaecology. Self-financing medical institutions can afford to pay higher salaries to staff.

The salaries of health workers are very low, ranging between US $4.00 and US $5.00 per month in 1998. This is lower than other sectors since under the Soviet model the health sector was not regarded as a productive sector. In 1998 the average salary for health workers was around US $4.80 compared to the workforce average of US $11 (Table 18). Enterprise workers (such as the state mining, electricity and manufacturing companies) were paid over US $33. In

1997, the health sector monthly salary (average and highest) was as follows: nurse/feldsher US $1.80–US $2.30, physician US $1.80–US $2.80, surgeon US $2.60–US $3.50. Salaries in the health sector, therefore, are much lower than in the education sector. Salary delays of several months are common.

Table 18. State salaries by sector, 1998

Sectors	Salaries US dollars per month
Health	4.80
Education	6.90
Enterprises	33.30
Agriculture	5.80
Administration	18.90
Total	**11.00**

Source: State Statistical Agency 1999.

The average monthly wage for the workforce was US $9 in 1996, US $7 in 1997, and US $11 in 1998 but is expected to fall in real terms in 1999 (*9*). There has been a seven-fold increase in the total workforce average salary (in Tajik Roubles) from TR 731 in 1995 to TR 7094 in the first quarter of 1998, but because of escalating inflation, real purchasing power has not risen (*17*).

Given the budgetary crisis of many health administrations, salaries are not paid on time and in many cases are delayed for months. Health workers manage these low salaries and frequent delays in different ways. Many physicians and nurses rely on informal payments and in-kind gifts from patients, and on multiple jobs. People in rural areas grow some of their own food, and many people engage in informal trading of goods and skills. Low salaries and poor working conditions have led to many workers leaving the health sector. For example, in the Kulyab region 1385 employees (21% of total health employees) have changed jobs or left the region over the past five years.

Some health administrations have begun to employ physicians on contracts rather than permanent salaries. This has allowed more flexibility and higher salaries for some physicians, especially in Republican hospitals. This is a recent innovation and the effects are not yet apparent.

A new payment mechanism for primary care is to be introduced based on per capita payment for the patient population. Incentives to attract workers to rural areas also are being planned.

Health care reforms

The health care system of Tajikistan in the 1980s, as with other former Soviet Republics, was unable to adapt to changing population health needs and a shrinking health care budget. Resource allocation was based upon inflexible quantitative norms, while managers and health professionals had no incentives to deliver more cost-effective services. The increasingly severe fiscal constraints in the 1990s, and concerns about deteriorating health services and increasing inequities in access to health care, led the Tajikistan government to accept that the health sector required substantial reforms.

Aims and objectives

President Rakhmonov proclaimed the need for reform including reforms to the health sector in 1994. A staged programme of economic reform towards a market economy was adopted in 1995. A policy for "Health care reform in Republic of Tajikistan for 2001" was adopted in 1996, with the first stages planned for 1995–2000. This policy statement outlined the following main directions:

- Reduce hospital beds, strengthen primary health care, train family physicians
- Update health care technology and procedures
- Adopt national programmes on immunization, tuberculosis, iodine deficiency, and infectious disease prevention
- Introduce new health financing methods based on needs based and output based funding
- Update and upgrade medical education
- Develop a national policy on pharmaceutical production and distribution
- Privatize limited services such as pharmacies and medical equipment.

Reform implementation

The main reforms that have been implemented are as follows. The hospital system has been down-sized with more than 30% of beds closed, but so far few hospitals have closed. Primary care is the process of being strengthened with better-trained staff. Some small health care facilities are merging with others nearby. So far, however, there has been no shift in state funding to primary care. Primary care receives 20% at most, if polyclinic treatment is included, but the government aims to increase this to over 50% (*11*).

The Tajik State Medical Institute has changed its curriculum to train general practitioners. The number of medical students entering medical schools has been cut. Training for "middle level" personnel also is being reorganized. Some admission preference is being given to people from rural areas. Further training for practising physicians and nurses has been initiated.

Immunization programmes have been improved with the help of international organizations. The SES service is being rationalized by merging some district offices with regional sanitary epidemiological stations, and rural AIDS centres have been closed (reflecting the virtual absence of AIDS in rural areas).

Some institutions have increased their revenue through user charges such as the National Diagnostic Centre, stomatological centre, blood transfusion centre and their corresponding structures in oblasts and cities.

A pharmaceuticals policy and list of essential drugs have been developed and a regulatory institution established.

