Health Systems in Transition

European Observatory on Health Systems and Policies

HiT profile in brief

Uzbekistan

Introduction

Geographical, political and economic context

Uzbekistan is a landlocked country located in central Asia. It was part of the Soviet Union until it became independent in 1991. Uzbekistan is a presidential republic in which the President is both the head of state and the head of government. Islom Karimov has been President since 1990.

After the break-up of the Soviet Union, Uzbekistan experienced a period of severe recession and the economy is only slowly recovering. In 2006, the country recorded a gross domestic product (GDP) per capita of $ 2247 (measured in current international $ in purchasing power parity, PPP), which compared to $ 1511 in 1991. Using a poverty headcount of PPP US $ 2 per day, 2% of the population were poor in 2003, while the Gini index in the same year stood at 36.8 *(1)*, indicating a moderate degree of income inequality.

Health status

In 2005, Uzbekistan had a population of 26.6 million, 33.2% of which was below 15 years of age *(1)*. The majority of the population (63% in 2006) lives in rural areas. As in other countries in central Asia, officially recorded infant mortality does not capture actual rates and official statistics consequently overestimate life expectancy. Survey-based estimates put life expectancy at birth in 2005 at 70.7 years for females and 64.2 years for males, each about two years lower than estimated life expectancies in 1990 *(1)*. Estimated infant mortality stood at 57 per 1000 live births in 2005 *(1)*. Officially recorded maternal mortality in the same year stood at 29.2 per 100 000 live births *(2)*. The leading causes of death are diseases of the circulatory system, followed by cancer and diseases of the respiratory system *(2)*. Similar to other countries of the region, there has been a resurgence of tuberculosis and sexually transmitted diseases in the last 15 years, as well as more recently a sharp increase of people living with Human Immunodeficiency Virus/Acquired Immunodeficiency Syndrome (HIV/AIDS).

Organizational structure

Historical origins of the system

During the Soviet period, the health system followed the Semashko model, with centralized planning and administration and a focus on high numbers of doctors and hospital beds rather than on outcomes and quality of care. In the years following 1991, this communist legacy remained one of the major factors shaping health policy and practice in Uzbekistan.

Organizational overview

The highest hierarchical layer is formed by the Ministry of Health (MoH) and other national institutions. The MoH is the major player in organizing, planning and managing the Uzbek health system. It develops health care legislation and regulation (based on the decrees of the President), sets standards for the quality and volume of health services, monitors the quality of health care, identifies priorities for medical research, monitors population health, issues licences, certifies health care providers and coordinates international aid for the health sector. It also evaluates the implementation of governmental and ministerial policies. Furthermore, the MoH provides guidance to the MoH of the autonomous Republic of Karakalpakstan and acts as the supervisory authority for *oblast* (regional), city and *rayon* (local) health departments. Health care institutions at the *oblast* and *rayon* level represent the second and third managerial and regulatory layer of the Uzbek health system *(3)*.

Decentralization and centralization

In Uzbekistan, decentralization has been approached gradually. Administrative functions have been delegated to *oblast* health authorities, while decision-making has been retained at the national level. This means that the mid-level managers of the health system (in *oblast* and *rayon* health departments) act as administrators of centrally issued regulations.

Devolution (the granting of powers from the central to local governments) in the system is largely reflected in the delegation of budgetary responsibilities from the

national level to the *oblasts*, while keeping a strictly vertical structure and tight national guidelines and norms, on which decisions at the *oblast* level are based *(3)*.

Health care financing

Health expenditure

The World Health Organization (WHO) estimated that total health expenditure in 2004 amounted to 5.1% of GDP, equivalent to PPP US $ 160 per capita (see Figure 1) *(2)*. In the Soviet period, almost all health expenditure came from public sources. This changed dramatically in the years of transition, with consequences for the affordability of health services for poorer parts of the population. In 2004, government expenditure was estimated to constitute 47% of total health expenditure, with private expenditure accounting for 53% *(2)*.

According to national budget data, 66% of public expenditure in 2005 was spent on hospitals, 13% on polyclinics and ambulatories, and 8% on rural primary care units. The vast majority of public expenditure (86% in 2005) was generated at the local level, from *oblast*, *rayon* and urban budgets, although there are large variations in per capita expenditure across *oblasts (3)*.

