Health Care Systems in Transition

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Foreword

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

HiTs seek to provide relevant comparative information to support policy-makers and analysts in the development of health care systems in Europe. The HiT profiles are building blocks that can be used:

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

The HiT profiles are produced by country experts in collaboration with the Observatory's research directors and staff. In order to facilitate comparisons between countries, the profiles are based on a template, which is revised periodically. The template provides the detailed guidelines and specific questions, definitions and examples needed to compile a HiT. This guidance is intended to be flexible to allow authors to take account of their national context.

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. Due to the lack of a uniform data source, quantitative data on health services are based on a number of different sources, including the WHO Regional Office for Europe health for all database, Organisation for Economic Cooperation and Development (OECD) Health Data and data from the World Bank. Data collection methods and definitions sometimes vary, but typically are consistent within each separate series.

The HiT profiles provide a source of descriptive information on health care systems. They can be used to inform policy-makers about experiences in other countries that may be relevant to their own national situation. They can also be used to inform comparative analysis of health care systems. This series is an ongoing initiative: material is updated at regular intervals. Comments and suggestions for the further development and improvement of the HiT profiles are most welcome and can be sent to observatory@who.dk. HiTs, HiT summaries and a glossary of terms used in the HiTs are available on the Observatory's website at 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 Systems and Policies. The European Observatory on Health Systems and Policies is a partnership between the WHO Regional Office for Europe, the governments of Belgium, Finland, Greece, Norway, Spain and Sweden, the European Investment Bank, the Open Society Institute, the World Bank, the London School of Economics and Political Science, and the London School of Hygiene & Tropical Medicine.

The Observatory team working on the HiT profiles is led by Josep Figueras, Head of the Secretariat, and research directors Martin McKee, Elias Mossialos and Richard Saltman. Technical coordination is led by Susanne Grosse-Tebbe.

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Introduction and historical background

Introductory overview

Ukraine is the second largest country in Europe, situated strategically at the crossroads of Europe and Asia. The country is bordered by Belarus, the Russian Federation, the Republic of Moldova, Romania, Hungary, the Slovak Republic and Poland. It is a varied country with the Carpathian mountains in the west, fertile plains in the centre and the Black Sea and Azov Sea to the south. It covers an area of 603 700 km^2.The climate is predominantly moderate-continental, however, subtropical conditions are found in the southern shores of the Crimean Peninsula.

The Ukraine is rich in natural resources including coal, iron ore, manganese, nickel, and salt; its fertile black soils have gained Ukraine the reputation as "the breadbasket of Europe". It has a number of well developed industries including metallurgy (Dnepropetrovsk, Donetsk, Zaporozhye, Krivoi Rog and Mariupol), machine engineering, hydro-electric and nuclear power generation and coal mining (Donetsk, Lvov-Volynsky, Dnieper-area basins).

The 2001 census *(1)* recorded the population at 48.4 million, over one million less than had been projected from the 1989 census *(2)* , with 67% living in urban areas. There are nine cities of over one million inhabitants, including the capital Kiev, at about 2.6 million. The main ethnic groups are Ukrainians (78%) and Russians (17%) *(1)* with the remaining 5% including Byelorussians, Moldavians, Bulgarians, Crimean Tatars, Jews and Roma. Ukrainian is the official state language; Russian, Romanian, Polish and Hungarian are also spoken. The main religions are Ukrainian Orthodox (Moscow and Kiev Patriarchates, Autocephalous Church) and Ukrainian Catholic (Uniate), with smaller numbers of Protestants and Jews.

Fig. 1. Map of Ukraine[1]

Source: UN Cartographic Section.

Independent Ukraine emerged from the USSR in 1991. While its borders have varied over time, it has existed as a distinct entity for about 1000 years *(3)*. With its rich natural resources and its strategic location, Ukraine has for centuries attracted traders and invaders. There is evidence of inhabitation of the territory from the Stone Age. Reasonably well documented references to the lands of Ukraine date back to the era of Kievan Rus, from the ninth through the thirteenth centuries *(3)*, a loose federation of smaller kingdoms that under the reign of Prince Volodymyr 'the Great' and Prince Yaroslav 'the Wise' developed into the lands of Rus. In the thirteenth century the area came under Mongol control with the destruction of Kiev in 1240. Subsequently, different parts came under influence of Polish-Lithuanian, Mongol and Cossack suzerainty, with the Treaty of Pereiaslav (1654) gradually extending Muscovy's (Moscow) power over Ukrainian territory, in an early phase of expansion of what would become the Russian Empire. By the late eighteenth century large parts of Ukrainian land,

[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 Systems and Policies 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.

including the Crimea, had come under Russian rule while, after the partition of Poland in 1772, its western part, Galicia, came under Austro-Hungarian rule. During the nineteenth century a Ukrainian national movement developed in both Russia and Austria-Hungary, culminating in the attempt to create an independent Ukrainian state in 1917–1918. This movement was caught up in the aftermath of the Russian October Revolution and Ukraine became a part of the Soviet Union, with the status of a republic from 1922 (Ukrainian Soviet Socialist Republic). The creation of an independent Poland, as well as other frontier realignments to reflect the distribution of different nationalities, led to some areas that had been part of the Russian Empire and subsequently the USSR being transferred to Poland, Romania and Czechoslovakia; however, the partition of Poland following the Molotov-Ribbentrop pact led to the transfer of Galicia and Volhyn to the Ukrainian SSR in 1939. Subsequent military action led to the transfer of northern Bukovina and parts of Bessarabia from Romania in 1940 and Transcarpathia from Czechoslovakia in 1945. These frontier changes were accompanied by large-scale deportations of the nationalities concerned, thus fundamentally changing the national composition of the territories involved and resistance to the Soviet occupation of western Ukraine continued, in the face of severe repression, into the 1950s. In 1954, Khrushchev moved Crimea from the Russian SSR to the Ukrainian SSR; Crimea's ethnic composition had been changed fundamentally by Stalin in 1944 when he ordered the deportation of the Crimean Tatars and the dissolution of the Crimean ASSR. Since 1990, large numbers of Crimean Tatars have moved back, although they have faced difficulties regaining the land from which they were expelled.

Of the Soviet republics, the Ukraine was one of the most severely hit by the disasters that struck the Soviet Union, starting from the civil war, the artificial famines of 1921–1923 and 1932–1933, the German invasion and the massive deportations of the 1930s and 1940s and the Second World War. The losses among the Ukrainian population are estimated at up to 7 million lives solely because of the 1933 famine *(4)* and the Second World War and its consequences resulted in a loss of over another 7 million. It was estimated that the 1933 famine reduced life expectancy at birth by almost 30 years to less than 11 years among women and to just over 7 years among men *(5)*. Finally, the Chernobyl nuclear accident on 26 April 1986 brought another devastating blow to Ukraine, with consequences for the rest of the world.

After the Second World War, Ukraine developed into an industrial, strategically important region, with a strong emphasis on the military-industrial complex and heavy industry. Its fertile soils meant that the agrarian sector was a priority although, as did the rest of the USSR, it suffered from the management consequences of the distorted visions of collective farming typical of the Soviet administration. However, from the 1960s, investment gradually fell, leaving the

region, which had become a net donor to the Soviet national economy, with an aged and deteriorating capital base *(4)*. At the same time, the overuse of arable lands led to gradual soil erosion and mineral depletion, with 15% of the land area contaminated by the Chernobyl accident *(3)*.

On 24 August 1991, Ukraine declared its independence from the Soviet Union. Since then, the country has developed the main institutions of a democratic system. It became a member of the Council of Europe in November 1995. However, it inherited substantial structural problems that made any prospect of immediate economic prosperity almost impossible. It experienced a sustained economic crisis, with the first signs of economic recovery only seen at the beginning of the 21st century.

Government

Ukraine is a republic whose constitution was adopted by the parliament (Verkhovna Rada) on 28 June 1996, setting out in Article 6 that "state power in Ukraine is exercised on the principles of its division into legislative, executive and judicial power". It further designates the president as the head of state, elected on the basis of universal, equal and direct suffrage by secret ballot to a five-year term for not more than two successive terms. The president appoints, with the approval of the parliament, the prime minister and the Cabinet of Ministers as well as the regional governors. He also retains the power to dissolve the parliament and to veto parliamentary bills. The current president of the Ukraine is Leonid Kuchma, who was elected first in 1994 and re-elected in November 1999 with 56% of the popular vote. The next presidential election is due in 2004. The government is currently led by Prime Minister Viktor Yanukovych, who was appointed in November 2002.

The parliament, the sole legislative body, consists of one house whose 450 members serve four-year terms. Until 2002, a majority voting system was in place. This has, however, now been replaced by a mixed system, with 225 members elected in single-mandate Okrugs (electorates) and the other 225 members on the basis of proportional representation according to electoral lists of candidates from political parties and electoral blocs of parties. The Cabinet of Ministers is the highest executive body. In 2002, for the first time, a coalition government was formed whose membership was approved by the President.

Administratively, the country is divided into 24 regions (*oblasts*) and two municipalities with oblast status (Kiev and Sevastopol). In addition, Ukraine comprises the Autonomous Republic of Crimea (*ARC*). The oblasts are further subdivided into 490 districts (*rayons*). Executive power in the oblasts and in the districts, in the cities of Kiev and Savastopol is executed by the local State

administrations whose heads are appointed and dismissed by the President on the appeal of the Cabinet of Ministers. Executive bodies of village, rural and city councils are representedby their executive committees. They are administered by the village, rural or city *Golova* (head) who is elected by the respective territory community through direct vote for 4 years. The Autonomous Republic of Crimea has its own C onstitution, which was apopted by the highest representative body of the Republic, the Supreme Council of the Crimea Republic, and approved by the parliament of Ukraine. Its government is the Council of Ministers of the ARC.

Table 1. Demographic indicators, 1990–2002

	1990	1995	1996	1997	1998	1999	2000	2001	2002
Population (millions)	51.6	51.3	50.9	50.4	50.0	49.7	49.2	48.8	48.0
% population < 15 years	21.4	20.3	19.9	19.4	18.9	18.2	17.5	16.8	16.1
% population 65+ years	12.1	13.7	13.9	14.0	13.9	13.8	13.9	14.1	14.8
Deaths/ 1000 population	12.2	15.5	15.3	15.0	14.4	14.9	15.4	15.3	15.7
Live births/ 1000 population	12.7	9.6	9.2	8.8	8.4	7.8	7.8	7.7	8.1

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

Demographic and health indicators

The collapse of the Soviet Union has had a major impact on demographic and health indicators in the Ukraine. Since independence, Ukraine's population has fallen by 3.6 million or 7.5%, with current estimates projecting further decline of 1% per year over the period 2000–2005 *(6)*. The birth rate fell by almost 40% between 1990 and 2001 but has been slightly increasing since. The total fertility rate is now ranking lowest in Europe, along with Georgia, at 1.1 in 2001 *(7)*. At the same time, the proportion of births to unmarried mothers increased, from 11.2% in 1990 to 18.0% in 2001, especially affecting teenage mothers *(8)*. The share of births to teenage mothers occurring outside marriage is still relatively low compared with other CIS countries, at 24.3% (2001); however, the children involved face an increased risk of poverty.

The age structure of the population is changing because of an increase in the number of elderly people and a decrease in young people. The proportion of the population under age 15 has been declining steadily over the last ten years, to 16.1% in 2002. The proportion over 65 is still lower than that of the EU (16.3% in 2000); however, at 14.8% it is considerably higher than the CIS

average of 11.5% *(7)*. In addition, an estimated 2 million people emigrated from Ukraine between 1990 and 2000, which was, however, offset by an immigration of about 1.2 million since 1992, resulting in net emigration of 300 000 *(8)*. The immigrants are mainly ethnic Ukrainians returning from other parts of the former Soviet Union, previously displaced persons (such as Crimean Tatars) or other members of the Ukrainian diaspora.

At the same time, Ukraine experienced a severe mortality crisis in the first half of the 1990s, with male life expectancy at birth falling by 4.4 years between 1990 and 1995; among women, life expectancy fell by 2.4 years. While there was some improvement after 1995, mortality rates rose again after 1998, coinciding with the 1998 Russian economic crisis, which had implications for many major Russian trading partners, with little subsequent indication of reversal. By 2002, male life expectancy had fallen to 62.2 years, about 2.5 years lower than it had been in 1980 and 11.6 years lower than among women *(7)*. The fluctuations in life expectancy in the Ukraine in the 1990s were driven largely by cardiovascular diseases and external causes of death, which affected predominantly young and middle-aged men, with age-standardized mortality rates among men aged 35–44 almost doubling between 1990 and 1995, from 580 per 100 000 population to 960. In contrast, infant mortality which, after a short-lived worsening between 1990 and 1993, fell to 10.3 infant deaths per 1000 live births in 2002. While some improvement compared to 1990, it was considerably lower than the CIS average of 15.4 per 1000 but more then twice as high as the EU average of 4.8 *(7)*. Trends in infant mortality have to be interpreted with caution, though, as until 1996 Ukraine used the restricted Soviet classification of a live birth, thus underestimating the rate of infant deaths compared to the rate if the WHO definition were applied *(9)*. The WHO definition of a live birth was adopted in 1996, by decree of the Ministry of Health, although it is still incompletely applied *(2)*.

The main causes of death in the Ukraine are diseases of the circulatory system followed by neoplasms, injury and poisoning, and respiratory diseases, at respectively, 59%, 12%, 11% and 4% in 2002 *(7)*. As in many other parts of the region, smoking accounts for a considerable part of the burden of disease – particularly among men – with recent estimates suggesting that in 2000 about 100 000 deaths in Ukraine might have been attributable to smoking, 67% of which were among men aged 35–69 *(10)*. Smoking prevalence among adult men is high, at about 57% *(11,12)*. Among women, smoking prevalence is still relatively low compared to western European countries, at around 10% among those over age 18, although much higher among younger women *(11)*. Another important factor is hazardous alcohol consumption, with data from the first stage of the Living Conditions, Lifestyles and Health (LLH) Project of 2001 suggesting regular alcohol consumption to be frequent, especially among the

younger generation, with over 55% of men aged 18–34, and 28% of women consuming alcohol at least once a week *(13)*.

While women have been relatively less affected in terms of mortality than men, their health is also compromised. Most attention has been given to reproductive health. Maternal mortality, while falling since 1992, remains high, at 21.8 per 100 000 live births in 2002, which is about five times the EU average although considerably lower than the 33.9 rate seen elsewhere in the CIS *(7)*. Ukraine has a very high proportion of pregnancies terminated through abortion, despite a considerable decline over the past years, from 155 per 100 live births in 1990 to 82.8 in 2002, and abortion makes a major contribution to maternal mortality. In 2000, about one fifth of all maternal deaths in Ukraine were related to abortion (4.9 per 100 000 live births), with the rate having declined further to 2.8 per 100 000 in 2002 *(7)*. The fall in abortion rates has been attributed, in part, to new initiatives in reproductive health (see *Public health services*). However, abortion continues to be an important method of birth control in Ukraine, with access to modern contraceptives remaining difficult, despite increasing demand *(14)*.

Table 2. Health indicators, 1985–2002

	1985	1990	1995	2000	2001	2002
Female life expectancy at birth[a]	74.0	75.0	72.6	73.6	73.8	73.7
Male life expectancy at birth[a]	65.2	65.7	61.3	62.3	62.5	62.2
Infant mortality rate (per 1000 live births) [a]	15.9	13.0	14.8	12.0	11.4	10.3
Maternal mortality per 100 000 live births[a]	40.4	32.4	32.3	24.7	23.9	21.8
Abortions per 100 live births[a]	148.9	155.1	145.2	106.2	92.0	82.8
SDR ischaemic heart disease (0–64 per 100 000) [a]	90.5	83.5	130.0	128.0	126.6	133.0
SDR external causes (0–64 per 100 000) [a]	89.3	105.9	160.5	142.5	145.1	152.3
Tuberculosis incidence per 100 000 (all forms)[a]	47.3	31.9	41.9	66.9	66.9	75.3
Syphilis incidence per 100 000[a]	7.8	6.0	119.0	91.6	–	–
Reported HIV infections per million population[b]	–	–	28.9	125.3	142.5	180.0

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

Like many other countries in the region, Ukraine experienced a resurgence of communicable diseases, such as diphtheria, tuberculosis and cholera, due to a combination of factors such as weakened prevention and control programmes

in the early stages of independence and deteriorating socioeconomic conditions (see *Public health services*). For example, the re-emergence of cholera in the mid-1990s was largely because of a break down of sanitation, due to interruptions to the electricity supply *(15)*. In Nikolayev in 1995, 400 people were diagnosed with cholera, and another 300 showed symptoms; outbreaks were also reported in Kherson and Odessa.

In addition, Ukraine is facing a number of new problems, such as the emergence of HIV, which is now estimated to have reached a prevalence of 1% in the adult population, the highest among the CIS and, in fact, in all of Europe *(16)*. Up to 250 000 Ukrainians are believed to be living with HIV/AIDS *(17)*. Since the first large-scale epidemics occurred among intravenous drug users in southern Ukraine in the mid-1990s *(18)*, reported infections have risen exponentially. An estimated 70% of reported HIV cases are among intravenous drug users, most of them young people. Data from diagnostic testing suggest that among injecting drug users about 10% are HIV positive although prevalence rates vary among regions, from 18% in Kharkov to 64% in Odessa in 2000 (19). The most affected areas are in the south and east of the country; at the end of 2002 this region had about 70% of all people living with HIV/AIDS *(7)*. Women account for a growing proportion of new HIV diagnoses, with proportions rising from 24% in 1996 to 38% in 2001 *(19)*, the majority of cases having contracted the virus from their sexual partners *(20)*. HIV prevalence among pregnant women has also risen sharply, from 0.5 per 10 000 pregnant women in 1996 to 16.7 in 2000 (Odessa: 15 to 35; Kiev: 0 to 20; Nikolayev: 15 to 75) *(19)*. This has also led to an increased number of new HIV cases among children, with over 4000 children under the age of 13 having now been diagnosed with HIV. Although the number of reported cases of AIDS is still relatively low, reflecting the long incubation period and possibly under-reporting, there was a reported incidence rate of 17.2 per million in 2001 *(21)*. However, the number of cases is now increasing rapidly and as many as 11 000 may have died because of AIDS in 2001. It has been projected that in the absence of a comprehensive response to the epidemic over 1.4 million Ukrainians may be living with HIV/AIDS in 2010 with as many as 95 000 Ukrainians likely to die of AIDS in that same year *(17)*.

The sustained economic crisis in the Ukraine since independence has created conditions that make the country vulnerable to the further spread of HIV, such as spread of intravenous drug use, growth in commercial sex work, a general increase in unprotected sexual activity among young people, an increase in unemployment and a fall in living standards, accompanied by a limited state budget that prevents the government to address effectively the problem of HIV *(17)* (see *Public health services*). There has also been extensive movement of people who may contract and spread the disease. Over one million Ukrainians

are estimated to be crossing the national frontier each year seeking temporary work.