Collaboration with international and bilateral agencies has been extended including the WHO Regional Office for Europe, UNICEF, UNFPA, Aga Khan Foundation, Médecins Sans Frontières and MERLIN. Two large World Bank funded health project have been initiated and another project is being developed with the Asian Development Bank.

Health for all policy

A Ministry of Health strategy document on the World Health Organization health for all programme was discussed at an expanded meeting of the Collegium of the Ministry of Health of Tajikistan in October 1995. Health for all by 2005, adopted as a national programme, focuses on disease prevention, health protection and intersectoral cooperation. The 29 identified tasks provided a policy framework for action. This strategy has been revised in accordance with HEALTH21, the health for all policy framework for the WHO European Region.

Legislation

Tajikistan has been in the process of setting up a whole new legislative basis for its health care system and health programmes. The main pieces of legislation are listed in Appendix 1.

The law on donation of blood and its components 1993 requires voluntary blood donations and sets out regulations for the supply and distribution of blood and its components.

The law on AIDS prevention 1993 sets out a state policy to fight against HIV and AIDS. It designates certain groups who will be subject to AIDS testing, and sets out social protection for HIV-infected patients and members of their families, and also protection for medical personnel and other professions subject to risk of infection.

The law on community health protection 1997 sets out the economic and social basis for population health, and defines the roles of administrations, enterprises, officials and society. It envisages a pluralistic system with multiple forms of ownership. Professional obligations of medical staff are defined. The rights and obligations of citizens in the sphere of health care, sources of financing, community medical services, supply of drugs and appliances, and international cooperation are set out.

The proposed *law on drugs*, so far in draft form, sets out the responsibility of the state to regulate drugs, guarantees an adequate supply of drugs, sets levels of state subsidy as well as entitlements by certain population groups for free or subsidised supply. The Ministry of Health is to oversee drug trials, undertake research, and test and certify drugs. Private pharmacies are to be regulated.

The proposed *law on psychiatric care* establishes the right of the public to protection from dangerous psychotic patients, the right of protection of health care personnel, and an appeal system for those compulsorily detained.

The proposed *law on narcotics and psychotropic drugs* requires the state to regulate and control the circulation of narcotics and psychotropic drugs and to engage in international collaboration.

Health care reform programme

The (Somoni) health care reform project was initiated in 1999 to develop a national plan for health sector reform. The 1998 “national programme of health care reform” is being revised accompanied by extensive consultation. This

comprehensive plan intends to consider all aspects of the health care system, particularly in light of the WHO Health 21 strategy, and is to be developed in a participatory way. The staff undertaking such activities, however, need training. Capacity building among policy makers, planners and managers, as well as the wider health care workforce, therefore is to be part of the reform process. The main features of the national plan so far discussed, to be produced early in 2000 include the following:

- prioritization
- strengthening primary health care
- distributing resources according to need
- ensuring necessary information for management
- rationalization of services
- improving quality of care
- developing human resources
- strengthening management capacity
- creating responsibility for health among population

The proposed health care system

The reform proposals so far have included the following:

Primary health services

Primary health care is to be developed as a priority area, retaining the existing infrastructure, population areas and functions, but changing the staff mix and functions, and adopting new titles for the services. Pilot projects also are to be funded by the World Bank

The renamed *health house* (bungohi salamati) formerly "medical house" and formerly FAP, will remain the first contact point for the rural population. It will serve a population of about 3000 (formerly 1400) and be staffed by a feldsher (a 'doctor's assistant' with upgraded training) and one midwife or nurse. The health house will be administered by a rural health centre. It will undertake the same functions: prevention, basic curative care, emergency care, health education, mother and child health, and public health services.

Rural and urban health centres

The *rural health centre* (markazi salamati dehoti*)* (formerly SVA) will continue to provide primary health care in rural areas. A centre will serve a population of 6000–9000 (maybe 15000 in densely settled areas). These centres will continue to answer to the rayon health administrations. The main change will

be the gradual retraining of specialists as family physicians. The intention is to have one physician per 3000 population. Other staff, as formerly, include midwives, nurses, a laboratory technician, and a 'middle level' public health staff (probably a sanepid feldsher).

The *district health centre* (markazi salamati nohiya) will continue as a polyclinic located at the central rayon hospital. The staff will include some specialists as well as family physicians, nurses, midwives.

The *urban health centre* (markazi salamati shahri) will continue as a city polyclinic but for health promotion as well as curative care, with a catchment population of about 20000. Patients will register with a family physician (one per 1500–2000 population), and other staff will include nurses, stomatologists, dentists and some specialists. These centres will be equipped with laboratory and X-ray facilities. The centres in future may be linked to offices staffed by family physicians and nurses who will use the centre diagnostic facilities.