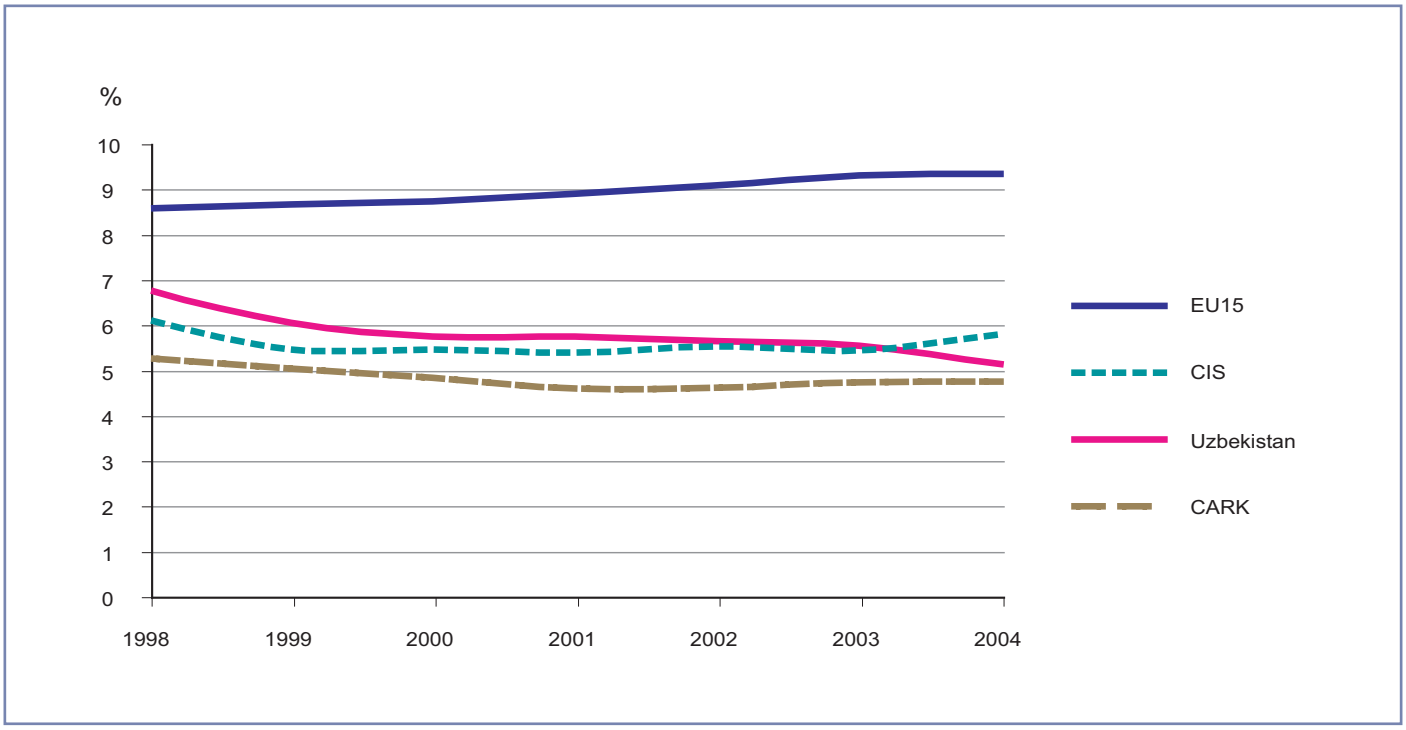
A state-guaranteed basic benefits package was introduced in 1996 with the aim of making more efficient use of limited resources. The basic benefits package includes primary care, emergency care, care for "socially significant and hazardous" conditions, and specialized care for certain groups of the population.

Revenue

The main financing sources for the Uzbek health system are out-of-pocket payments (both formal and informal), state funding (mainly from the local level), international agencies, and, to a very small degree, voluntary health insurance.

Formal out-of-pocket payments were introduced in 1998. Furthermore, most outpatient pharmaceutical expenses are covered by individual direct payments. The magnitude of informal payments is unknown, but in the Living Standards Assessment produced by the World Bank in 2003 more than two thirds of health care users

Figure 1: Trends in total expenditure on health as a percentage of GDP in Uzbekistan, 1998–2004 (WHO estimates)



Notes:
CARK: Central Asian Republics and Kazakhstan;
CIS: Commonwealth of Independent States;
EU15: EU Member States before 1 May 2004.

reported to have made informal payments *(4)*.