At the same time of the rapid HIV spread among intravenous drug users, Ukraine has also experienced dramatic increases in sexually transmitted infections (STIs) in the general population. Thus, the notification rate of syphilis rose from a low of 6 per 100 000 in 1990 to 151.6/100 000 in 1996. The subsequent fall to about 92/100 000 in 2000 *(7)* almost certainly reflects a failure of surveillance systems and, in particular, increasing private (and so unreported) treatment (see *Public health services*). Tuberculosis is another important problem facing the Ukraine. Although coverage with BCG has been increasing since 1993 to around 97% by the end of the 1990s *(7)*, reported case notification rates have more than doubled since independence, from 32.2 per 100 000 in 1991 to 66.5/100 000 in 2000, with an estimated case notification rate of 91.3 per 100 000 in 2002 *(22)*. The situation is especially critical in the prison population, which accounts for about 30% of all tuberculosis patients in Ukraine. It has been estimated that of a prison population of now 200 000 about 14 000 have active TB, which equates a prevalence rate of 7000 per 100 000 *(23)*. Moreover, 40% of deaths in prisoners are reported to be due to TB. At the same time, drug-resistant tuberculosis is also increasing rapidly, which poses a substantial additional burden to the health care system as it is vastly more difficult and costly to treat. A study from Chernihov suggests that about 50% of new tuberculosis patients have resistance to at least one drug; multi-drug resistant tuberculosis appears to be present in 10–15% of new cases *(24)*.

Ukraine continues to confront the legacy of the Chernobyl nuclear accident in 1986, which contaminated large territories in Ukraine and neighboring Belarus and Russia, although, as in neighbouring countries, it is often forgotten that the cumulative death toll from Chernobyl is far exceeded by deaths attributable to smoking each year. Rising incidence in childhood thyroid cancer in the affected region has been interpreted as a direct consequence of the radioactive fallout *(25)*. The number of people in Ukraine affected by the accident has been estimated at 3.2 million (2000), with some 90 000 being designated as permanently disabled by the Chernobyl accident *(26)*. Considerable uncertainty remains as to the long-term impact of the accident on health; however, possible direct health effects may incur from internal irradiation due to the consumption of contaminated foodstuffs among those residing in contaminated areas who are unable to afford foodstuffs certified as clean.

Like other parts of the former Soviet Union, Ukraine faces many other environmental problems. For example, there has been a steady decline in water quality over recent years, with drinking water increasingly failing to meet safety standards, due to a combination of low quality of water supply sources, poor condition sewage systems and inefficiency of water purification facilities *(6)*.

Socioeconomic indicators

Since independence, Ukraine has been challenged by a deep economic crisis that included the worst hyper-inflation in the region. Between 1991 and 1999 gross domestic product (GDP) fell by 62%, industrial output by 49% and agricultural output by 52%. Even if adjusted for the shadow economy that, according to some estimates amounts to one third of the economic potential *(27)*, there was still a real decline in GDP of at least 40 per cent over the decade. In fact the Ukraine is the only former communist country in transition with 10 consecutive years of output decline *(28)*.The deep economic recession in the Ukraine in the 1990s was caused and subsequently aggravated by number of factors, including the collapse of established trading links within the former Soviet Union leading to the disruption of raw material supplies, a sudden increase in energy prices *(8)* and a delay in receiving international assistance until 1994. These factors were exacerbated by a lack of decision-making experience and of the institutional framework necessary for implementing effective reform *(3)*. Recovery only came in 2000 when Ukraine registered growth of GDP for the first time since independence, at 5.8%, continued in 2001 *(8)*. However, despite these positive trends, in 2002, per capita GDP in Ukraine was still only at 44% of the level seen in 1989 *(2)*.

Ukraine chose a path of gradual reform that, it argued, aimed to balance economic reform with social stability. Thus, when introducing price liberalization in the beginning of 1992 it simultaneously increased selected social benefits such as pensions and unemployment benefits to alleviate negative social consequences of market-oriented reforms *(2)*. The government also subsidized the continued operation of loss-making agricultural and industrial enterprises to prevent massive job losses *(8)*. This resulted in economic stagnation, a failure to modernize, and an accumulation of substantial domestic and foreign debt, reaching about US $12 billion in 1998 and leading to a debt crisis due to the Russian economic crisis that same year. The 1998 crisis forced a devaluation of the Ukrainian hryvna, which had been introduced in 1996. This devaluation, along with long-delayed economic reforms, brought benefits to the Ukrainian economy, including improving competitiveness of exports and balance of the state budget *(6)*. The hryvna has now stabilized at around 5.4 to the US dollar and inflation rates, while still relatively high, are slowly declining *(6)*. However, the overall pace of economic reform has been slow and reforms have been, at best, partial *(23)*. Foreign direct investment has remained at a relatively low level compared to other countries in the region, at 1.9% of GDP in 2000 *(29)*, which has been attributed to pervasive corruption and complex legal and regulatory barriers *(6)*.

The economic crisis of the 1990s had a serious and long-term impact on the income and wellbeing of the population, with a marked decline in human development. In 2001, Ukraine scored 0.766 on the Human Development Index and, at rank 75, was grouped among the countries with medium level development, on par with Kazakhstan, but lower than the Russian Federation, which ranked 63rd *(29)*. This reflects falling life expectancy and increasing poverty whereas officially reported adult literacy and educational attainment have remained high. The employment ratio, that is, the number of employed as a percentage of the population aged 15–59, fell from 82% in 1990 to 66% in 1999 and has remained at that level despite recent economic growth. At the same time, real wages fell substantially, to 48% of the 1989 level by 1999, although there has been some recovery since, to 59% of the 1989 level by 2001 *(2)*. Economic comparisons with the Soviet period are, of course, problematic as many transactions then did not involve monetary transfers, such as drugs in hospitals, or were heavily subsidized, such as housing or electricity, so the simple act of charging near market prices for them will have the effect of increasing the size of the economy. Even with this caveat, official statistics on economic activity only give part of the picture. A considerable proportion of economic activity is now taking place in the informal sector, with recent figures estimating it to be at least 50% of the total economy *(8)*. Also, many of those who are employed receive their wages late or are paid in kind *(6)*. Yet while most people in Ukraine have been affected by economic decline, some have suffered more than others, which is illustrated by the level of inequality in household income as measured by the Gini coefficient. This figure has been rising steadily during the 1990s, from 0.23 in 1989 to 0.47 in 1995, subsequently falling to 0.36 in 2001 *(2)*. This last decline implies that many households with below average incomes seem to have benefited from the recent economic growth. This is also reflected by the recent fall in the number of households living below the poverty line, defined as 118.3 hryvna/month (US $22; €19.5), from an all-time high of 37% in 1999 to about 25% in 2000 *(29)*. In contrast, a survey by the State Statistics Committee showed that in 2000 over 80% of the respondents perceived themselves as poor and only 3% of households had a per capita income of over 300 hryvna per month (US $56; €49.5), the suggested minimum income required for food, shelter and medical care *(6)*. This indicates that "official" poverty rates – though still high – may have fallen, but a considerable percentage of the population in Ukraine is still facing substantial economic difficulties.

Historical background

Before the revolution of 1917, the Russian Empire, which included what is now East Ukraine, was an agrarian land with mortality levels considerably higher than those of other European countries. Average life expectancy at birth was about 35 years, compared with about 50 years in England and Wales, for example. Health care and other social services were established by tsarist Russia in 1864 following the emancipation of the peasants. They operated under the auspices of elected local governments (zemstvos), providing health care funded by general tax revenues. Social health insurance (SHI) was introduced in 1912. It covered about 20% of industrial workers and was based on the Bismarkian model. SHI had already been introduced in the territory of what is known as the Trans-Carpathian region of West Ukraine, then ruled by Hungary, which had enacted mandatory health insurance in 1891. The remaining larger part of present day West Ukraine was governed by Poland, which introduced health insurance in 1919, based on mandatory insurance organized through self-governing structures.

After the First World War, the October Revolution and the Civil War, the Soviet Union suffered massive epidemics and famine. The country faced serious health problems with much of the health care infrastructure destroyed and inadequate resources to control communicable and other diseases. In 1918, N.A. Semashko, the first Peoples' Commissioner of Health, formulated the concept of Soviet health care. The officially stated principles were state responsibility for health care; universal access to free health care; the provision of high-quality services aimed at maintaining health, treatment and rehabilitation and the prevention of social diseases; and sustaining close links between medical science and practice. The state assumed responsibility for universal health care by creating a theoretically uniform state system to control communicable and occupational diseases and protect mother and child health. Epidemiological control measures for the prevention of epidemics were put into place, especially with regard to tuberculosis, louse-borne typhus, enteric fever, malaria and cholera. Public health measures involved interventions such as quarantine, improving urban sanitation and hygiene and drainage of malaria marshes. There were extensive programmes of periodic examinations of particular risk groups.

The health care system in Ukraine, under strict control of the central government in Moscow, was formally under the control of the Commissariat (subsequently the Ministry) of Health of the USSR although in reality many decisions were taken by the parallel Communist Party apparatus. Control was exerted through five-year plans, with their centrally determined norms for equipment and personnel that took no account of local needs. These norms

were revised periodically at party congresses, which emphasized expansion of staff and facilities, although with little regard for quality. The government was also responsible for developing the state hospital network and for training health professionals. The State was the direct employer of health care workers; it also paid staff salaries and was responsible for equipping health care facilities, research institutes and educational institutions. Planning of resources and personnel was strictly centralized so that what passed for management of local health facilities involved merely low-level administrative functions. For some time, the social health insurance model of health care that had been introduced in 1912 coexisted with the Soviet model. However, in 1927, health funds were abolished by governmental decree; hospitals and other health care facilities were nationalized and subordinated to local and regional health administrations. Health care workers became civil servants. At the same time, separate parallel health services, usually providing higher quality services, were introduced for certain population groups such as governmental officials, military and security or miners and other industrial workers. The territory that is now West Ukraine retained the Hungarian and Polish systems of health insurance until its annexation by the Soviet Union in 1939 *(30).*

During the Second World War Ukraine suffered greatly, initially in the West from the Soviet occupation of Polish territory and later from the German occupation. Once again, many health facilities were destroyed and many health professionals were killed or deported. The post-war period saw a rebuilding of the health care system, with wide-ranging, if basic, interventions bringing rapid reductions in many communicable diseases. The health system was rebuilt, based on a hierarchy of facilities at rayon (district), oblast (region), and republic levels. It included sanitary and epidemiological stations, hospitals, polyclinics and specialized health care facilities, each staffed and equipped according to norms based on the local population size rather than health needs. The polyclinic in each district was linked to the district hospital and health staff rotated between these facilities in an attempt to ensure continuity of services and to enhance the professional level of health care workers; these measures were, however, increasingly unsuccessful as demand outstripped resources. Sanitary and epidemiological stations monitored the status of water supplies, sewage, air and soil, investigated outbreaks of communicable diseases and monitored the health and nutrition of children. Medical and sanitary aid posts delivered health care at industrial sites and monitored occupational safety; dispensaries provided various services in the field of medical rehabilitation and recuperation.

The rapid expansion of the health care system, providing universal access to professional health services, along with some improvement in living standards, was, initially, very successful in improving population health, with substantial reductions in infant mortality and the incidence of many communicable

diseases, as noted by a number of western observers such as Garrison in the 1920s, Sigerist in the 1940s and Field in the 1960s. Health progress was steady, with life expectancy increasing up to 70 years by the early 1970s. However, the epidemiological shift in the 1960s towards noncommunicable diseases stimulated an increasing specialization of health care *(31)*. The 1970s and 1980s saw considerable growth in the network of specialized health care facilities, the introduction of specialized consulting rooms in polyclinics and the conversion of general-medicine units in hospital into specialized units. The intense and in many ways uncontrolled process of specialization had shifted the priorities in health care at the expense of primary health care, with local physicians – the leading figures in the Soviet model – increasingly reduced to mere dispatchers of patients to specialists. However, these developments failed to halt the increasing impact of noncommunicable disease, with several indicators of population health in the Soviet Union beginning to deteriorate from the mid-1960s onwards. These trends had several explanations. One was the consequence of failure to invest in the social sector as the Soviet economy faltered following agricultural failures and unaffordable expenditure on the military-industrial complex. However the USSR was also lagging increasingly far behind the West in its ability to deliver new, complex interventions, such as modern pharmaceuticals and surgical techniques, and health care management continued to be based on indicators of quantity rather than quality. Notably, the USSR missed out on the development of evidence-based medicine, which had begun to advance especially in the west from the 1970s onwards, with prikaz (official guidance) based on so-called "expert" opinions rather than empirical evidence, a weakness whose repercussions are still apparent. Many treatment regimes were either ineffective or, in many cases, harmful.

These adverse trends did, however, revitalize interest in preventive activities. In an attempt to address the negative trends in population health, the CPSU (Communist Party of the Soviet Union) Central Committee's plenary session in 1986 decided to introduce annual health checks for the entire population, to be undertaken in polyclinics, hospitals and in specialized clinics. The health checks involved clinical examination and, if indicated, subsequent out/inpatient treatment, sanatoria treatment or changing jobs if necessary. The introduction of this largely ineffective programme overstretched the capacity of the outpatient system and resulted in increased hospitalization.

Despite the limited resources available for the health care system, planning continued to be oriented towards the goal of ever-increasing capacity, measured by the number of hospital beds and of health personnel. As a result, Ukraine, as many other former Soviet republics, had one of the world's highest numbers of hospital beds and physicians per capita. Up to 80% of the resources were

absorbed by inpatient care, about 15% was spent on specialized outpatient care and only about 5% remained for primary health care. Inevitably, increased quantity was at the expense of quality, and in many cases encouraged harmful practices such as lengthy hospitalizations for minor disorders. However, the late 1980s, following liberalization of political and economic relations by the policies of perestroika (restructuring) and glasnost (openness), some regions in the USSR saw the introduction of new forms of health care planning, financing and management, called the "new economic mechanism" (NEM). It aimed at transforming the old financing system based on capacity to one based on the performance of public health care facilities, thus replacing the previous administrative approach to management by contractual relationships. The polyclinic was to become the key player in the system, holding financial resources that would purchase services from hospitals and other health care providers. However, these initiatives received no support from the Ministry of Health of the then Ukrainian SSR and soon ceased to function.

As noted previously, after 1991 Ukraine underwent a painful process of economic restructuring that was accompanied by social instability and drastically reduced living standards for large parts of the population, especially pensioners, disabled people and other vulnerable groups, leading to further worsening of population health. This increased need for health care took place against the background of reduced ability of the health care system to respond adequately. The general economic downturn has also had an impact on the resources available for health care at a time when the costs of running the system have increased substantially. In Soviet times, costs for material and medical supplies and basic services such as electricity, heating and others were fixed and thus allowed the state to maintain the extensive network of facilities. Also, running costs of hospitals were comparatively low. The costs of pharmaceuticals were also relatively low, as the limited range available from production in the USSR or in other socialist countries was subsidized. The transition to a market economy has resulted in soaring prices of pharmaceuticals as well as basic services such as energy, thereby further complicating the already difficult economic situation in the health care sector. Against this background, maintaining the complex, inefficient public health care system with its unbalanced structure of services in Ukraine has resulted in a highly unequal health care system of low quality.

Organizational structure and management

Organizational structure of the health care system

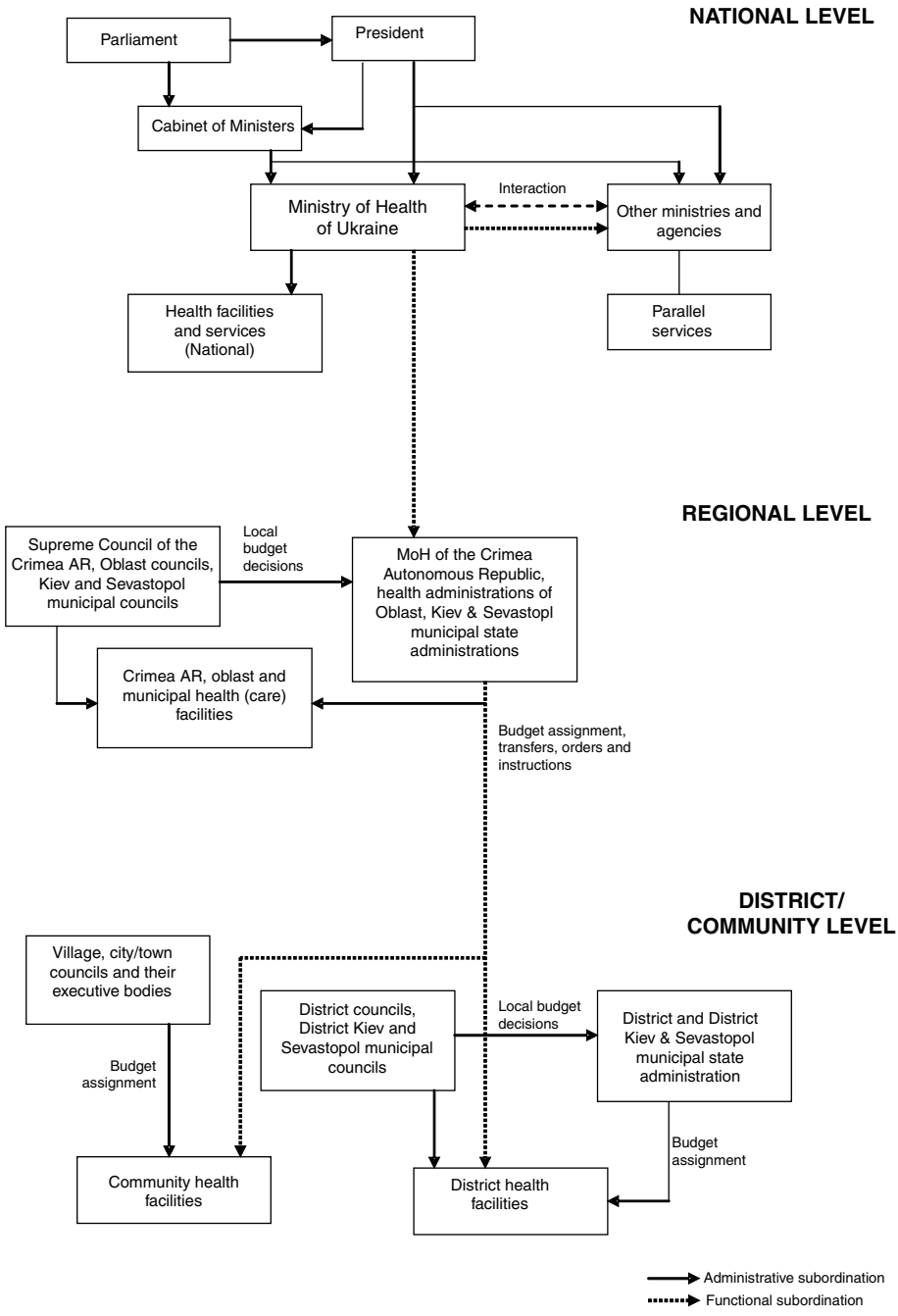
Ensuring health care for the population is, officially, one of the key functions of the state set out in the 1996 Ukrainian Constitution, with Article 49 stating that "the state creates conditions for effective medical services accessible to all citizens". The formal health care system is supervised by the state, and as in other former Soviet republics, lines of accountability are fragmented. In theory, the national Ministry of Health has responsibility for health policy. In practice, its influence is limited as it only directly manages a few specialized facilities. Most health care is delivered in facilities owned and managed at regional and district level, and funded by the respective tiers of government from allocations provided by the Ministry of Finance or raised locally. In practice, therefore, the scope of the national Ministry of Health is confined to issuing guidance and norms and to matters of national health policy.