Hospitals

The hospital system is to be reorganized. Presidential decrees call for reducing hospitals beds by 50% from the 1992 level (*11*). Since this will not necessarily produce salary and utility savings, hospital closures also are proposed. The *village hospitals* (SUBs) are to close their beds and become rural health centres (markazi salamati dehoti) except in remote areas. *Central rayon hospitals* will be maintained. *Oblast hospitals* will be maintained. Some *specialist hospitals* will be merged with oblast hospitals, such as oncology dispensaries and STD dispensaries. TB dispensaries will be kept until the DOTS programme is in place. Hospitals are to be given more budget and management autonomy and treatment protocols are to be updated.

Health care financing

State taxes will continue to be the main source of public revenue. The intention is to regularize the widespread patient out-of-pocket payments and set official patient co-payments for goods and services. The proposed health insurance scheme has been indefinitely postponed since the present economic conditions do not favour the introduction of health insurance. When conditions improve, the first step would be to test the scheme in one region.

Central revenue is to be distributed to oblasts according to a population needs-based formula. The proposal is that the health budget be pooled at the oblast level, rather than being directed by the Republican government separately to oblasts and rayons. The funds for primary health care facilities at rayon level, however, should be earmarked.

The proposal is to pay primary health care facilities a population capitation. Hospitals are to receive a more flexible global budget and keep part of the savings. Once information on service unit costs are available, and trained managers are in place, case based reimbursement (diagnosis related groups) can be considered.

Better coordination between components of the health care sector must be developed. A human resources strategy and a health information system are two other important priorities.

Conclusions

Health care reform has not been high on the policy agenda in Tajikistan. The country has experienced severe political, economic and social problems as well as a disastrous civil war following independence in 1991. Real GDP had fallen to 40% of its 1990 level by 1996 with few signs of recovery until 1997. Health expenditure by the state since 1995 has dropped below 2% of GDP. The result is that the population is impoverished, especially since Tajikistan was one of the least developed of the former Soviet Republics. Further, the health status of the population has been deteriorating.

Tajikistan faces similar challenges to health sector reform as other former Soviet countries exacerbated, however, by war and a collapsing economy. Tajikistan has retained a state funded and provided health care system. Health care remains hospital-centred and primary care is under-resourced and of poor quality. Health care delivery is fragmented between tiers of administration. There are large disparities between regions in their per capita health budgets. Management of the system is inefficient with few incentives for managers and staff to provide more cost-effective services. There are severe shortages of drugs and medical supplies. Health personnel are paid very low salaries that do not encourage high-quality professional care, their training is outdated and clinical treatment protocols need revision. The population increasingly pays for health services, either officially or unofficially, which is causing serious inequities in access to health care.

Health care reform depends partly upon a sustained recovery of the country's economy. In the meantime, there is a wide budget gap between what is provided and what can be afforded, so that priorities must be decided urgently. Additional sources of health funding must be explored, although health insurance is likely to remain a long-term objective pending further economic recovery. Health reforms therefore depend upon transferring resources, such as funds and staff, within the country's health care system, and in regularising out-of-pocket consumer payments.

The country has been forced to direct its recent health efforts to the death and destruction accompanying war and to the resurgence of infectious diseases. The Ministry of Health can now turn more attention to health sector reform. It has made an important start in reducing the excess number of hospital beds, and in shifting the emphasis from training specialists to training family physicians. New ways of paying health facilities and health professionals are being explored in order to promote more efficient and effective practice.

The Somoni project has been set up within the Ministry of Health, its task being to develop a national health care policy. This is intended to be a consultative process that will take implementation into account.

Tajikistan has received substantial international assistance focused on meeting emergency needs. Future funds need to be directed at a sustainable health care system, built upon new policies and structural and behavioural change.

The reform process has been gradual, the advantage being that the experience of other countries can be assessed. Tajikistan wishes to maintain the positive features of its health care system, such as an extensive network of health care, combined with new funding and management practices intended to encourage a better use of resources.

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Appendix 1

1991	Law on local administration and local economy
1992	Law on trade unions
1993	Donation of blood and its components
1993	AIDS prevention
1994	State sanitary surveillance
1994	Law on local government
1997	Law on health protection of the population
1997	Law on budget organization and budget process
1997	“Health for all to 2005” national strategy
1998	Law on public associations
1998	National programme of health care reform