State funding is mostly derived from different types of taxes. External sources of funds are being extensively used to support ongoing reforms and to strengthen the existing health infrastructure. While voluntary health insurance only seems to account for a tiny share of health expenditure, health insurance providers have become more visible in recent years *(3)*.

Pooling and resource allocation

The national government is responsible for the financing of specialized medical centres, research institutes, emergency care centres and national level hospitals. Local governments (at *oblast*, *rayon* or urban level) are responsible for expenditure related to all other hospitals, primary care units, sanitary-epidemiological units and ambulance services in the respective areas under their administrative jurisdiction *(3)*. However, pooling of primary health care funds at the *oblast* level and their reallocation among primary health care providers on the basis of a unified per capita rate set for the *oblast* is followed under the ongoing reforms of the primary health care sector.

Payments

Traditionally, rural primary care units were paid on the basis of fixed budget lines and past expenditures. A new capitation financing mechanism for the rural primary health care sector has now been introduced nationwide, according to which per capita rates are set by *oblast* governments for the population covered by rural primary care units, with adjustments for age and gender. Analogous pilots on capitation financing are currently being implemented for urban primary health care providers and polyclinics. Otherwise, in general, providers of primary care in non-pilot urban areas, along with specialized outpatient and inpatient care, and sanitary-epidemiological services are paid on the basis of traditional prospective budgets based on past expenditure and inputs *(3)*.

Public sector employees in the health sector were traditionally paid according to strict guidelines from the Ministry of Finance, with no incentives for the productivity, quality and efficiency of care. In recent years, the government has increased the flexibility of health care providers in the reimbursement of health professionals, with a greater use of financial incentives. Despite recent increases in the salary of health care workers, however, salary levels remain below the national average across sectors and are particularly poor for health professionals working in primary care (5).

Planning and regulation

In the Soviet period, planning and regulation were under the central control of the Soviet State. Following independence, the Uzbek MoH assumed the leading role in health planning and regulation. The stewardship role of the government is mainly exercised at the national level. Regional health administrations at the *oblast*, *rayon* or urban level are responsible for the management of health services in their territorial units and allocate resources to health care facilities according to guidelines determined by the MoH *(3)*.

The governance and management structure of public health care providers has not changed much since independence. Hospitals are managed by the head physician, who is exclusively responsible for all hospital activities. Reforms are under way to strengthen management skills and to increase the flexibility of health care providers.

Uzbekistan has inherited a comprehensive data-collection system from the Soviet period. However, this system is fragmented and the data-collection system is rather disconnected from daily needs. Furthermore, official statistics on many indicators, including infant and maternal mortality, are not reliable, partly due to the fact that the more restrictive Soviet definition of a live birth is still in use *(3)*.

Physical and human resources

Physical resources

At the time of independence, Uzbekistan had inherited an excessive hospital network from the Soviet period. Since then, the ratio of hospital beds has been reduced more than twofold: from 10.9 beds per 1000 population in 1991 to 5.2 per 1000 in 2005, which was close to the central Asian average (see Table 1) *(2)*.

A new focus on primary health care has resulted in a certain redirection of funds from inpatient to primary care. The structure of public primary care is undergoing comprehensive reforms, in which rural primary care units and outpatient clinics of central *rayon* hospitals are becoming the main providers of primary care in rural areas *(5)*.

Human resources

The ratio of physicians (physical persons) to population has shown a downward trend since Uzbekistan's

Table 1: Selected health care resources (physicians, nurses, acute hospital beds) per 100 000 population, 2005 or latest available year (in parentheses)

	Physicians (physical persons)	Nurses (physical persons)	Acute hospital beds
Uzbekistan	270	1 024	431
CARK average	283	767	525
CIS average	372	788	730
EU15 average	336 (2004)	749 (2004)	393 (2004)

Source: (2).

Notes:
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independence, from 343 in 1991 to 270 in 2005. In contrast, the ratio of nurses (physical persons) has only slightly decreased, from 1104 in 1991 to 1024 in 2005, which was considerably above the central Asian and Commonwealth of Independent States (CIS) averages (Table 1) *(2)* and might indicate an underused workforce. As in other countries of central Asia, there are significant disparities in the regional distribution of health care workers, with a concentration in urban areas and a shortage in rural areas.