Core components of the health care system in the Ukraine include:

National level: 1. Ministry of Health of Ukraine, responsible for setting national health policies, and 2. certain specialized health care institutions directly managed and funded by the Ministry of Health;

Regional level: Ukraine is divided administratively into 27 regions: the Crimean Autonomous Republic (Crimea AR), 24 oblasts (regions), and two city authorities (Kiev and Sevastopol). Each has a health administration (a Ministry in the Crimean AR) that is accountable to the national Ministry of Health for national health policies within its territory. The regional health directorates own and manage a range of health care facilities, including multispecialty and specialized hospitals and dispensaries (see also Box 1). For the purposes of

Fig. 2. Organizational chart of health care system



brevity, all of these entities, including the Ministry of Health in the Crimean AR will, hereafter, be referred to as regional health administrations;

District (rayon) level and below: Primary care facilities and hospitals are owned by the various tiers of local government – municipal, city district, village and rural councils. The only exceptions are district state administrations which generally do not own health care facilities.

Other important players include:

- The parliament (Verkhovna Rada) with its Committee for Health Care, Motherhood and Childhood and several commissions on health related topics (e.g. AIDS Commission, Drug Commission, etc.). While the influence of the Committee for Health Care is more strategic in terms of determining the main principles that should underpin health care in Ukraine, the various health commissions, of which the Ministry of Health is only one member, have a more direct impact on issues of health care financing and delivery.
- The Ministry of Finance is responsible to the Cabinet of Ministers for drafting the State Budget, and assigns budgets to the bodies responsible for health care facilities at each level of government, thus effectively determining the configuration of the system.
- The Ministry of Defence, the Ministry of Internal Affairs, the Security Service of Ukraine and the Ministry of Transport run parallel health services that provide health and preventive services directly to their employees and their families. The State Department for the Penitentiary System is responsible for organizing and providing health and preventive services within the penal system.
- The Ministry of Labour and Social Policy is responsible for providing health care for citizens residing in nursing homes. It also monitors the performance of compulsory national social insurance funds, in particular the Fund of Social Insurance against Temporal Disability and Costs Caused by Births and Funerals and the Fund of Social Insurance against Occupational Accidents and Occupational Diseases of Ukraine.
- The Fund of Social Insurance against Temporal Disability finances benefits for temporarily disabled individuals (including care of sick children), benefits related to pregnancy and child delivery, vouchers for treatments in spas and health resorts for insured individuals and their families, etc.
- The Fund of Social Insurance against Occupational Accidents and Occupational Diseases covers the costs of health services for certain occupational disorders;
- The Fund of Social Protection of the Disabled provides pharmaceuticals, prosthetic and orthopaedic devices, auxiliary technical and other devices as well as rehabilitation services.

- The Red Cross Society of Ukraine through local institutions provides home nursing services, currently comprising about 3200 nurses who provide care to nearly 250 000 elderly and disabled people annually. In addition, health care is provided at more than 450 medical and social centres and Red Cross facilities. The work of the Ukrainian Red Cross Society's institutions is financially supported by the state as well as by voluntary donations of individuals and legal entities including foreign citizens.

The majority of health care services are provided by publicly owned health facilities. By the end of 2000, Ukraine had 24 166 such institutions, including the national Sanitary and Epidemiological Service, spas and health resorts, health centres, orphanages, blood transfusion stations, centres for medical statistics, institutions for the training of health personnel and for postgraduate training of physicians, research institutes and institutions for professional training of middle-level health staff. In contrast, the network of private health facilities is poorly developed. At the end of 2000, only 5860 private individuals and 1050 legal entities were registered to practice medicine independently. The role of voluntary health insurance is relatively small; although over 100 private companies offer health insurance, they cover only up to 2% of the population; this is largely because of the high costs of commercial insurance premiums, which are unaffordable for the majority of the population.

Although there are legal provisions for public participation in the health sector and a number of professional medical associations and various patient groups had been created recently, they have not played any noticeable role in decision making, with the possible exception of the physicians' association PULSE, which in any event was disbanded after only one year of existence.

This brief overview indicates that the organizational structure of the health care system in the Ukraine has essentially remained unaltered from the Soviet period. However, intensive work is under way to establish a legislative base for health care reform. Since 2000, after adoption of the Law "On Procurement of Goods, Operations and Services on State Funds" a formal legal context has been created for contractual relationships in the health care sector. It will allow purchasing of health services with public funds on a competitive basis from both public and private health care providers. The legal provisions regarding procurement of health services have, however, not yet been applied, with the exception of some experiments at the local level, for example in the city of Komsomolsk, Poltava oblast (see *Complementary sources of finance* and *Health care reforms*). A draft law on social health insurance (see *Health care finance and expenditure*) was finally rejected by the parliament in September 2003. Discussions are under way about whether health management bodies should

be created at district level. Clearly, the implementation of these plans will have significant impact on the organization of health care in Ukraine.

Planning, regulation and management

Principles of health policy

In 1992 the parliament adopted the "Principles of Legislation on Health Care in Ukraine", which, along with a number of subsequent laws and bylaws, provides the basis for health policy. It states that national policy is determined by the parliament and involves establishing policy goals, setting standards, allocating budgets, and creating national health care programmes. The national health policy is complemented by regional policies reflecting the specific health care needs of their populations. In practice, as shall be seen, legal instruments can emerge from any of the main elements of government.

At national level the main elements of government include the President who acts as a guarantor of the constitution and so citizens' right for health care. As in other ex-Soviet republics, legislation is often enacted by executive action using presidential decrees. The Cabinet of Ministers is responsible for establishing the principles according to which health care will be provided by the Ministry of Health and the various health administrations at other levels of government. It also concludes intergovernmental agreements and coordinates international cooperation in health. At regional and district level these are the various regional administrations (Council of Ministers in the Crimean AR), as well as local governments. The regional health administrations are primarily accountable to the regional administrations, while acting within the frameworks set out by national legislation and guidance from the Ministry of Health.

The problem of coordinating the fragmentation arising from the existence of parallel systems has been addressed by the creation of an Intersectoral Coordination Board on the Integration of Parallel Health Services in 2000.

With regard to funding, Ukraine has retained an integrated model of health care. The national and regional administrations are both owners of health facilities and funders of health care. Unlike in most other economic sectors in Ukraine, formal health care financing continues to be almost completely dependent on state and local budgets, as set out in the Budget Code passed by the p arliament in 2001. A number of other governmental programmes addressing urgent public health problems are under way that have been approved by

presidential decrees and resolutions of the Cabinet of Ministers. On the basis of these programmes the various regional administrations are required to draft and approve programmes to be funded by local budgets.

The first national public health strategy, a multisectoral comprehensive programme "Health of the Nation" for the period 2002–2011, was approved in 2002 by the Cabinet of Ministers. The programme has been developed in line with the European WHO policy of health for all, comprising interventions aimed at a wide spectrum of critical challenges to public health and health care such as:

- developing and improving national health care policies
- ensuring fairness and equity in health
- improving the conditions for survival and enhanced quality of life of the population
- improving the health of women, children and young people, working population and elderly people
- creating better opportunities for people with disabilities
- reducing incidence and prevalence of socially important diseases, injuries and poisonings
- promoting healthy lifestyles
- implementing environmental protection policies
- improving funding and resource management in the health care system
- advancing organization of health care
- improving education and training of health professionals
- developing national health information systems
- supporting research for health
- strengthening ethical considerations in health
- improving social protection for health professionals
- developing international cooperation and partnerships for health.

It has been proposed that funding of the ambitious programme be provided from national and regional budgets but it remains unclear whether it will ever be implemented.

Key players

At the national level, the Ministry of Health has the main responsibilities for planning, management and regulation in health care. At the regional level, these functions are dealt with by the Ministry of Health of Crimea AR along

with health administrations in the oblast and Kiev and Sevastopol municipal administrations. At the district level without separate health authorities, the responsibility rests with the district state administrations and with the district physicians in chief. At the community level (village, township, city), planning and management functions are supported by respective elected councils and local executive bodies.

The following section gives an overview of the main responsibilities of the Ministry of Health of Ukraine, of the health administrations of the oblast and Kiev and Sevastopol municipal state administrations as well as the Ministry of Health of Crimea AR. Responsibilities of local councils are described in the subsection *Decentralization of the health care system*.

Ministry of Health

Reflecting the lack of clarity between the executive and legislative functions within government, the main responsibilities of the Ministry of Health are defined in the "Provisions on the Ministry of Health", established by presidential decree, while others are set out in laws passed by the parliament. The Ministry's main objectives are to:

- ensure implementation of national health policies, and the sanitary and epidemic wellbeing of the population and establish manufacturing, quality control and distribution of pharmaceuticals;
- develop, coordinate and monitor the implementation of the national health programmes, in particular disease prevention, health care provision, development of the pharmaceutical industry;
- organize health services to the population provided by state and community health facilities;
- develop interventions aimed at preventing and reducing morbidity, disability and mortality of the population;
- organize research in priority areas in health sciences in cooperation with the National Academy of Sciences of Ukraine and the Academy of Medical Sciences of Ukraine.

In keeping with its objectives, the Ministry of Health is required to:

- participate in drafting national programmes for economic and social development, the state budget of Ukraine and the programme for governmental initiatives to protect the population's health;
- prepare proposals for priority setting in public health, developing and implementing national comprehensive and targeted health programmes;

- participate in shaping and implementing investment and anti-monopoly policies in health care;
- manage those few health care facilities subordinate to the Ministry of Health;
- organize and enforce state accreditation of health facilities;
- take measures to promote entrepreneurship in health care, licensing of health service providers and manufacturers and distributors of pharmaceuticals, etc.;
- coordinate the activities of health facilities and research institutes with respect to diagnosis, treatment and prevention, and health promotion;
- monitor adherence to sanitary legislation, national standards, and criteria and requirements to ensure a safe environment for the population;
- participate in developing state norms for health care and approval of relevant standards;
- develop state sanitary norms, regulations, and hygienic standards; state standards on the quality of pharmaceuticals, immunobiological preparations, drinking water, medical equipment and medical devices; and enforce registration and control over their production, storage and distribution;
- participate in state regulation of radiation safety;
- organize the provision of pharmaceuticals to the population;
- establish common requirements for qualification of individuals working in the medical and pharmaceutical sectors and establish a list of the medical and pharmaceutical professions.

In summary, the activities of the Ministry of Health are confined mainly to setting norms and standards and developing policy as well as the organization of drug provision and distribution, with a few tasks involving direct service provision.

Oblast health directorates, Ministry of Health of the Crimea Autonomous Republic

The responsibilities of the 24 oblast administrations and of Kiev and Sevastopol municipal state administrations have been established by the Cabinet of Ministers (not by the Ministry of Health). Their primary objectives are to:

- enforce national health policies in their territory;
- advance the development of a network of health facilities to ensure provision of health care to the population according to norms set out by the Ministry of Health;

- organize interventions aimed at preventing communicable diseases and epidemics;
- organize health care provision and socio-medical, forensic medical and psychiatric services;
- to ensure adherence to health legislation, state standards, criteria and requirements to assure a safe environment for the population as well as to norms of professional performance, pharmaceutical standards and standards for medical devices and technologies.

To achieve these objectives, they:

- propose costed programmes for the development of health facilities to the corresponding tiers of government;
- analyse the health status of the population and develop interventions to reduce morbidity and increase the life expectancy of the population and provide health education;
- ensure that the health care infrastructure complies with national standards for medical devices, pharmaceuticals, buildings and equipment;
- propose and approve draft plans for privatization of health facilities;
- allocate funds provided by the regional and local governments to health facilities;
- accredit health facilities;
- encourage public participation in consultation or supervisory councils, public organizations of health professionals and other citizens' associations;
- manage human resources by planning requirements for professionals, conducting training, retraining and certification of health professionals according to national requirements, and provide training of health sector employees on health legislation;
- coordinate activities with other relevant bodies.

The Ministry of Health of the Crimea Autonomous Republic functions in broadly the same way as any other oblast health administration (directorate).

Planning of health service provision

Approaches to capacity planning in the Ukrainian health care sector have remained almost unchanged since Soviet times. The mechanisms currently in place neither reflect the health care needs of the population nor account for regional characteristics of health service provision. There is also little incentive for rational use of resources or cost control over health facilities. For example, according to a government resolution of 1997 *(32)*, regional health authorities

are responsible for establishing the total number of hospital beds, taking into account area-specific norms for inpatient care. The norm for Ukraine as a whole was set at 8 hospital beds per 1000 population. However, these are global standards; norms for hospital bed numbers according to specialty have not been specified. The defined bed capacity also determines staffing of hospitals, which is according to numbers of hospital beds by specialty.

Staffing levels for freestanding ambulatory and polyclinic facilities and outpatient units are determined according to norms approved by the Ministry of Health. These norms are differentiated for two population groups (children, adults) and administrative type (village, district, municipal, oblast). The number of primary health care providers – district internists and paediatricians – is calculated from the population in the catchment area. It is also possible to introduce positions for occupational health physicians in outpatient settings as well as paediatricians providing services to children in pre-school facilities and schools. Levels of nursing staff required to provide outpatient care are determined according to norms tied to a specified number of appropriately specialized physicians. Also, there are individual norms for the numbers of mid-level staff at the feldsher and midwife aid posts (FMAPs) providing basic health care in rural areas. Clearly, these rigid standards provide few opportunities for effective management at facility level. In summary, current practices of human resource planning and management of the state-run health care system do not follow a coherent model or else correspond to organizational goals. Overall, the current system also lacks any coherent approach to ensuring appropriate levels of health care workers.

Regulation

State health care regulatory functions are largely concentrated at the national level. Thus, as noted earlier, the Ministry of Health is responsible for establishing the framework for the mandatory accreditation of public and private health facilities as well as licensing of health professionals and of pharmaceutical manufacturers and distributors. It determines the range of pharmaceutical products that can be purchased by state facilities (subject to approval of the Ministry of Finance) and that are subject to price controls (in association with the Ministry of Economy) (see *Pharmaceuticals*). However the right to set limits on retail charges for pharmaceuticals and medical devices rests with the regional health authorities, within limits set by the Cabinet of Ministers. The regional health authorities also decide on levels of formal co-payments in state health facilities (see *Complementary sources of finance*).

The procedures for budgetary planning and decision-making by national and regional authorities are regulated by resolution by the Cabinet of Ministers, as

are salary scales in health facilities. Terms of employment are set by the Ministry of Health with the approval of the Ministry of Labour and Social Policy and the Ministry of Finance. The actual salary level received by an individual as well as additional payments and increments are set by the heads of the state and community health facilities, within the limits of available funds.

Contributions for mandatory social insurance covering temporal disability, occupational accidents and occupational diseases are determined by legislation that is usually revised by the parliament annually. Contributions are determined as a proportion of wages and salaries, with contributions for occupational accidents and diseases borne by employers, at a current (2002) rate of 2.12%, and contributions for insurance against temporal disability paid both by employers and employees at rates of 2.5% and 0.5%, respectively *(33)*. As mentioned earlier, the mandatory state social insurance is supervised by the Ministry of Labour and Social Policy.

The existing system is increasingly viewed as relying too much on regulation by central and local authorities. Planning is almost exclusively undertaken by the state. There is an understanding among decision-makers in the health field that the current situation is impeding progress and the development of more efficient ways of organizing care. The government is exploring ways of reforming the sector, specifically via the planning of capital and human resources. The "Concept of the Development of Health Care in Ukraine", adopted by presidential decree in December 2000, emphasizes the necessity to take account of the population's need for various types of health care, aiming at increasing the level of autonomy of facilities. The "Health of the Nation" programme of 2002 made provisions to transform these facilities into fully fledged economic entities. In addition, a number of mechanisms are being discussed to ensure participation of civil society in planning and management of health services. Thus, if the system was to move towards the insurance principle of health care funding, representatives of the insured would be involved as members of the supervisory board of the Social Health Insurance Fund. If a funding mechanism is adopted in which the state acts as purchaser of health services on a competitive basis, user representatives would be involved as members of tender committees dealing with the purchase of health services. These measures would complement the mechanisms for increased participation of the public that are, at least formally, already in place. However, once again, the fragmentation of decision-making, involving in this case a presidential decree, highlights a major barrier to effective implementation of any of these ideas.

In summary, a number of legal prerequisites have been created recently to change approaches to the planning and regulation of health care, but they are poorly coordinated and no actual steps towards implementation have been taken.

Decentralization of the health care system

In Ukraine, a highly centralized model of decision-making in the health care system inherited from the Soviet era has gradually been replaced by a system in which authority has been delegated to local administrations and self-governing bodies. As a consequence, many recent innovative activities in the health care sector were initiated at the regional and local levels rather than the national level. Today, the health care system is a complex multilayered system where responsibilities in the health care sector are fragmented among central government, 27 regional administrations, numerous administrative bodies at municipal, district, township and village levels, as well as other ministries.

Decentralization has meant deconcentration of functional and managerial powers at the regional and sub-regional level. Functional deconcentration means that the system is managed through the Ministry of Health of Crimea AR and the health directorates of regional administrations, which are financially and managerially independent, while functionally subordinate to the national Ministry of Health. Only the state Sanitary and Epidemiological Service and the State Inspection for Quality Control of Medical Products, each with relevant facilities at the different levels of administration remain fully centralized and vertically subordinated to the Ministry of Health. Deconcentration of general managerial powers at the regional and sub-regional levels means that executive functions in the oblasts and districts are exercised by the state administrations whose heads are appointed by the President. The head of the government in Crimea AR is appointed by its parliament. As outlined earlier, the government of Crimea AR and the other regional administrations have to ensure that decisions by local authorities including those relating to the health of the population conform to current legislation. They also coordinate the activities of state services. The heads of local administrations, in turn, with the approval of the Ministry of Health appoint the heads of health administrations and their deputies who participate in decision-making. The Minister of Health in Crimea AR is appointed to office by the parliament, and approves the appointment of the heads of the health facilities as do the heads of the other regional health directorates.