Medical education is entirely provided by the State, although a proportion of students enter and pay for this on a contract basis. At present, there is one medical academy, four medical schools and three regional branches of medical schools. Nursing training is provided by 57 professional colleges. Higher nursing education has only recently been introduced and is offered by the country's medical schools. A training programme for a Master of Public Health was introduced in 2001. Medical education has also undergone reforms and graduates are now qualified as general practitioners rather than being broad specialists in internal medicine, surgery or obstetrics/gynaecology, as under the Soviet model *(3)*.

Provision of services

With the exception of dental and pharmaceutical care, which has been largely privatized, most health services continue to be provided by the public sector.

Public health

In the Soviet period, public health services were provided by the Sanitary-Epidemiological Service. This service continues to be responsible for environmental health services, food safety and controlling communicable diseases (including supervision of immunization programmes implemented by primary care). It is organized vertically, with services at the national, *oblast* and *rayon* level, and also comprises several research institutes and centres. A separate vertical structure was created in 1998 to deal with HIV/AIDS prevention and treatment. Health promotion and education is carried out by a number of governmental and nongovernmental agencies, including public providers of primary care. In 2001, the Institute of Health was created to strengthen health promotion and education. It has at present 14 *oblast* branches, 159 *rayon* and 15 urban health centres *(3)*.

Primary health care

The delivery of primary health care differs in rural and urban areas. In rural areas primary care was traditionally delivered by *feldsher-accoucheur* points (FAPs), small rural ambulatories and outpatient clinics of community clinics or central *rayon* hospitals (CRBs). This structure is currently being replaced within the ongoing health reform programme by a two-tiered system, consisting of rural primary care units and outpatient clinics of central *rayon* hospitals. In urban areas, primary care and selected secondary care services are provided by

polyclinics. These are currently being transformed into family polyclinics, providing primary care for all groups of the population (instead of separately for adults, children and women, as was previously the case). The primary care reform has been piloted in a number of *oblasts* and is currently being rolled out nationwide *(5)*.

Hospital care

In rural areas, secondary care is provided by rural hospitals, *rayon* hospitals and CRBs. Many rural hospitals have been closed in recent years. In urban areas, secondary care is provided by *oblast* and city hospitals. Tertiary care is provided in large hospitals and research institutes at the national level. At *oblast* level, many disease categories and population groups are treated in separate hospitals, including children's hospitals, tuberculosis hospitals, hospitals treating sexually transmitted infections, neurological and psychiatric hospitals, and emergency hospitals *(3)*. A new presidential decree adopted in November 2007 envisaged a reorganization of the hospital sector by integrating vertical services and decreasing the number of hospital beds.

Emergency care

Since independence, emergency care services have undergone far-reaching reforms, in particular with regard to hospital-based emergency care. Throughout the country, a vertical network of emergency departments has been organized. In 2004, the emergency care framework consisted of 1 Centre of Emergency Care in the capital, Tashkent, 12 branches and 204 ambulance stations *(3)*. It is planned that primary care will assume a more pivotal role in emergency care, especially for patients with heart attacks and strokes.

Pharmaceutical care

After independence, the production and distribution of pharmaceuticals were almost entirely privatized, and the government mainly retained regulatory functions. Uzbekistan adopted a national essential drug formulary in 1998. The Essential Drugs List is based on the WHO model and contains about 240 products. Price regulation is exercised for 20 basic drugs. However, this list of drugs has not been changed since 1994 *(3)*.

Mental health care

Although Uzbekistan has yet to adopt a comprehensive mental health strategy, a number of initiatives are under way to facilitate a shift from inpatient to out-patient mental health care. Between 1990 and 2005, psychiatric bed capacity has been reduced by about half, from 60 to 31 per 100 000 population, and is now one of the lowest in the CIS *(2)*.

Mother and child health

Mother and child health has been one of the priorities of the national health policy. After Uzbekistan's independence, the country embarked on a restructuring of maternity care. Maternity departments in general hospitals were closed and services shifted to primary care or to newly organized central maternity hospitals or units, which provide all maternity and infant inpatient services for the covered population. Mother and child health services form part of the state-guaranteed package of services and are almost entirely provided by the public sector *(3)*.

Health reforms

Health reforms in Uzbekistan were to a large degree triggered by the challenge of sustaining an excessive network of health facilities with declining governmental health expenditure. Reforms aimed to make more efficient use of resources and promoted the development of the private sector. The first major step towards reforming Uzbekistan's health sector was done with the 1996 Law on Health Protection, which was followed in 1998 with the Presidential Decree on the reform of the health system.

Two major initiatives were undertaken so far with the aim of restructuring primary health care in Uzbekistan. The first initiative, project "Health" (1998–2005; subsequently renamed "Health 1"), was the result of a collaboration between the World Bank and the Uzbek Government and piloted several new mechanisms and frameworks for the delivery, financing and management of rural primary care. The new approaches mainly entailed general practice/family medicine-based clinical practices and a per capita payment system for rural primary health care providers. The second primary care initiative, consisting of project "Health 2" of the World Bank and the "Women and Child Health Development Project" of the Asian Development Bank (2005–2010), aims to roll out the rural primary health care reforms throughout the country and to implement similar new pilots with regard to urban primary health care reforms, as well as to introduce new approaches to maternal and child health, public health, and monitoring and evaluation, in order to strengthen the primary care sector. On-the-ground, technical assistance to implement the World Bank projects is extended mostly by the United States

Agency for International Development-funded Zdrav-Plus project.

Reform initiatives at the secondary care level were so far more limited, but pilot initiatives on a case-based hospital payment system are under way. The restructuring of emergency services has been one of the major health reforms in Uzbekistan and has benefited from the largest single investments in the Uzbek health sector in recent years. The network of emergency facilities is now much better equipped than other health facilities in the public sector. In addition, as the delivery of emergency care is formally free of charge, patients who would not otherwise have done so seem to have increasingly accessed emergency services.

In 2003, a Presidential Decree initiated a pilot on reforming tertiary care research institutions. Four institutions were initially included as pilot institutions in the reform of tertiary care: the Research Centre for Urology, the Research Centre for Surgery, the Research Centre for Cardiology and the Regional Centre for Microsurgery in Ophthalmology. These four institutions were transformed into national specialty centres in their respective fields. The centres have mixed financing, consisting of funds from the state budget, their revenues and other external sources (such as grants and sponsoring funds) *(3)*.

Assessment of the health system

Uzbekistan is currently restructuring its network of primary care facilities, which should improve geographical access to quality primary care services. At the same time, however, inpatient and specialized care have become less accessible, in particular in rural areas. Between 1997 and 2003, overall bed capacity was reduced by 50%, with a reduction of the number of hospitals in rural areas by 50% and in urban areas by 20%. Although financing reforms resulted in the establishment of a state-financed basic benefits package, the costs for services outside the basic benefits package have been shifted to individual users, as third-party pooling systems are not in place in Uzbekistan. This has reduced access to services outside the package, such as tertiary or inpatient care and outpatient pharmaceuticals *(3)*.

There is a general consensus that the quality of care in Uzbekistan leaves much to be desired and several initiatives have been taken to improve clinical practice, the most important being the launch of the Centre for Evidence-Based Medicine, the first such centre in central Asia. The Centre has already produced several clinical guidelines based on international recommendations *(3)*.

Conclusions

Uzbekistan has made substantial progress in the restructuring of different layers of health services, such as primary care, emergency care, and secondary and tertiary care. However, challenges remain. One of them is a better coordination of different levels of care. A more holistic approach to care delivery processes and training programmes, coupled with improved management, especially at the delivery level, would result in improved efficiency and better health outcomes. A reform of the financing and information systems, linking resource flows to performance, would be crucial to realize the full potential of investments made at the various levels of care. It would also necessitate quality improvements, which could be facilitated by development and effective dissemination of appropriate guidelines; a shift in medical education from factual knowledge to self-learning skills; continuing professional development; and health information systems that would allow the continuous monitoring and evaluation of appropriate quality indicators. At present, reforms in the Uzbek health system seem to have reduced access to health services outside the state-financed basic benefits package. The development of pooling schemes and third-party payers might be useful for improving access to health services, and for strengthening the efficiency and equity of the country's health system.

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