With the enactment of the law "On Local Self-Government in Ukraine" of 1997, significant budgetary authority was delegated to oblast and district councils who pass management functions in health care on to relevant local executive authorities. Somewhat similar relations are seen in Crimea AR between the Cabinet of Ministers, the republican Ministry of Health and the representative bodies. At the community level (village, township, city) these responsibilities are delegated to councils and their executive bodies who by

law are also responsible for managing the community health facilities and have certain additional powers including the assurance of accessible health services that are free of charge, development of a network of health services, human resource planning, contracting for the training of specialists, provision of pharmaceuticals and medical devices to certain disadvantaged population groups, accreditation of health facilities, and proposals for licensing individual entrepreneurial activities in the health care sector. Once again, local governments face a division of accountability, to the Ministry of Health for compliance with norms and standards, and to the local administrations for funding and management. They are responsible for:

- implementing national health policies at the local level
- drafting local budgets and proposals on health care financing; reporting to the councils on expenditure against budget
- funding and running public health care facilities
- pooling budgetary and other resources to invest into health care facilities
- undertaking appropriate action to prevent and eliminate communicable diseases.

In contrast, decentralization through privatization has been largely inhibited by provisions of the constitution prohibiting the reduction of the existing network of the public health facilities. Instead the private sector is developing mainly through the establishment of new private health facilities and medical practices.

Local authorities are given responsibility for organizing their health services subject to strict central regulation of their performance. Decentralization of financing along with increasing recognition of the health care needs of the population has, however, led to increasing inequalities between wealthy and poor areas. Deprived regions have been affected by a lack of sustainable sources of income, and health care has become a heavy burden on local budgets. A number of communities have found it increasingly difficult to maintain health services in the public sector. However, with the passing of the Budget Code (2001) strict rules were established, allowing for inter-budget transfers as of 2002. The volume of transfers is based on a specific formula that takes account of financial norms of adjusted budget allocations, the number of residents in the territory and an index of relative fiscal solvency. This mechanism has, to certain degree, levelled differences in budget capacities among regions and territories. In addition, the Budget Code explicitly defines the types of health facilities that can be funded by budgets at various administrative levels (see Box 1 below). However, public health care facilities may not be financed from more than one budget.

Box 1. Distribution of health expenditures covered by budgets at various levels determined by the Budget Code (2001)

State:

- primary health care, outpatient and inpatient care (multi-specialty hospitals and polyclinics performing specific national functions according to the list approved by the Cabinet of Ministers of Ukraine)
- specialized, highly specialized outpatient and inpatient care (clinics of research institutes, specialized hospitals, centres, leprosariums, hospitals for Second World War invalids, specialized health posts, specialized polyclinics, specialized dental polyclinics according to the list approved by the Cabinet of Ministers)
- sanatorium and rehabilitation care (nationwide sanatoria for tuberculosis patients, children and adolescents, war veterans)
- sanitary and epidemiological surveillance (sanitary and epidemiological stations, disinfecting stations, control interventions)
- other health programmes of nationwide function according to the list approved by the Cabinet of Ministers

Villages, towns and amalgamations thereof:
primary health care, outpatient and inpatient care (catchment area hospitals, outpatient departments, feldsher-midwife aid posts)

Districts, cities and towns in the Crimea Autonomous Republic and oblast-level cities and towns:
primary health care, outpatient and inpatient care (multi-specialty hospitals, maternity hospitals, accident and emergency care stations, polyclinics and outpatient aid posts, general dental polyclinics), health educational programmes (municipal and district health centres, health educational interventions).

Crimea Autonomous Republic and oblast budgets:
primary health care, outpatient and inpatient care; specialized outpatient and inpatient care (specialized hospitals, polyclinics including dental facilities, health centres, follow-up centres, hospitals for war invalids, orphanages, blood transfusion stations); sanatoria and health resorts (tuberculosis patients, children and young adults, rehabilitation); other state programmes in medical and sanitary aid (socio-medical expert commissions, forensic expertise, centres for medical statistics, bases of special health services, centres of health and health educational interventions, other programmes and interventions).

The most notable changes have taken place in specialized health facilities. The law has provided for centralized financing and management of specialized health facilities at oblast level. These provide a range of mental health, tuberculosis, dermato-venerological and other services, generally involving low technology but used by a substantial number of patients. The decision to concentrate these services at the regional level has raised concerns among health professionals and decision-makers, specifically in cities where these specialized services exist in independent structural units, as the changes may impede integration of municipal health services. The transfer of these facilities to the oblast level has also created problems for oblast budgets. A number of municipal administrations have therefore decided to formally convert, that is re-designate specialized facilities as multi-specialty facilities.

The recent move to strict legislative regulation of public finding of health care facilities has thus led to some streamlining of resource use but has created problems in integrating different levels of service provision. The draft law on social health insurance proposed to re-centralise health care financing in an independent state institution, the Social Health Insurance Fund. However, as noted earlier, the draft law was rejected by the parliament in its third reading.

Health care finance and expenditure

Main system of finance and coverage

Unlike many other areas of the economy, health care financing in Ukraine has essentially retained the Soviet tax-based approach, providing universal and theoretically free coverage. Officially the provision of free services in state-owned health facilities is guaranteed by the Constitution of 1996, which states in Article 49 that "in state and community health facilities care is provided free of charge; the existing network of these facilities may not be reduced." Article 49 also secures the right of citizens to health insurance and further requires that the state "encourage the development of health facilities of all forms of ownership." Most health facilities are still public property despite the slow development of a private health care sector. Government budgets therefore remain the major official source for health care finance, with some 80% based on local budgets and the remaining 20% on the state budget, respectively supervised by the regional authorities and the Ministry of Health.

The overall budget in Ukraine is mainly derived from inland revenues (about 60%), non-fiscal income and revenues from trade with capital and official transfers. Local budgets are derived, in part, from income, land, road and business taxes, license fees on certain entrepreneurial activities, environmental pollution payments and local taxes, dues and duties. The state budget comprises all revenues excluding those that are allocated to local budgets and payments for services provided by facilities that are funded by the budget. With the Budget Code of 2001, a system of inter-budget transfers was introduced to even differences between regions and to provide subsidies for social protection programmes.

The post-independence economic crisis led to a significant fall in state income, which also had a substantial impact on health care funding. Although

the actual share of the health care budget is about the same now as it was at the time of independence – at about 3% of the GDP – the sharp decline in GDP has meant a drop of over 60% in real-level health expenditures *(2)*. Also, while nominal spending almost doubled between 1996 and 2000 (Table 3), because of the high rate of inflation, real spending in 2000 constituted only 70% of the 1996 level *(34)*. This shortage of public funds is increasingly leading to patients being indirectly charged for services in public facilities, camouflaged as "donations" or "voluntary cost recovery" *(33)*. In addition, the population is burdened by expenditures not covered by the state, such as pharmaceuticals, medical devices or hospital food. Fee-for-service appears to be of minor importance, at about 2% of total health care spending, as is the role of voluntary health insurance. However, under-the-table payments for health services are very common (see also *Complementary sources of finance*).

Table 3. Health care spending, 1996–2000

Source of finance	1996	1997	1998	1999	2000
Total expenditure (million hryvna)	4 023.8	5 305.8	5 064.4	5 663.3	7 356.4
Consolidated budget (%)	81.4	77.7	71.7	67.3	66.4
Total from other sources (%)	18.6	22.3	28.3	32.7	33.6
Private expenses for services (%)	2.1	2.1	2.6	2.0	2.1
Private expenses for pharmaceutical and medical supplies (%)	16.2	19.8	25.1	29.8	30.1
Other	0.3	0.4	0.6	0.9	1.4
Total	100.0	100.0	100.0	100.0	100.0

Source: Calculations based on data from *(35,36)*.

The Ministry of Health estimates that another 5% of the health care budget is spent on maintaining facilities within the system of parallel health services run by other ministries and institutes. However, these figures are almost certainly an underestimate as they do not account for costs of supporting services run by the Ministry of Defence, the Ministry of Internal Affairs and some others. The Ministry of Health has launched an initiative to create a single health care system and to ensure common access to all facilities situated in a certain territory regardless of affiliation. However, the implementation of this strategy faces serious problems, mainly because the owners of the parallel facilities are anxious to guard their privileges.

Scarcity of state finance for health care and, given the current economic situation in Ukraine, the limited potential for further increases in funding, has prompted the government to seek additional sources of health care finance. One mechanism is to redirect a proportion of revenues from alcohol and tobacco

taxation into health care. This approach has been taken forward by presidential decree (2002), which has authorized the Cabinet of Ministers to consider establishing a health care fund that is based, in part, on these sources to secure adequate supplies of insulin, anti-tuberculosis drugs and vaccines. Once again, however, illustrating the weaknesses of legislating by decree, this has not been taken any further. Powerful lobbying of vested interests in the alcohol and tobacco industry has also hindered tax increases to European levels.

Both the government and the Ministry of Health place their hopes on a possible transition of health care funding from state and regional budgets to social health insurance. The legal framework for such a transition was set out in the 1998 "Fundamentals of Legislation on Mandatory State Social Insurance". The parliament is now considering a draft law on mandatory social health insurance, envisaging a system characterized by:

- coverage of the entire population;
- a specialized state non-profit insurance organization, the Social Health Insurance Fund, with branches in each region, responsible for collecting resources, contracting with providers, and reimbursing providers for services to the insured population based on tariffs determined by the Fund;
- income derived mainly from insurance premiums paid equally by employers and employees and supplemented by payments from local budgets and other state insurance funds;
- premiums levied as a proportion of income;
- a package of services determined by the Basic Programme of social health insurance;[2]
- finances independent of the state budget or other budgets and funds.

Adoption of the law has been delayed because of its considerable weaknesses, including a lack of sufficient detail in determining the level of insurance premiums, lack of clear requirements of the Basic Programme of social health insurance and insufficient detail about regulation of the Fund's activities. Also, it does not touch upon the issue of changing the status of health facilities, namely, transforming them from budgetary institutions without which would not be able to enter into full-fledged contractual relationships with the Fund *(34)*. However, the two main obstacles that have prevented the parliament from deciding on the introduction of social health insurance are a perceived inability to mobilize additional resources for health services in case of economic crisis and the additional tax burden on both employers and

[2] The SHI basic programme defines the state guaranteed volume, level and conditions of health care provisions under SHI, including level of co-payments.

employees. At present, the level of contributions to social insurance other than health insurance borne by the employers already exceeds 39%. Income tax is also rather high, ranging between 20% and 40%. Therefore, the introduction of social health insurance would require an accompanying tax reform not only to prevent overburdening the system and to address related social problems but also to revitalize the domestic economy *(37)*. Additional problems include lack of appropriate organizational infrastructure, regulatory mechanisms, experience with contractual relationships, adequate information systems and specialists in insurance and related areas. Yet, notwithstanding this list of seemingly intractable problems, some experts do not feel that these will be an obstacle to adoption of the law. Nonetheless, as noted above, it was rejected in its third reading in September 2003.

Health care benefits and rationing

In the Soviet period and in the first years of independence the then very basic health services were provided with few limitations. The only exception were outpatient drugs (which until the 1960s were few), cosmetic treatment and surgery, dental, hearing and optical aids. The majority of the population was charged for these services, although certain vulnerable population groups enjoyed privileges. However, limited financial resources following the economic downturn have resulted in successive extensions of the scope of non-explicit charging for services. In 1996, by resolution of Cabinet of Ministers, official user charges were introduced for a number of services provided by state and community health facilities. Although the official list was to include only services considered non-essential, in practice it comprised quite a few services that go beyond this requirement, the only exception being emergency care. Thus the list also included services such as examination and treatment of patients referred by private practitioners, organ and tissue transplantation, reconstructive surgery, and dental care. In addition, health facilities were allowed to ask patients for voluntary compensation for services not included in the list, which in essence is a hidden form of user charges. In fact, the spectrum of health services that could be provided for some sort of payment was essentially unlimited. Only health services for children were to remain free of charge. In practice, therefore, health care services provided in state and community facilities were no longer free to the user.

These developments have led to a substantial fall in access to health care. A representative survey of 9478 Ukrainian households undertaken by the State Statistics Committee in October 2002 showed that more than a quarter (27.5%)

of households were unable to obtain necessary health care for any member of the family *(38)*. Although this proportion is somewhat lower than the figure for 2000 (35.3%), little has changed since 2001 (28.7%) *(39)*. For the majority of respondents (88%–97%) this was mainly because of exceptionally high costs for drugs, devices for homecare and health services. Furthermore, about 9% of households were unable to consult a doctor because of financial difficulties, and another 5% were unable to obtain necessary inpatient treatment for the same reason. The study also demonstrated that a substantial number of hospital patients were charged for drugs (92.9%), food (83.0%) or bed linen (63.9%), the very services that the state health system is by law supposed to provide *(39)*.

Limited accessibility of health care and the lack of explicit boundaries between commercial and non-profit sectors in health care gave rise to widespread resentment among the population, leading to the 1998 Constitutional Court judgement that user charges for health services were non-constitutional. However, this judgement was not accompanied by any compensatory changes in the system, so in effect the situation of health facilities became worse. The financial crisis of 1998, affecting many ex-Soviet republics, aggravated the shortage of resources in health care even further. In an attempt to alleviate this situation government and parliament decided in 1998 to apply Article 18 of the "Principles of Legislation on Health Care" that allows health facilities to receive voluntary charitable contributions and donations from legal entities and individuals. Thus, between 1998 and 2000 overall resources derived from charitable donations rose seven-fold, although still constituting only a trivial proportion of overall health care spending in Ukraine, at about 1% in 2000 (Table 5).

In May 2002 the Constitutional Court revisited the official interpretation of Article 49 in the Constitution dealing with health care to be provided free of charge (see also Box 2). In its final ruling it stated that health care offered in state and community facilities should be provided to all citizens "without preliminary, current or subsequent payments". It also decided that charging citizens insurance premiums as proposed in the framework of the law on State Social Insurance was in violation of the constitution. At the same time it stipulated, however, that state and community health facilities could charge for services that are considered beyond the limits of health care. In addition, it was deemed possible to mobilize additional resources using voluntary insurance mechanisms and various forms of financial participation of the population (sickness funds, credit unions, etc.).

Based on the decision of the Constitutional Court, there is now work under way to draw concise definitions of the notions of health care and health services. However, despite terminological inconsistencies, in 2001 the government

determined a list of services that may not be financed from the budget *(40)*. Access to these services in state facilities is possible if the patient or a third party pays for them. There are no explicit criteria to define the services provided for charge. However, taking into account the range of such services, the government has decided to charge fees for services that are not considered essential (priority need), including cosmetic services, infertility treatment, unreported examination and treatment of substance abuse and STIs, surgical interventions for termination of pregnancy (unless medically indicated), dental, hearing and ophthalmic appliances, correction of vision using spectacles and contact lenses, dental care provided in private practice, physiotherapy for adults, and home care and treatment when feasible in outpatient setting.

There are, however, certain socially vulnerable population groups that are exempted from user charges or are able to access specific medical services for reduced charges, principally outpatient drugs. Pharmaceuticals that are dispensed free of charge or at reduced prices need to be prescribed by the patient's local physician and to be included in the list approved by the government. The population currently considered socially vulnerable includes veterans, individuals with certain disabilities, retired persons receiving minimum pension, children aged under 6 years, teenage girls and women with contraindications to pregnancy, victims of the Chernobyl disaster, children under 18 who suffered alopecia due to chemical intoxication in the city of Chernovtsy in 1988, retired and disabled victims of political repression and honourable donors (persons who have donated blood a certain number of times). In addition, patients with tuberculosis, diabetes, AIDS, cancer, mental illness, haematological conditions, myocardial infarction, rheumatism, bronchial asthma and a number of other conditions do not have to pay for outpatient drugs (however, especially in the case of AIDS treatment, the quantity of available drugs is very limited). The costs arising from benefits for certain population subgroups are, in theory, covered by the health care budget. However, in view of the generally dire financial situation of the health care sector, the potential for privileged provision of drugs is extremely limited. Thus, in reality, even patients in socially vulnerable groups usually have to pay for these services.

Current state commitments in the health care sector are essentially rhetoric and do not reflect the economic capacity of the country. Also, setting user charges for public health services is at odds with the principles of health care set out in the constitution. This discrepancy between the constitutionally guaranteed provision of free health care on the one hand and scarce financial resources on the other has elicited an intensive discussion on the need for a more realistic approach to health care. The legal basis was finally established by the law "On State Social Standards and State Social Guarantees" passed by the parliament

in 2000, determining the legal basis for the introduction of state social standards and norms for state guarantees in social policy and the financial resources for their implementation. Specific social standards have been set out, comprising, among others: the nature of a guaranteed package of health care provided in state and community health facilities; standards for diagnostic, curative and preventive procedures; indices of health care quality; standards of benefits in providing pharmaceuticals and medical supplies; standards for inpatient care; for providing pharmaceuticals to state and community health facilities; for providing sanatorium and resort care; and food provision in state and community health facilities. The key state guarantees include minimum salary and wages, minimum pension, the levels of state social assistance and other payments. The law also stipulates that to comply with state social standards and norms it is necessary to calculate standard levels of current health expenditure per capita, of current costs involved in the financing of the health facilities network and of state capital investments in the construction of health facilities. However, as this law is not being enforced, the guarantees remain mere rhetoric.

The actual volume of the guaranteed package of health care was, however, subject to intensive debate over a period for about two years following the passage of the law. Only after the ruling by the Constitutional Court did the government eventually approve the "Programme for Providing the Citizens of Ukraine with Free Health Care Guaranteed by the State" (2002), which comprises a defined list of health care services to be provided by state and community health care facilities:

- accident and emergency care
- outpatient-polyclinic care
- inpatient care for acute disease and emergencies requiring intensive treatment; 24-hour medical surveillance and admissions for epidemic indications, children, pregnant women, women in labour and patients referred by socio-medical expert commissions and medical-consultative commissions
- emergency dental care (complete for children, the disabled, students, pregnant women with children under 3 years)
- pre-physician aid to the rural population
- specialized sanatoria and health resorts
- medical care for children in orphanages
- medico-social expertise.

While this programme does not explicitly exclude services from the state guaranteed package of health care, as noted above the government earlier

determined a list of services that may be charged for in state and community health care facilities and which may therefore serve as a negative list.

The volume of health care to be provided free of charge is to be calculated on the basis of norms currently developed by the Ministry of Health. The standard for health care financing should be established on a per capita basis and it should provide for compensation of costs involved in providing care free of charge. With these provisions, the programme has, for the first time, introduced the principle of accountability by tying state commitments to the expected health budget. There is, however, scepticism among experts in the field as to the feasibility of developing a balanced programme of state obligations without changing the constitution to legitimize user charges for health services and to implement consistent policies aimed at structural reorganization of health care.

Complementary sources of finance

Until 1996, before the introduction of official user charges, the public share of health care financing in the Ukraine was about 80%, but it fell to 66.4% in 2000 (Table 4). However, taking account of informal payments (see below) the share of resources derived from general taxation was even lower, at 48%. At the same time, direct health expenditure by the population is increasing swiftly, with the share rising from 18.3% in 1996 to 30.2% in 2000; including informal payments this proportion is estimated to be even higher, at 51% in 2000. Such heavy reliance on health financing from private sources is usually only found in low-income developing countries, although comparable figures have also been reported from the Russian Federation *(41)*.

Table 4. Main sources of finance (%), 1996 and 2000

Source of finance		1996	2000
Public			
	Budget (taxes, non-tax revenues)	81.4	66.4
	Mandatory (social) health insurance	–	-
Private			
	Out-of-pocket (formal/informal payments)	18.3	32.1
	Private health insurance	0.3	0.7
International aid		–	0.8

Source: Calculations based on data from *(35,36,42)*.

As noted earlier, a private health care sector is developing slowly in Ukraine. Since independence a network of about 3500 private health facilities and about 30 000 individual medical practices has developed. However, the extent of costs related to private health care borne by the population is unknown, due to lack of appropriate data.

Out-of-pocket payments

As indicated above, out-of-pocket payments now constitute a major source of revenue for the health care system in Ukraine. These payments can be divided into several categories: official user fees charged by governmental health facilities for listed services; official "voluntary" contributions and donations; official payments for outpatient drugs; semi-official charges for consumable supplies such as drugs for inpatient treatment, agents, medical devices; informal user fees or under-the-table payments to providers; private provider charges for goods and services; and direct payments for non-prescription drugs and medical devices sold by pharmacies. The full extent of out-of-pocket payments is difficult to evaluate due to the scarcity of data. However, according to the State Statistics Committee, official payments by the population, excluding voluntary health insurance premiums, amount to 43.2% of the total health budget, and are increasing (Table 5). Much of this is spent on pharmaceuticals and dressing materials; payments for services and voluntary donations account for a smaller part of personal expenditure. The Ministry of Health estimates that in 1998, 4.5% of resources available to health facilities were derived from extra-budgetary sources; by 2000, this proportion had risen to 7.5%.

User charges for health services remain the main source of extra-budgetary income, mainly prostheses (31.9%), medical examinations (25.6%), services provided by the sanitary and epidemiological system (19.6%) and contractual inpatient treatment (8.3%). While revenues derived from voluntary charitable contributions and donations from legal entities and individuals account for a relatively small part of overall expenditures, they rose substantially to 51 million hryvna in 2000 compared to only 7.1 million hryvna in 1998. Recent unofficial assessments have estimated that the total turnover of informal resources in the health sector is now almost 3 billion hryvna (US $555 million) *(41)*, which is more than half of national consolidated budget envisaged for 2001.

Two regional household surveys undertaken in 1998–2001 showed that the total amount of formal and informal payments for drugs, supplies and medical services exceeded the health budget (by more than US $30 per capita) *(44)*. Over half of the population (51.6%) described their expenses for health care as

Table 5. Health care expenditure (in million hryvna), 1996–2001

Source of finance	1996	1997	1998	1999	2000	2001 (estimate)
Consolidated budget	3 274	4 123	3 632	3 809	4 888	5 599
Private expenditures						
Health care services	84.7	113.0	129.0	132.7	184.0	250.0
Pharmaceuticals and medical supplies	651	1 049	1 272	1 552	1 928	2 400
Voluntary health insurance	14.3	20.5	24.3	35.0	50.0	70.0
Charitable donations	–	–	7.1	19.0	51.0	58.0

Source: (36,43).

"back-breaking". Payments for drugs accounted for almost two thirds of overall expenses (62.5%), with a further 10% spent on health services and supplies provided by governmental health facilities, about 14% on informal payments and 13% on charges for private health care. Findings from an additional regional study carried out with support of the Open Society Institute (Budapest) have shown that of those receiving care, only 2% of inpatients and 5% of outpatients reported the treatment to be free of charge *(45)*. Between 1998 and 2000 user expenses for hospital treatment have risen more than 1.5 times. This trend in rising costs both in absolute and relative terms is especially worrying as family income is falling, creating a situation where low income groups delay visits to health care providers for economic reasons, with consequences for their health. Looking in more detail at the structure of expenses per inpatient and outpatient case, the survey showed that the majority of expenses are for drugs, 24%–27% for reimbursing health professionals and 6%–12% for diagnostic tests, examinations and medical procedures (Table 6). The proportion of informal payments was about 40%, with a considerable part of drugs also being purchased in the informal sector.

Table 6. Structure of patients' payments per inpatient and outpatient treatment (%), 1999–2000

Type of payment	Inpatient	Outpatient
Purchase of pharmaceuticals	43	51
Payment for physicians' services	20	21
Payment for services of nurses/junior nurses	4	6
Charges for diagnostic tests, examinations, medical procedures	6	12
Payments to managerial staff	12	–
Contribution to the health facility's budget (charitable donation)	15	10
Total	100	100

Source: Adapted from *(45)*.

Voluntary health insurance

Voluntary health insurance was legalized in Ukraine by the law "On Insurance" passed in 1996. As noted earlier, there are about 100 insurance companies offering coverage of variable degree, however, the VHI sector accounts for less than 1% of total health care spending. In 2000, about 800 000 people (about 1.5% of the population) were covered by VHI, with a total of about 36 million hryvna (US $6.7 million) spent on premiums. Recent estimates by the Ministry of Health suggest that, in 2001, revenues of health facilities from services provided to patients with voluntary insurance equal approximately 0.25% (12.8 million hryvna or US $2.4 million) of the resources allocated for health care by both state and local budgets. The reasons for the relatively slow development of VHI in Ukraine are diverse, ranging from the limited ability of many people to afford it to more general attitudes in a society where paying cash for health services is preferred over involving third party payers and where, among employers, there is little interest in insuring employees at the expense of profits.

Frequently voluntary health insurance serves as substitute for the state programme, although in some cases is also complementary, providing for higher quality inpatient accommodation, if the patient's contract so allows. VHI is exclusively offered by for-profit private organizations. As health insurance companies in Ukraine are generally small, they usually do not run their own health facilities but contract with public facilities. This means that they have only limited influence on the way services are delivered to their customers. They have to either accept the institutional structure and quality of care or else need to select the best facilities according to criteria such as equipment, personnel qualifications or adherence to sanitary and hygienic requirements. Still, it is not always possible to ensure the desired quality of health care. Thus, the widespread shortcomings in health care will be perceived to be more severe by patients who pay insurance premiums. Corporate (group) insurance purchased by employers is the main form of voluntary health insurance in Ukraine; individual insurance is less common. Many companies purchasing VHI prefer substitute insurance without actuarial settlements, thereby replacing paid services by various financial schemes. Employees will receive compensation for their personal expenses, primarily for drugs and medical devices up to a fixed maximum amount. In this case the insurer does not carry any financial risks, i.e. is not liable for use of health resources but acts merely as transmitter of resources.

The framework within which VHI operates in Ukraine is not clearly defined. People purchasing VHI are not only paying for what they are entitled to by law but also for the right to be treated in the best facilities. Further expansion of

the voluntary health insurance sector will depend on a number of conditions, including a clear definition of the boundary between state obligations and additional packages of health services and drugs not paid for within state guarantees, extension of tax incentives for individuals and legal entities aiming to purchase voluntary health insurance and more generally increasing knowledge of the population about its strengths and limitations. However, even if these conditions are met an immediate expansion of the VHI is unlikely simply because it is not affordable by the general public.

Sickness funds

As an alternative means to mobilize additional resources for the health care system, a number of nongovernmental organizations (sickness funds, credit unions) as well as various charitable institutions and funds were established in Ukraine, with the latter having formed a rather well-developed network of 4805 institutions and funds by 1 January 2001.

Sickness funds (SF) are public organizations established on a voluntary basis and guided by common interests to improve health care for their members. The first sickness funds in Ukraine date from the mid 1990s and were established in the cities of Odessa and Voskresensk (Nikolayiv oblast). They were founded on the basis of Article 36 of the Constitution of Ukraine that stipulates the right of the citizens to form public organizations to protect and exercise their rights and freedom and to satisfy their interests. Initially they were established on the basis of the law "On the Unions of Citizens" (1992) and from 1998 in accordance with the law "On Charity and Charitable Institutions". Sickness fund membership is voluntary; it may comprise individuals as well as working collectives, enterprises, agencies and institutions paying premiums for their employees. Participation of an individual in the sickness fund is confirmed by his/her membership card. Their major function is to provide pharmaceuticals to their members in case of need. A number of sickness funds have also committed themselves to contribute modern medical equipment to health facilities, to the development of targeted programmes, to personnel training and retraining, to advocacy of healthy lifestyles, protection of mother and child health and other activities.

The income of sickness funds is derived from a number of sources, most importantly non-earmarked membership fees that are determined as percentage of salary (usually no more than the 5% range) or fixed payment (3–7 hryvna per month). Other sources include contributions from founders and members, charitable contributions and donations and profits from charity transactions. The performance of SFs depends on the number and nature of its members. For

this reason, preference is given to collective membership where occupational collectives, enterprises or institutions cover the fees for their employees. The actual contribution of SFs or other forms of health care funding is difficult to assess, mainly because of the lack of relevant data, although in general it appears to be rather low. However, in smaller cities where municipal SFs have been established with the active support of local authorities, both the population and health facilities are generally very positive about their performance, highlighting improved accessibility and quality of health care. Examples include Zhitomir oblast, Kirovograd oblast, city of Komsomolsk (Poltava oblast) and Priluki city (Chernihov oblast). Thus, in the Zhitomir oblast the "Sickness fund of the Zhitomir oblast" has been operating since 2000. It comprises about 100 000 people, which equals 7.1% of the population (including 12% pensioners, 15% children, 63% working population) with a monthly contribution of 5 hryvna. In 2002 and the first quarter of 2003 the sickness fund's revenues totalled more than 3.5 million hryvna, which were used to provide drugs to 42 880 patients. Accuracy of drug prescriptions is monitored by SF experts. An additional 77 000 hryvna were spent on purchasing diagnostic kits and on mending medical equipment of oblast health facilities *(46)*.

A somewhat different model was adopted in Kirovograd oblast, where sickness funds were established in almost all rayons over a period of 3 years (2000–2002). About 70% of members are pensioners or at pre-retirement age. According to information from Kirovograd rayon, the monthly contributions are determined at 5% of salary or pension, with an upper limit of 15 hryvna 14 kopeks. Coverage also extends to dependant children of members. In 2002, SF revenues amounted to 2.3 million hryvna, which enabled increasing provision of inpatient drugs from 1.8 hryvna to 9–10 hryvna per one bed-day, with some impact on hospitalization and surgery rates, including an improvement in the emergency-elective surgery ratio from 60:40 in 2000 to 35:65 in 2002, and a decline in overall and postoperative mortality rates. There are now plans to coordinate all SFs within the oblast and to use various sources of financing including social insurance funds, contributions from agricultural, financial and commercial institutions as well as individual contributions *(47)*.

In Komsomolsk (Poltava oblast) the sickness fund has been operating since 2000. It covers about 7% of the city adult residents with an average contribution of 40 hryvna per year. Treatment costs members, mainly drugs for inpatient treatment, equal 152 hryvna. In total, SF assets account for 4% of the city consolidated health care budget *(48)*. The sickness fund in Priluki (Chernihov oblast) aims to provide its members with drugs and medical devices in cases of inpatient treatment and emergency care. As in Kirovograd oblast, membership contributions are 5% of salary, pension or unemployment benefits. Coverage

extends to dependant children and students up to age 23. In 2002, the fund covered the costs of care for 2322 people in Priluki, with a population of over 64 000.

These and many other examples of local sickness fund initiatives suggest that they appear to be able to reduce the overall cost of drugs and medical devices to members and to facilitate better monitoring of prescription practices. However, since sickness funds cover only a small proportion of the population, their impact on overall health care spending is rather limited.

External sources of funding

Ukraine receives external funding for health care from a variety of sources. Major donors to the health sector include international organizations such as United Nations agencies, and the European Union and individual countries, mainly Canada, Germany, Switzerland and the United States *(49)*. Examples include the allocation of about US $40 million by UNICEF for a campaign to support breast feeding (1999–2000), and the contribution of US $3.4 million by UNFPA and USAID for the implementation of a reproductive health programme. Related programmes funded by USAID include the Ukrainian-American Birth Defects Surveillance and Prevention Programme (1998–2004) and the Maternal and Infant Health Programme (2002–2006). Other USAID-funded activities in Ukraine are in the field of HIV/AIDS prevention as well as tuberculosis control. The World Bank approved a loan to the Ukraine of US $60 million in December 2002 for the control of tuberculosis and HIV/AIDS (subject to ratification by the Ukrainian government); a grant of over US $92 million to "Overcoming HIV/AIDS epidemics in Ukraine" was awarded by the Global Fund *(50)* (see *Public Health Services*). Donor activities specifically concentrating on health care reform include those of USAID, EU-TACIS and the Open Society Institute (OSI), mostly focusing on funding mechanisms, especially in relation to the possible introduction of mandatory health insurance, as discussed by the parliament. Thus, USAID is supporting a series of health partnerships between American and Ukrainian health care providers to further the capacity of recently established family medicine clinics to provide high quality primary care services, with a total budget of US $12.6 million in 2001–2002 *(51)*. EU TACIS has commenced a 3-year project on prevention and primary health care (€2 million; 2002–2005) and has issued a call for tenders for a project on health financing and management, with a total budget of €4 million (2003–2006). The EU has also supported major initiatives on HIV/AIDS Prevention and Awareness Raising (€2 million; 2000–2003), on tuberculosis prevention and control (€2 million; 2002–2005) and a programme to developing medical standards (€2.5 million; proposed starting date early 2004, until mid-2006).

In addition, the EU has awarded smaller grants on health care financing and on employment of health care workers, with plans to establish a follow-up programme on HIV/AIDS prevention for young people in Ukraine (€2 million). The International Renaissance Foundation, a member of the Soros Foundations network/OSI has supported a number of initiatives in the field of public health, with a major focus on harm reduction and strengthening public health capacity through education (total 2002 budget of about US $960 000) *(52)*. There are also a number of donor-supported projects contributing to health sector reform in a more indirect fashion, such as the EU TACIS programme on restructuring the pharmaceutical industry in order to improve the competitiveness of selected pharmaceutical enterprises and support them in complying with EU regulations on Good Manufacturing Practice (GMP).[3] However, overall donor activity in health care contributes only little to the overall financing of the health care sector, with recent figures estimating the proportion at less than 1%.

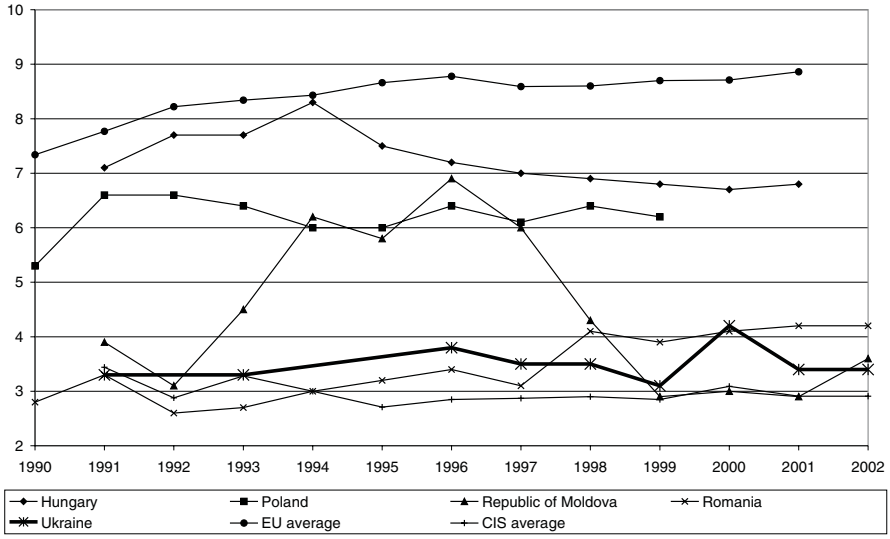
Health care expenditure

The exact level of total health expenditure in Ukraine is difficult to determine, mainly because of inconsistencies between statistical data from different sources and especially because of problems in obtaining data on health care spending in the informal sector. According to data from WHO government health care expenditure during the 1990s has fluctuated between 3 and 4% of GDP (Fig. 3).

This is lower, on average, than in Georgia and Belarus although somewhat higher than the average of the former Soviet republics (CIS average: 2.9% in 2002). It is, however, lagging considerably behind its neighbouring countries in central and eastern Europe: 6.2% in Poland (1999) and 6.8% in Hungary (2001) and more substantially behind the European Union average of 8.9% (2001) *(7),* and of course this share is of a very much smaller GDP. Comparisons between countries must be treated with caution since health expenditure figures for Ukraine only include governmental expenditure but not (formal and informal) payments made by users of health care. Still, according to WHO data, by 2000 public health care spending in Ukraine had risen to 4.2% of GDP but fallen back to 3.4% in 2002.

[3] EU Tacis projects "Enterprise Privatization and Restructuring Programme – Assistance in Restructuring th e Pharmaceutical Industry in Ukraine" (€1.7 million; 12/1998–3/2001) and "Establishment of a National GMP Inspectorate" (€0.85 million; 6/2001– 2/2003).

Fig. 3. Trends in total expenditure on health as a % of GDP in Ukraine and selected countries, 1990–2002



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

It is important to note that data from the State Statistics Committee of Ukraine show a somewhat different picture. According to this source, governmental health care spending had increased to almost 5% of GDP in 1995, subsequently fluctuating around 4%, following the temporary recovery from the economic downturn after independence. The crisis of 1998, however, which affected practically all CIS countries, resulted in a decline in state health expenditures with the average figure now at 2.8% of GPD (Table 7), one of the lowest proportions in the WHO European Region (Fig. 3). There is some suggestion that in 2001 this indicator increased somewhat, however it was not possible to obtain accurate quantitative data. A recent report by the United Nations Country Team estimated the 2001 figure at 2.7% *(6)*. And although health expenditure as a percentage of overall state expenditures did show some fluctuation, it remained rather stable, at around 10%. However, as noted earlier, although the overall share of the public budget going to health care is about the same now as it was at the time of independence, the sharp decline in GDP has meant a drop by over 60% in the real level of expenditures for health.

Table 7. Government health care spending, 1990–2000

Expenditure	1990	1995	1996	1997	1998	1999	2000
Health care expenditure as % of state expenditure	10.1	10.3	9.2	11.5	11.6	10.9	10.3
Health expenditure as % of GDP	2.6	4.7	3.9	4.2	3.5	2.9	2.8

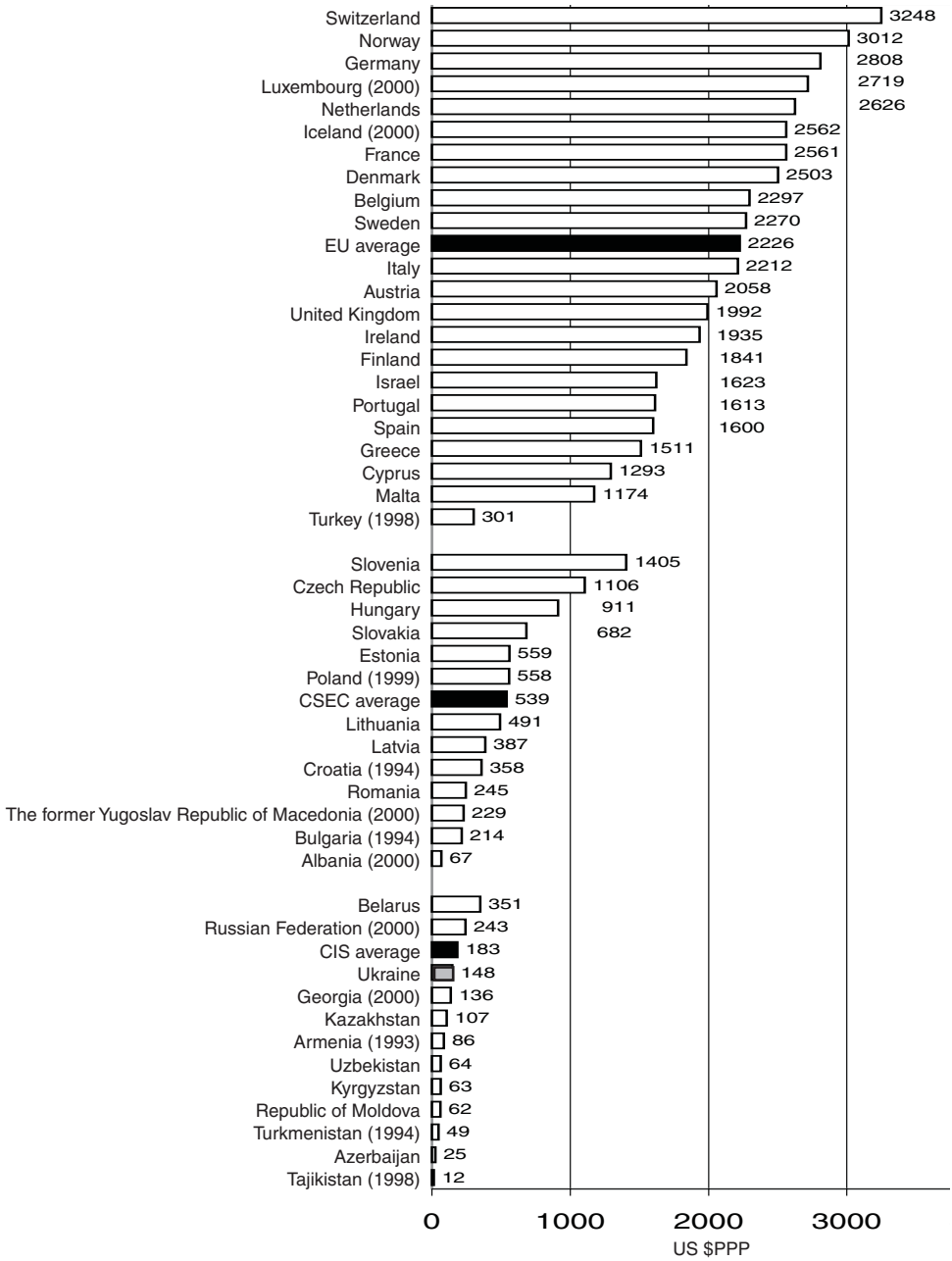
Source: Data of the State Statistics Committee of Ukraine, 2001 *(35).*

In absolute terms, Ukraine spends US $178 PPP per person (2001), which is only 6.6% of the EU average of US $2226 PPP (Fig. 4). Compared to other former Soviet countries, Ukraine is lagging behind Belarus (US $351 PPP) and Russia (US $243 PPP in 2000), spending about 20% less than the CIS average of US $183 PPP.

Structure of governmental health care expenditure

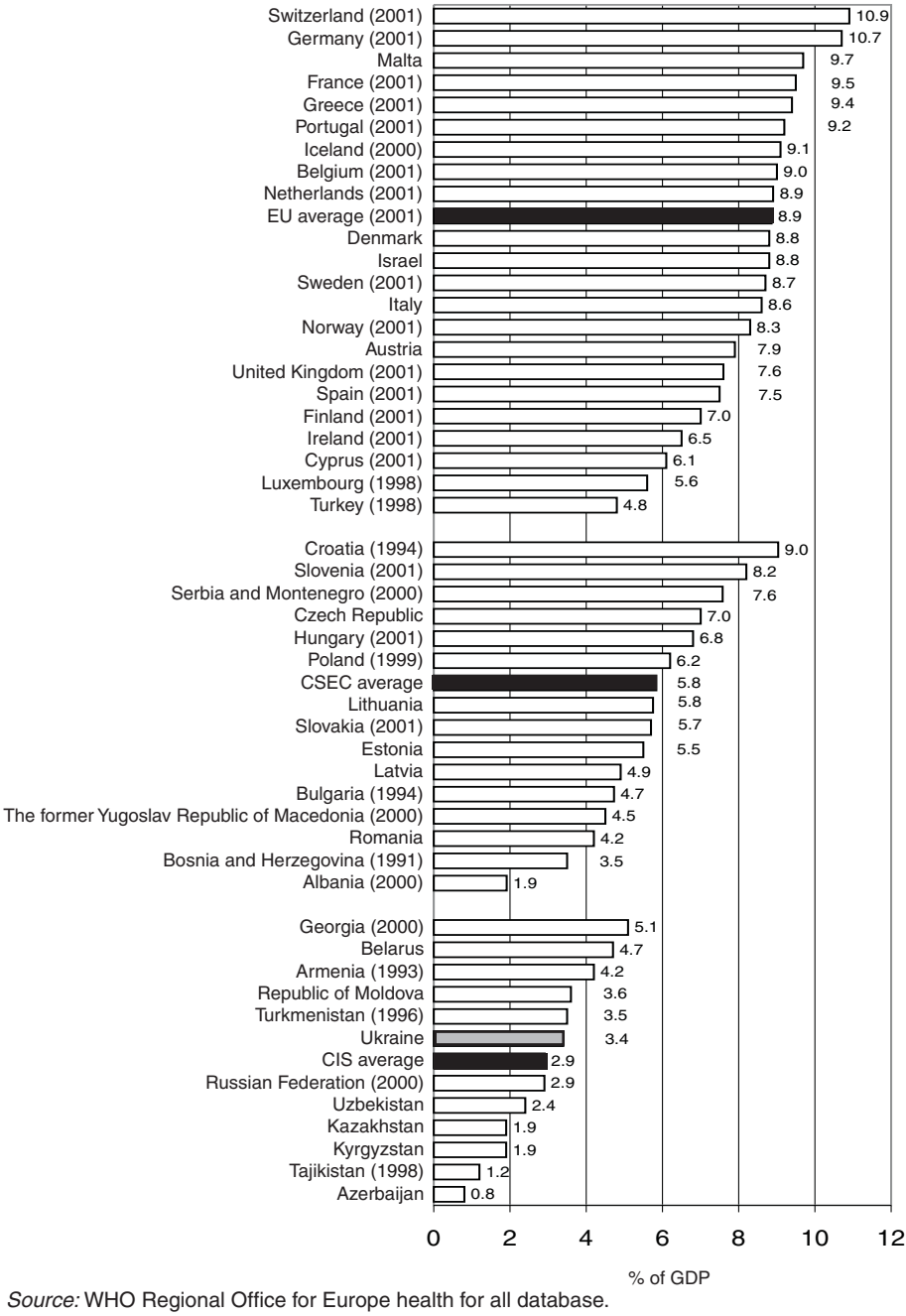
In the early 1990s, about 80% of governmental (state and local) expenditure on health care was for inpatient care (Table 8). This share gradually declined over time, falling to just over 60% of public health care spending in 2002. This decline can be explained, in part, by the over 30% reduction of hospital beds during the 1990s. In contrast, the proportion spent on pharmaceuticals did not change substantially after 1993, despite a short-lived downward trend between 1996 and 1998. However, available data do not fully reflect the pattern of expenditures on pharmaceuticals. Sales data of the State Statistics Committee point to a rapid increase in expenditures for pharmaceuticals both in absolute and relative terms (see *Pharmaceuticals*). The change in the share of capital investments can be divided into two periods: the first, between 1993 and 1997, was characterized by a rapid decline in capital investments and the proportion of recurrent expenditures in the public health care sector was close to 100%; in the second, from 1998 onwards, the share of public investments in health care steadily rose to 7.3% in 2001. Still, public investment in health care in Ukraine faces serious challenges. The Ministry of Health estimates that the decline in mainstream health care funds exceeds 50%. Replacement of failing infrastructure and outdated equipment progresses only very slowly. Over the last 10 years, the pace of replacement was maintained at a level of 1.9% per year. In most health facilities the replacement rate of outdated medical technology and equipment is about 2% *(53).*

Fig. 4. Health care expenditure in US $PPP per capita in the WHO European Region, 2001 or latest available year (in parentheses)



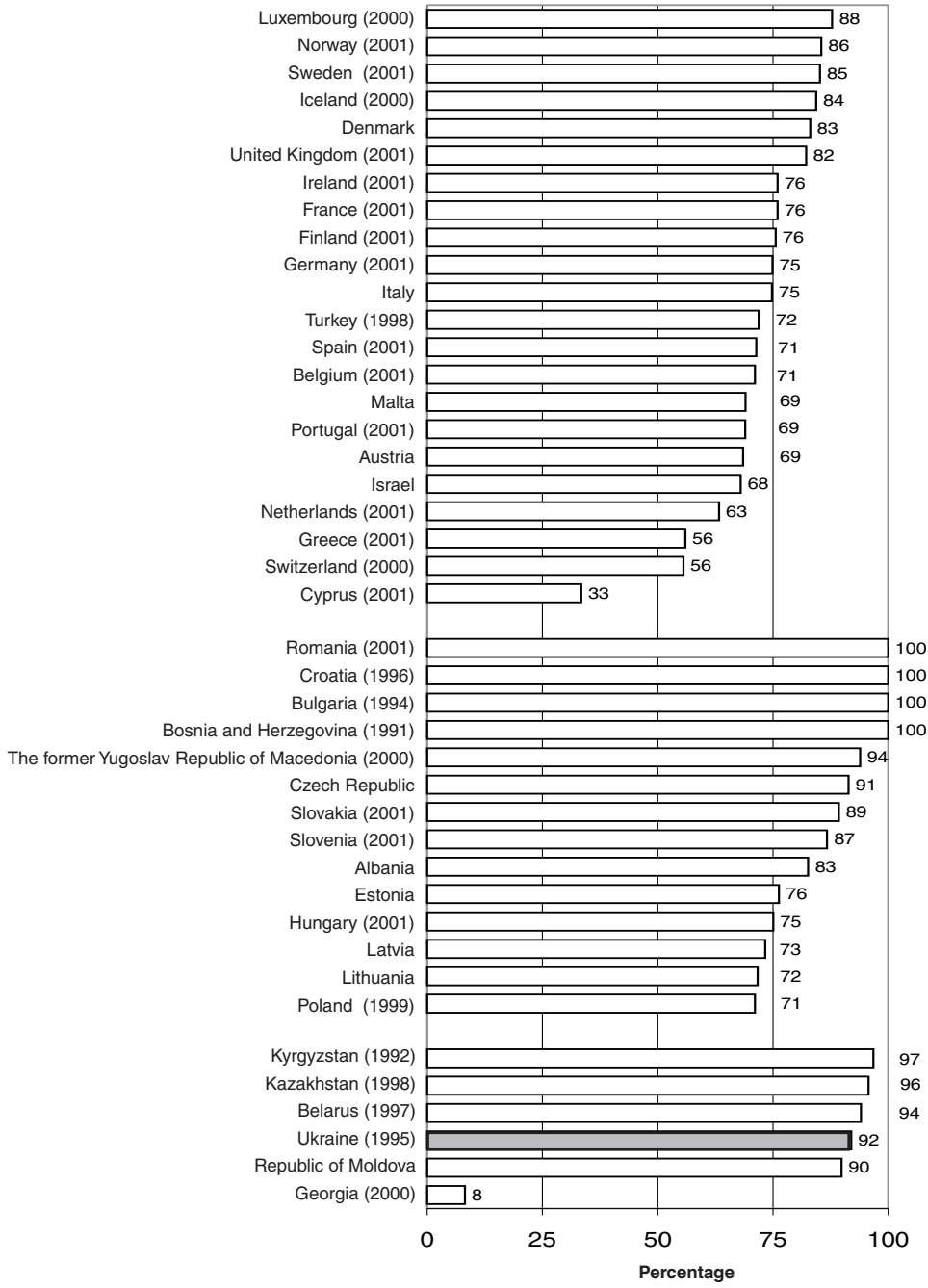
Source: WHO Regional Office for Europe health for all database.
Note: CIS: Commonwealth of independent states; CSEC: Central and south-eastern European countries; EU: European Union.

Fig. 5. Total expenditure on health as a % of GDP in the WHO European Region, 2002 or latest available year (in parentheses)



Source: WHO Regional Office for Europe health for all database.
Note: CIS: Commonwealth of independent states; CSEC: Central and south-eastern European countries; EU: European Union.

Fig. 6. Health care expenditure from public sources as a percentage of total health care expenditure in countries in the WHO European Region, 2002 or latest available year (in parentheses)



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

Table 8. Health care expenditure by categories (as percentage of total expenditure on health), 1993–2002

Total expenditure[a] on	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002
Inpatient care (%)	78.6	80.0	82.0	80.0	79.4	67.9	64.2	64.0	63.5	63.0
Outpatient care (%)	–	–	–	–	–	–	–	–	–	–
Pharmaceuticals (%)	11.0	15.2	12.0	9.2	6.9	7.0	10.2	11.6	13.3	–
Capital investment (%)	3.4	2.6	3.6	3.1	1.1	5.0	7.3	6.5	7.3	–

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

[a] expenditure from state and local budgets as % of expenditure of state and local budgets

Health care delivery

The basic principles of health care delivery in Ukraine have changed little since independence, with much of the system still working according to the Semashko model, with resource allocation based on capacity (number of beds, number of visits). While this way of funding did enable the creation of an extensive network of health facilities in the past its potential for further development has long been exhausted.

All services in the state sector are provided by staff who are effectively public servants. Thus, the existence of quasi-contractual relationships between health facilities and enterprises or institutions as purchasers of certain complementary services does not affect the interests of health staff in public facilities. As of 1 January 2001, the health care delivery system in Ukraine comprised 9129 health facilities including multi-specialty inpatient facilities providing both inpatient and outpatient care, independent polyclinics and ambulatories and 16 197 feldsher-midwife aid posts (FMAPs). About 86% of these facilities are publicly owned, another 2% are in the parallel systems *(53,54)*. As noted previously, the private sector has been developing slowly during the last decade. Numbers vary by data source, with an estimated 1000 to 3500 private health facilities and about 30 000 individuals holding a license for private medical practice. Most private health facilities have limited capacity and their role in providing health services to the population has so far been insignificant, generally considered to account for less than 1%. There is some indication that specialists holding licenses for private practice are also working in the public sector as the income from private practice is limited; however, there is no reliable information available as to the extent at which this is happening. Further expansion of the private health care sector is inhibited by the low living standards of the majority of the population.

In general, the system of health care delivery in Ukraine faces stark contradictions. It maintains financial and economic mechanisms that stimulate further expansion of the health facilities network and an increase in capacity, i.e. hospital beds and physicians while at the same time experiencing a sharp reduction in budgetary financing. This takes place against the backdrop of a society where the majority of the population is facing substantial financial difficulties, thus aggravating the problem of health care accessibility and affordability.

Primary health care

The primary health care (PHC) structure currently in place in Ukraine is essentially that inherited from the Soviet era. It had created a large network of primary level health care units in rural and urban areas, comprising (paediatric) polyclinics (or polyclinic departments in hospitals), polyclinic units of Medsanchasts (work place related clinics), women's consultation clinics, rural physician's ambulatories and outpatient departments in rural hospitals. In 2000, PHC facilities in Ukraine comprised 6456 facilities providing ambulatory-outpatient care including 2738 freestanding polyclinics and ambulatories and 2702 outpatient hospital departments.

The organization of primary care delivery is based on the territorial-district principle by which the area serviced by a particular PHC unit is divided into catchment areas (uchastok) with a certain number of residents. Each catchment area is assigned a primary care physician, with uchastok internists and paediatricians the key primary care providers, about 25% of the total number of physicians. The number of patients is set at 1700 adults per internist and 800 children per paediatrician. In urban areas, however, an internist is currently responsible for about 2100 people.

Ukrainians were granted free choice of PHC physician as early as 1989 by the Ministry of Health of the Soviet Union. However, this has as yet not been implemented widely. Thus, while, in theory, a patient would have the option to change PHC provider, this is usually blocked by the receiving physician since it would stretch the territorial boundaries of the catchment area and also complicate provision of home visits.

There is no strict distinction between primary and secondary care in Ukraine. Patients may seek care by a specialist directly without formal referral by their catchment area physician and this opportunity is used widely. The practice is further encouraged by uchastok physicians themselves, who are remunerated at fixed rates regardless of their workload and performance and thus have little

incentive to compete for patients. In addition, the very low level of skills and equipment amongst catchment area physicians further encourages patients to bypass the primary care level altogether. As a result, fewer than 40% of patients who visit district polyclinics actually see their assigned physician, while the remainder are treated by specialists *(55).* The over-involvement of specialists at this level has a number of implications for health care. Studies suggest that involvement of specialists as the first point of contact, whether deliberately or because of patient dissatisfaction with PHC, leads to depersonalization of the doctor-patient relationship, a lower quality of care and misuse of outpatient-polyclinic potential. At the same time, the primary level physician who bears responsibility for the health of the catchment population turns into a narrow "specialist for internal diseases" who provides care only for patients with the most minor complaints. Direct access of patients to specialists thus causes a number of problems, including errors in diagnosis and treatment and low levels of disease detection.

Despite the difficulties many people in the Ukraine face in accessing health care because of lack of funds, reported utilization rates have remained surprisingly stable over the last 10 years, at around 9–10 outpatient contacts per person and year *(7)* (Fig. 7). However, this indicator is of somewhat dubious validity and depends quite substantially on numbers of contacts of certain types, such as preventive examinations. Thus, with the traditional form of preventive examination a team of 6–7 health professionals of different specializations would register 6–7 separate contacts. However, compared with other countries in the European Region, Ukraine ranks fairly high, at 10.3 contacts per person and year (2002), ranging third among the CIS after Belarus (11.4) and the Russian Federation (9.6), whereas these figures are considerably lower in the countries of central and eastern Europe and in EU countries, at 7.0 and 6.2 (1997) per person and year, respectively.

Primary health care in rural areas

About one third of the population in Ukraine live in rural areas, some only sparsely populated at around 30–70 people per km^2. This poses considerable problems for the provision of health care. The main PHC provider in rural areas is the physician ambulatory, generally located in the administrative and economic centre of the catchment area. In 2000, the PHC network in rural areas comprised about 3800 rural physician catchment areas, responsible for an average of 4600 residents. Many rural physician ambulatories are free standing facilities (63%) while about 25% are part of catchment area hospitals and 13% are under the supervision of district hospitals. In addition, each rural physician catchment area encompasses, on average, four to five feldsher and midwife aid

posts (FMAPs). These facilities are, however, unequally distributed with almost one third of rural areas having no nearby health facility.

Staff quotas for rural primary care are similar to those for urban areas. However, due to difficulties recruiting sufficient staff the actual number of residents per practising physician is considerably higher than the normative levels. Rural physician ambulatories typically comprise three specialties: internal medicine, paediatrics and dentistry. Ambulatories servicing smaller population sizes of about 1000 to 1300 have only one physician, providing basic care. In practice, however, especially in remote areas far from the district (rayon) centre, physicians often have to take responsibility for emergency care. Additional services provided by rural ambulatories include antenatal and postnatal care, basic preventive activities such as immunization and health education.

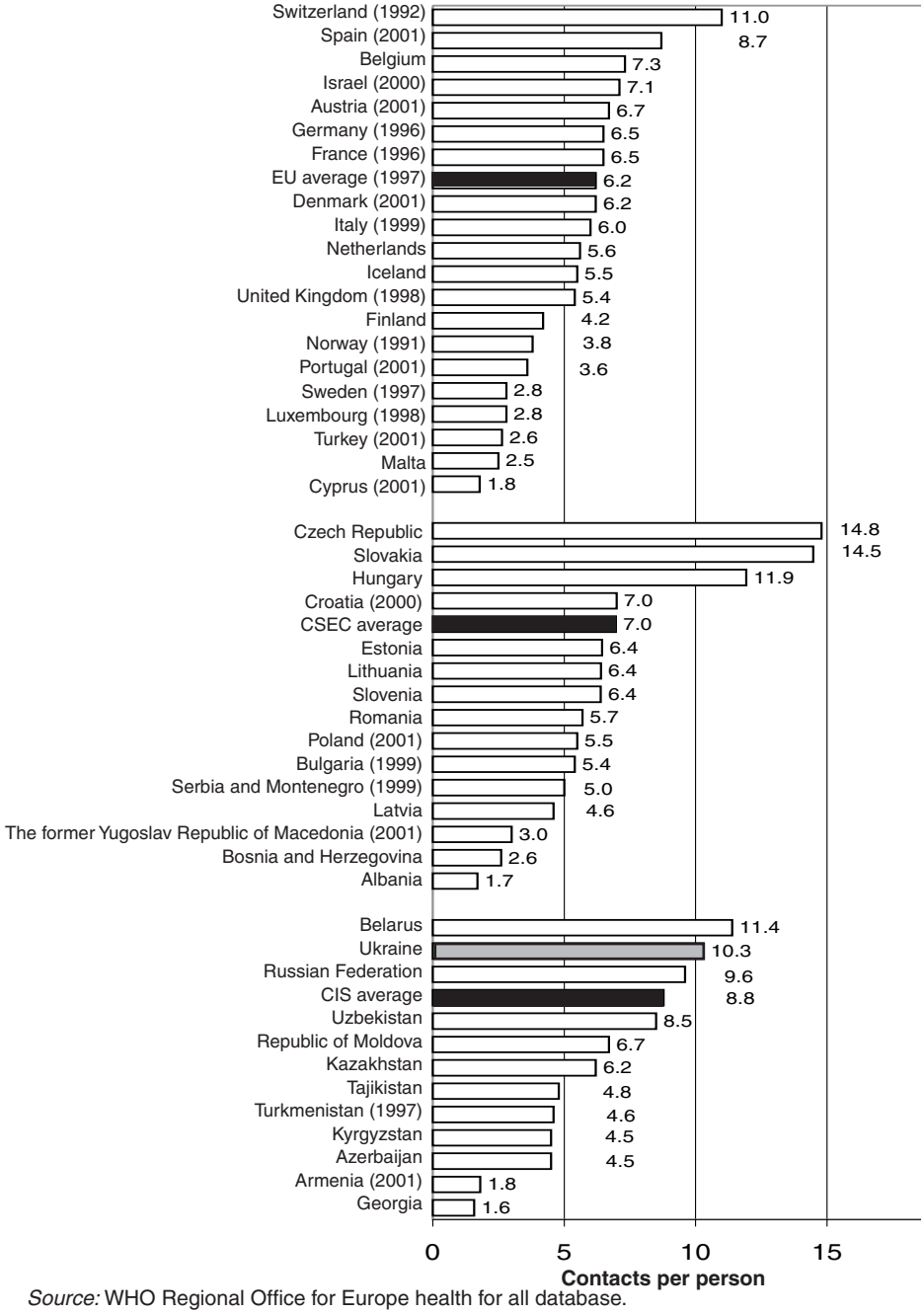
Feldsher-midwife aid posts (FMAP), staffed with feldshers and midwives or feldshers only, provide simple curative services, first aid, prescription of drugs, antenatal and postnatal care as well as basic preventive activities such as immunization. FMAPs usually service areas of 300 to 3000 residents. Currently there are about 16 000 such facilities in the country. In a recent move by the Ministry of Health towards developing PHC on the principles of family/general practice, several rural hospitals have been reorganized into ambulatories. Also, FMAPs that provide services to populations of 1000 or more have been converted into ambulatories. This has resulted in a 50% increase in the number of freestanding physician ambulatories between 1991 and 2000, and there is also a trend towards replacing services provided by feldshers by physicians (Table 9). However, contacts with mid-level health personnel continue to prevail in rural primary health care. The government is now planning to further break up the structure of rural physician catchment areas to draw primary physician care closer to the population. A new workload norm has also been introduced for general practitioners (GPs) practicing in rural areas of 1200 population, lower than the 1500 norm for GPs in urban areas.

Table 9. Utilization of primary health care services by the rural population, 1991–2000

Indicators	1991	1999	2000
Outpatient contacts with physician per rural resident	2.1	2.4	2.6
Outpatient contacts with middle-level health FMAP personnel per rural resident	3.7	3.6	3.6
Proportion of contacts in rural PHC facilities (%)	36.7	40.4	41.4
- with physician	36.7	40.4	41.4
- with mid-level health FMAP personnel	63.3	59.6	58.6

Source: (36,56).

Fig. 7. Outpatient contacts per person in the WHO European Region, 2002 or latest available year (in parentheses)



Source: WHO Regional Office for Europe health for all database.
Note: CIS: Commonwealth of independent states; CSEC: Central and south-eastern European countries; EU: European Union.

Accident and emergency care

Emergency posts provide 24-hour services in 118 free-standing and 921 hospital-based ambulance stations. Emergency care is provided by mobile teams of physicians or feldshers. At present, ambulance stations face a number of problems due to insufficiently or poorly maintained vehicles, insufficient funds to provide mobile teams with necessary medicines, equipment for emergency care and petrol.

Restructuring primary health care

During the past 15 years Ukraine has gone through a long and tedious debate on the best approaches to developing primary health care, involving the transition to a model based on the principles of family medicine/general practice. Early attempts date back to a 1987 regional project in Lvov Oblast by order of the Ministry of Health of the Soviet Union. Despite the ongoing debate on PHC development strategies, active training of general practitioners was already initiated in the 1990s. Many medical schools established departments of family medicine/general practice to provide postgraduate training primarily for practising internists and paediatricians. In 1995, the official title "general practitioner/family physician" was established by order of the Ministry of Health and in 1997 family medicine was included in the physicians' specialty catalogue. In addition, organizational schemes and models of PHC organization based on the principles of family medicine are now being tested in various regions *(57,58).* However, lack of a clear national policy on PHC development had impeded progress of reform and preserved the status-quo.

This has changed only recently with the adoption of two significant documents in 2000, the "Concept of the Development of Health Care in Ukraine", which incorporates family practice-based PHC as a key area of health reform, and a resolution by the government "On Comprehensive Measures Directed at Introducing Family Medicine within the System of Health Care", followed by the creation of the necessary regulatory basis for the development of family medicine in Ukraine in 2000–2001. The Ministry of Health developed a strategy for gradual transition to basing PHC on family medicine *(59)*, followed by a number of bills regulating various aspects of primary care such as qualification and training of health professionals or organizational aspects. Workload norms have been modified towards 1500 adults and children in urban settings and 1200 in rural areas. As a consequence, after a period of relatively modest growth in the number of family physicians in health facilities (from 78 in 1996 to 244 in 1999), numbers more than doubled immediately after adoption of the new policy, from 440 in 2000 to 1038 in 2001. These increases were more rapid in

rural areas where about 80% of all family physicians were working in 2001. The greater participation of rural areas in these developments is largely because smaller peripheral rural physician ambulatories had essentially always provided a broader range of services to their patients. Transforming rural physicians' ambulatories into family ambulatories gives legal status to the already existing situation and at the same time may help improve the quality of care, provided these facilities are staffed with adequately trained personnel and have the necessary equipment.

However, it has been pointed out that, given the workload of 1500 residents per family physician, to cover the whole population of Ukraine would require 33 000 family physicians; thus only about 2% of the need is actually met *(60,61)*. Thus, converting all existing PHC units according to the family medicine principle and setting up a network of general/family practices in urban and rural areas by the year 2010, as proposed by the governmental programme "Health of the Nation", will require substantial efforts. At present, family medicine in Ukraine is only beginning. However, the fact that primary health care reform is regarded as a key component of health system development may be interpreted as a major achievement on its own. The health system is still facing many problems, including how to administer and finance PHC, remuneration of health personnel and information support. Local authorities have now become active in resolving some of those problems, for instance, a number of smaller towns have initiated model projects based on a partial fund holding model that have introduced per capita financing of PHC.

Public health services

Public health in Ukraine remains based on the traditional and largely obsolete functions of the state Sanitary and Epidemiological Service (San-Epid), namely, the control of communicable diseases and environmental protection. However, new public health functions are now being developed, especially in response to the re-emergence of infectious diseases such as tuberculosis and newly emerging health threats such as HIV/AIDS. Programmes on disease prevention and health promotion are being implemented as well as a specific programme on reproductive health.

State Sanitary Epidemiological Service

The structure and functions of the San-Epid service, developed during Soviet times, have changed little since Ukraine's independence. Its main activities

include epidemiological surveillance, laboratory-based investigation of outbreaks of communicable diseases, monitoring food and water supply, identifying environmental hazards and monitoring the health status of the population in general.

The San-Epid service in Ukraine is administered in a strongly hierarchical fashion with services at the national, regional (oblast/city) and district level. In 2000, it comprised 807 facilities, including 778 sanitary-epidemiological stations (including 478 stations in rural areas, 178 municipal and district, 24 oblast, 2 central and one republican as well as 18 water port and basin posts and 56 San-Epid stations on railway transport), 28 disinfecting stations and one anti-plague station. At that time, the San-Epid service employed 65 000 people, including approximately 11 000 medical doctors and 27 000 mid-level health staff. The facilities have laboratory capacity for physical-chemical and microbiological analyses. Specialists in the San-Epid service are responsible for maintaining preventive and routine sanitary and epidemiological surveillance to ensure safe working conditions in enterprises, public facilities and institutions. Services are run separately from the rest of the health care system with only some contact with primary health care in relation to activities such as immunizations.

Until 2001 local San-Epid services were funded from oblast budgets. This was changed in 2001 when their management and financing was centralized to the state budget through the Ministry of Health, to detach the service from local authorities and ensure that their operating budgets are not influenced by local politics.

HIV/AIDS

Activities to control HIV/AIDS in Ukraine date back to the Soviet era, with a special regulation by the Soviet Ministry of Health mandating systematic HIV testing of selected population groups issued in 1987. Individuals identified as being HIV infected were to be hospitalized in a specialized department *(18)*. In Ukraine, these widely criticized policies were changed after independence, with a law "On the Prevention of AIDS and on Social Protection of the Population" coming into force in 1992 and a national AIDS Committee being created by presidential decree in May 1992. It was followed by the adoption of the first national programme on AIDS prevention by the Cabinet of Ministers for the period 1992–1994 to which more than 15 million hryvna were allocated. This was accompanied by a parallel national programme on controlling drug abuse and the illegal circulation of drugs (1992–1994). A follow-up to the first programme on AIDS prevention was adopted in 1995, extending over the period 1995–1997. The national AIDS Committee was abolished by presidential decree later in 1998, however, with the Ministry of Health being designated the agency

responsible for the management and multisectoral coordination of HIV/AIDS related activities as stipulated by the 1998 amendment to the 1992 law on AIDS prevention *(6)*. A National Coordination Council was established subsequently, but it was replaced after only one year by the National Commission on AIDS in November 2000, following the Ukraine's commitment to the United Nations Millennium Developments Goals to combat the spread of HIV/AIDS. The National Commission is responsible for coordinating Ukraine's response to the epidemic *(6)*.

This response encompasses the National Programme for Prevention of HIV/AIDS in Ukraine for 2001–2003. Its full implementation was ordered by presidential decree in August 2001, following the United Nations General Assembly Special Session on HIV/AIDS (UNGASS) Declaration of Commitment on HIV/AIDS, held in June 2001. At the same time, President Kuchma declared the year 2002 as "The Year of the Fight against AIDS" *(20)*. The presidential decree also stipulated a wide range of further measures to control HIV/AIDS in Ukraine, from the establishment of a charitable trust and charitable lottery for HIV/AIDS to the inclusion of HIV/AIDS education in school curricula *(6)*. The National Programme itself focuses on priorities for HIV prevention and issues of care and treatment of people living with HIV/AIDS.

It is hoped that these recent activities have the potential to stabilize the current calamitous situation in Ukraine; at the same time it is, however, being recognized that full implementation of the programme will require mobilization of substantial domestic and foreign investments. HIV/AIDS in Ukraine has been identified as a priority area for development assistance by the United Nations, with previous efforts by the Ukrainian government and the international donor community recognized as having been unsuccessful in halting the crisis *(20)*. The United Nations Country Team in Ukraine (UNCT) has prepared a joint UN system response to the HIV/AIDS epidemic entitled "ACT NOW". It aims to support the implementation of the government's strategy in HIV/AIDS and to improve coordination among government agencies and between national and international participants *(62)*. In December 2002, the World Bank has approved a US $60 million loan for the Tuberculosis and HIV/AIDS Control Project in Ukraine designed to complement the national government's efforts to reduce tuberculosis and HIV/AIDS morbidity and mortality *(63)*. However, this agreement has as yet not been ratified by the parliament. In April 2002, Ukraine was also awarded a grant of over US $92 million by the Global Fund to support three areas to overcome the epidemic, including the provision of treatment, care and support for people living with HIV/AIDS, to support a range of services aimed at high-risk groups and to improve information and education *(64)*. However, first disbursements have become available only recently because of a lack of suitable infrastructure; in addition, concerned with the slow progress

that had been made so far the Global Fund withdrew its support in January 2004 but relaunched it about four weeks later *(65,66)*.

In practice, some of the most effective measures, albeit on a small scale in relation to the scale of the epidemic, have been undertaken by the nongovernmental sector, such as the work of the International Harm Reduction Programme of the Open Society Institute that has been active in the implementation of harm reduction activities.

Disease prevention

The USSR was relatively successful in controlling tuberculosis and other communicable diseases in the immediate postwar period, with mandatory immunization for tuberculosis, poliomyelitis, diphtheria, pertussis, tetanus and measles. While the general oversight of immunization campaigns is the responsibility of the San-Epid service, the actual planning of activities and registration of children eligible for immunizations is the responsibility of catchment-area paediatric services. Immunizations of children are organized and performed by special units in children's polyclinics (vaccination rooms) or polyclinic departments of hospitals, rural health facilities and nurseries and schools.

After independence, the system of infection control in Ukraine rapidly faltered, with a lack of appropriate funds leading to a shortage of vaccines, disruption in vaccine supply and vaccines of poor quality. This, along with acceptance by physicians of unsubstantiated medical contraindications, inconsistent adherence to safety injection rules and increasing refusal rates by parents has resulted in a fall in immunization coverage and quality. As a consequence, Ukraine has experienced the return of a number of preventable infectious diseases. Outbreaks of diphtheria were recorded as early as 1991 in Kiev, Lvov and Odessa, subsequently spreading into the other parts of the country with incidence rates increasing from under 0.5 per 100 000 population in 1990 to over 10 per 100 000 in 1995 *(67)*. In response, in 1993 the Ministry of Health initiated a vaccination campaign targeted at high-risk adults, supported by international assistance. These activities, however, failed to halt the epidemic. A mass-immunization strategy targeting ages 16–59 was thus adopted in 1995, again supported by the international donor community. As a result, incidence rates fell steadily after 1995, to less than 1 per 100 000 population in 1999 *(7)*.

At present, the reported coverage of the population with vaccinations is around 95%. This figure should be interpreted with caution, however, as the denominator is likely to reflect only those available for immunizations. Also,

the problems with immunization experienced in the 1990s continue to take their toll. For example, the reported coverage of children vaccinated against measles has remained high since the mid-1990s, at around 97%. However, this figure must be questioned given the fluctuating incidence of infection, with rates increasing more than 20-fold between 2000 and 2001, from 1.69 per 100 000 to 34.55 *(22).* Other evidence suggests that this increase was largely attributable to the low coverage of children with re-vaccination against measles in 1991–1993, at about 70% only.

The very large increases in STIs in the 1990s have challenged the traditional approach to STI control inherited from the Soviet Union, with a vertical network of dermatovenereology services providing diagnosis and treatment, screening of defined population groups and mandatory notification of cases *(68)*. However, because of shortages of funds during the 1990s many public facilities had to rationalize their services. At the same time, the number of private facilities offering STI diagnosis and treatment in Ukraine is increasing *(69)*, and more STI patients are seeking care in the private sector. It has been estimated that about 50% of STI treatment in hospitals in Ukraine is provided in private facilities *(33)*. However, another 30%, though provided in public and municipal hospitals, is also funded through private sources, i.e. informal payments to doctors and financing of public hospitals. STI cases treated in the private sector will not be reported and it is estimated that the current notification system captures only 60%–80% of STI cases in Ukraine *(69)*. Thus, the observed recent decline in syphilis notification rates, may, in part, reflect changes in completeness of reporting as the rate of congenital syphilis among newborns remains high *(68).* In 1998, Ukraine adopted a National Programme on Comprehensive Measures on STI Control. Although STIs are known to facilitate HIV transmission and their control is therefore of great importance, the focus of international assistance has been on HIV/AIDS.

The worsening of the tuberculosis epidemic in Ukraine noted earlier has been attributed to a number of factors. Lack of sufficient funds has resulted in failure to modernize and equip tuberculosis facilities and, more generally, to maintain overall treatment services, leading to a decline in access to services. Also, the continuing increase of tuberculosis rates was facilitated by the emergence of the HIV epidemic, with a reported 50% of adults dying from AIDS in 1997 having tuberculosis *(24)*. At present, the share of tuberculosis cases that are HIV-positive is estimated at 54 per 100 000 population *(22).* The increase in multi-drug resistant tuberculosis resulted from inadequate treatment and shortages in the drug supply. In response to the tuberculosis epidemic, the Ministry of Health adopted a National Programme for Tuberculosis Fighting for 2002–2005. This initiative gained major support by the World Bank with a loan of US $ 60 million for the Tuberculosis and HIV/AIDS Control Project

in Ukraine *(63)* although, as noted above, the loan has not been ratified by the parliament and is therefore not yet available. The project follows past and ongoing initiatives by the international community to control tuberculosis, such as by EU-TACIS in Kiev and USAID/WHO in Donetsk,[4] and is designed to build upon these earlier activities and to facilitate closer coordination between various donors and the Ministry of Health *(63)*.

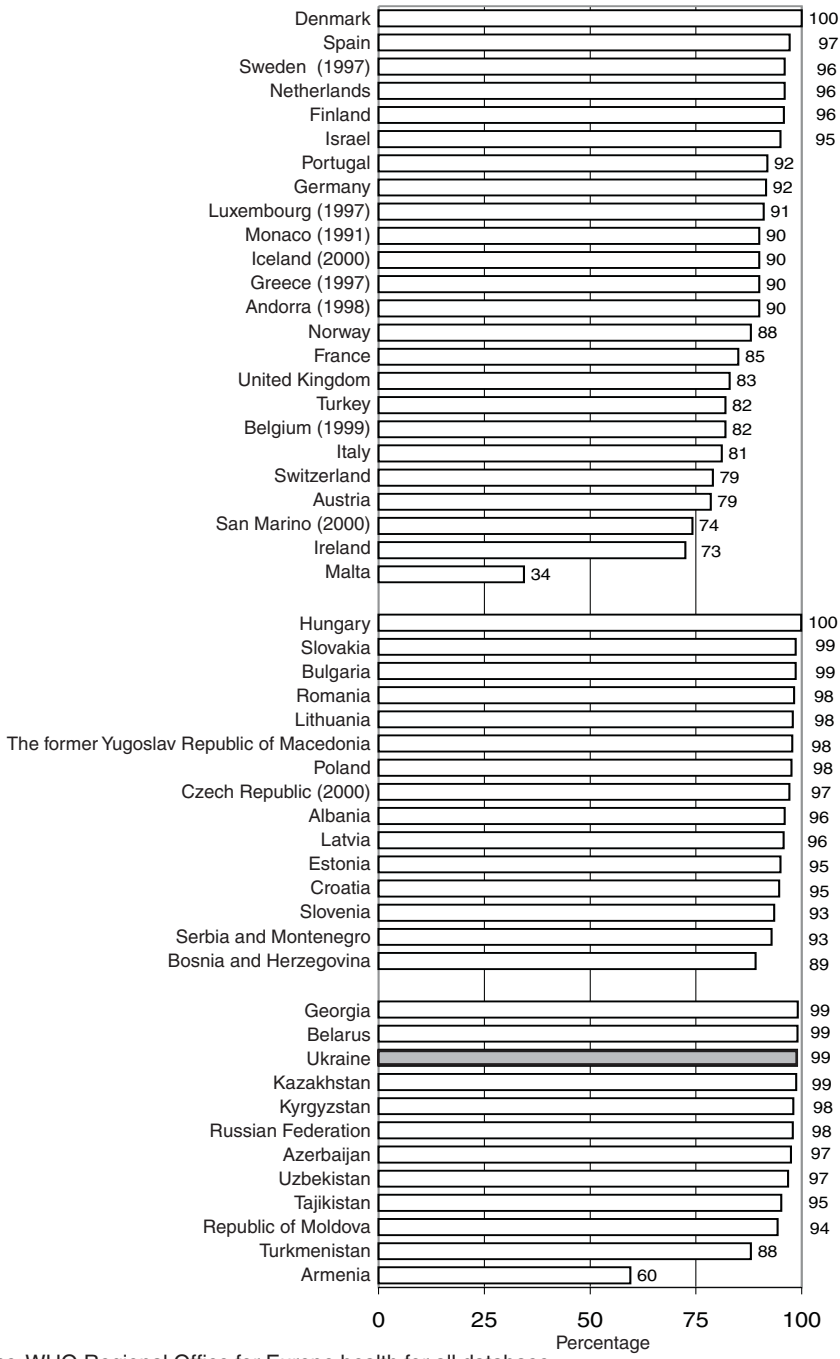
In addition to population health services to control communicable diseases, Ukraine has implemented a number of actions aimed at preventing noncommunicable diseases, including legislation requiring medical surveillance of defined members of the workforce such as those in certain service industries (catering, children's institutions, schools) as well as those exposed to hazardous or conditions in the workplace. The responsibility for arranging and conducting regular compulsory medical examinations of employees lies with the owners of enterprises, facilities and institutions. Monitoring adherence is the responsibility of the San-Epid service.

Monitoring of community health has traditionally been the function of catchment area health services, a policy that had been introduced during Soviet times. Catchment area physicians were supposed to monitor morbidity in their assigned population, identify factors affecting health and, based upon these data, develop preventive activities. However there is little evidence of effectiveness of these programmes. Monitoring of the health status of children has been delegated to catchment area paediatricians, who perform medical examinations at regular intervals: monthly for infants, quarterly for children aged one to two years, biannually for children aged three and annually for children up to 14 years. Health screening (prophylactic examinations) is to be performed in accordance with specific programmes depending on age, by doctors of a remarkable array of specialties (otolaryngologist, ophthalmologist, surgeon, neurologist, dentist and others when indicated) as well as laboratory and instrumental services, again with little evidence of effectiveness. Certain population groups are subject to frequent follow-up monitoring such as pregnant women, individuals at risk of developing diseases, chronically ill patients and patients with recurrent disease.

While this scheme was followed rather precisely during the Soviet period, preventive activities in public health facilities were affected quite substantially by the shortage of funds during the 1990s, especially services for the adult population. A number of preventive units within polyclinics had to be closed, thus limiting access to preventive services. However, recently there has been revitalized interest in prevention and there are plans to reinstate these subunits.

[4] The USAID funded Ukraine Tuberculosis Control and Prevention Programme in Donetsk is implemented by WHO/EURO (http://www.usaid.kiev.ua; accessed 11 October 2003).

Fig. 8. Levels of immunization for measles in the WHO European Region, 2002 or latest available year (in parentheses)



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

The Ministry of Health is also considering monitoring the population's health. At the same time it is, however, recognized that there is a need to revise the lengthy and expensive organizational model currently in place that involves a team of specialist doctors using screening tests despite a lack of any evidence of effectiveness.

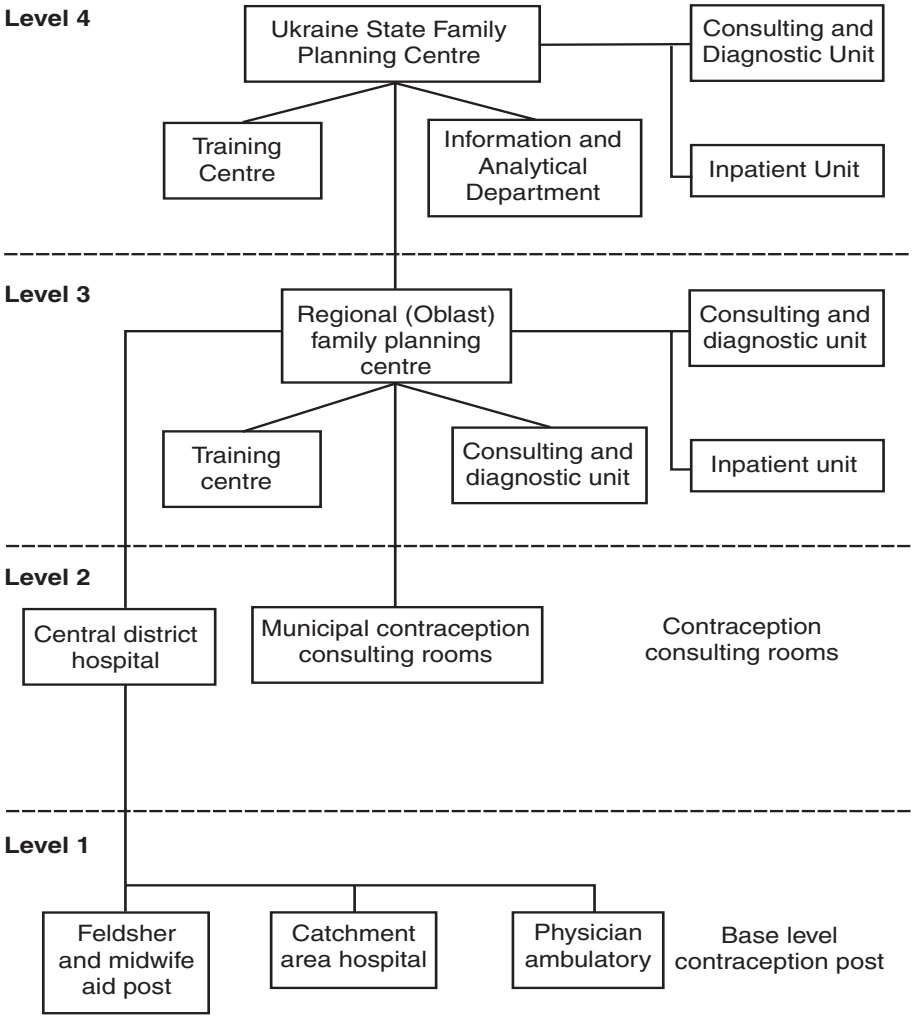
Maternal and child health

Particular attention is being paid to the development of family planning and reproductive health services in Ukraine, with women's health centres and perinatal centres are now being established. The successive implementation of two national programmes, Family Planning (1995–2000) and Reproductive Health (2001–2005), with the assistance of international agencies such as USAID, POLICY/Futures Group and JHPIEGO/PCS (at John Hopkins University), enabled the creation of a comprehensive family planning service (Fig 9). In March 2002, the Cabinet of Ministers approved the Directive on Safe Motherhood that lays the foundation for reducing maternal and infant mortality through improved access to reproductive health services and family planning information. The network of family planning centres and consultation rooms is still being developed. The service is headed by the Ukrainian State Family Planning Centre established at the Ukrainian Research Institute of Paediatrics, Obstetrics and Gynaecology. Regional family planning centres and contraception consulting rooms have been established within obstetrical and gynaecological services. Among the primary health care entities, only rural health posts implement the objectives of family planning.

These new measures have thus far been relatively successful, with abortion rates falling by almost 2.5 times, from 82.6 per 1000 women of reproductive age in 1990 to 34.1 in 2000. However, abortions continue to an important method of birth control in Ukraine. Government statistics suggest that modern methods such as mechanical or hormone-based contraceptives are utilized by only about 20% of women of reproductive age; according to the Reproductive Health Survey of 1999 this rate is somewhat higher, at 37.6% *(60)*. More frequent use of modern contraception is hampered by high costs and low public awareness.

Additional programmes specifically target health in early childhood, such as the Target Programme of Genetic Monitoring in Ukraine for 1999–2003, issued by presidential decree in 1999 *(70)*. A network of medical-genetic facilities is now being established. A particular challenge is the high rate of mother-to-child transmission of HIV (MTCT), with almost one in three HIV-positive women giving birth to an HIV-positive baby *(20)*. At present, the health system lacks the capacity and resources to diagnose and monitor children born to HIV-infected mothers *(6)*. Further problems arise from the lack of training for

Fig. 9. Organizational structure of family planning services



health professionals to work with HIV-infected children, who – because of the social stigma surrounding HIV/AIDS – may be denied access to education or adequate care and treatment services *(6)*. UNICEF and MSF have established pilot programmes in selected regions in Ukraine to support prevention of mother-to-child transmission and provide other support *(16)*. A governmental programme to treat pregnant women and newborns was initiated in 2000 and has substantially reduced the risk of vertical transmission. Initially, many regions lacked adequate resources and capacity to implement the programme *(2)*, but the situation appears to have improved with all pregnant women now being tested for HIV.

Health education and health promotion

Health education is, in principle, one of the designated tasks of physicians and nursing staff, mainly those working in primary care. Specialized "health centres" are responsible for coordinating activities and involving non-medical facilities and institutions. However, health professionals working in these facilities have no special training in health education or health promotion, which have previously played only a minor role in public health activities and have become even less important after independence due to staff reductions and massive cuts in budgets. As a consequence, provision of health education dropped substantially as did the production of video and printed health education materials.

Ukraine has engaged in a number of international programmes and activities based on modern health promotion strategies, including the WHO Healthy Cities Project and the European Network of Health Promoting Schools. However, the level of engagement has been relatively low. For instance, the development of an Ukrainian National Healthy Cities Network has been very slow during the six years of implementing Healthy Cities Project (1994–2000) with as yet only five cities having acceded to the network. The European Network of Health Promoting Schools is being implemented more actively. As of 1 January 2001, 160 secondary schools were integrated in the Health Promoting Schools network. A related activity is the Young People's Health and Development (YPHD) programme to promote healthy lifestyles among young people *(71)*. Its main emphasis is on creating supportive social environments for youth health and development, with HIV-prevention one of the most important areas. Other activities include frequent television and radio programmes, educational campaigns on pressing issues of health protection and, since 2000, the publication of a popular weekly periodical on self-care and mutual care, "The ABC of Health".

Only recently has the government been paying more attention to the potential for modern health promotion activities and approved the comprehensive programme "Physical Education – Health of The Nation" in 1998, followed by the "National Programme on Patriotic Education of the Population, Encouraging Healthy Lifestyle, Development of Spirituality and Strengthening of Moral Principles of Society" in 1999. The national programme "Health of the Nation" (2002–2011), adopted by the Cabinet of Ministers in 2002, incorporates the promotion of healthy lifestyles as an essential activity to advance population health in Ukraine, envisaging a package of multisectoral activities including education and the creation of healthy living conditions. However, as already noted it is far from clear whether it will ever be implemented. Other proposed laws concern health promotion and tobacco and alcohol control.

Secondary and tertiary care

Outpatient care

Secondary care is provided in polyclinics and outpatient departments of hospitals and dispensaries, which are specialized facilities for secondary outpatient and inpatient care and monitoring to defined categories of patients. As there is no strict distinction between primary and secondary care in Ukraine, specialists in municipal polyclinics provide services to patients referred by primary care physicians and those who seek care directly. As at the primary care level, organization of secondary outpatient care is based on the territorial principle, with each polyclinic being assigned a defined area. Area residents are entitled to full diagnostic examination and appropriate treatment and may be referred to the tertiary level when necessary. An average multi-specialty polyclinic servicing an area of 25 000 residents comprises six or seven specialists such as surgeons, orthopaedists, traumatologists, neurologists, ophthalmologists and otolaryngologists, whereas larger polyclinics may also have cardiologists, rheumatologists, gastroenterologists, urologists and others.

In Ukraine much attention is paid to maternal and child health. Outpatient obstetrical and gynaecological care is provided by women's consulting clinics that are part of maternity hospitals or polyclinics. Women's consulting clinics provide antenatal and obstetric care as well as annual cancer screening. All pregnant women are entitled to two ultrasound examinations during pregnancy and to screening for syphilis and HIV/AIDS. Secondary outpatient care may also be provided by private medical facilities although information about the extent of their actual usage is rather limited. There is some indication that private dental practices are developing rather rapidly and that these compete quite successfully with public dental polyclinics. Private STI clinics are also fairly common, usually small office-type clinics for anonymous treatment of STIs, obstetric clinics (small clinics and reproductive health centres offering family planning and infertility treatment) and alcohol and drug dependency treatment centres or services.

Tertiary outpatient care is provided mainly in oblast hospitals and dispensaries. Larger multi-specialty hospitals are usually located in larger cities and may offer a fuller range of services such as allergy, burns care and others. Treatment may be provided by physicians from both outpatient and inpatient departments of health facilities. Tertiary outpatient care generally requires referral from a secondary care physician, as was the practice in Soviet times, though the requirement has not been so strictly enforced lately.

Inpatient care

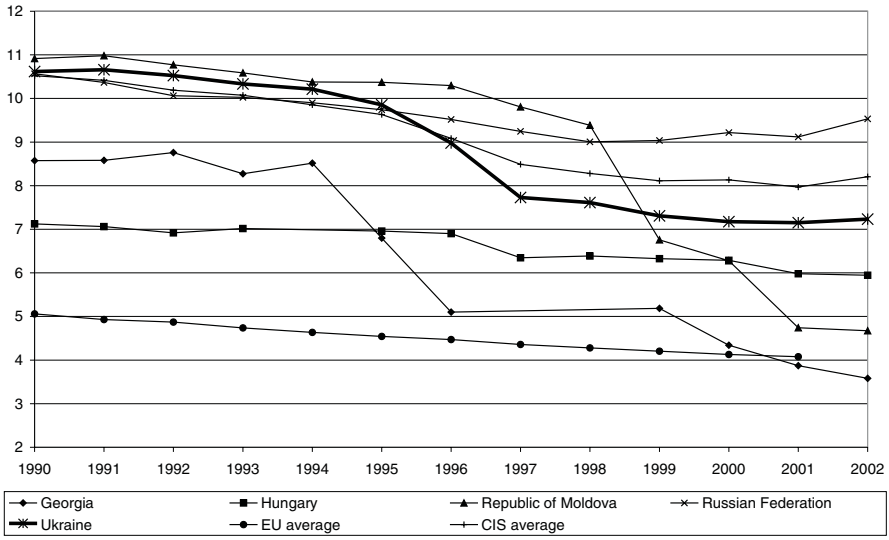
According to data from the State Statistics Committee, there were 3258 hospitals in Ukraine in 2001, providing about 466 000 beds. Over 90% of hospital beds are located in inpatient health facilities under the normative scope of the Ministry of Health, including 592 municipal, 104 paediatric municipal, 486 central district, 948 rural, 25 oblast, 104 specialized, 93 maternity and 93 psychiatric hospitals and 367 dispensaries *(43)*. The inpatient system is organized into three levels. The first (lower) level is that of rural catchment hospitals. These are very basic inpatient facilities with an average of 16 beds (3.5% of all hospital beds), providing limited care for patients with conditions that would be managed outside hospitals elsewhere: rehabilitation, completion of treatments, simple obstetric care, etc. The second level is that of municipal and central rayon hospitals, comprising about 70% of all hospital beds. Municipal hospitals provide, on average, 190 beds, a central rayon hospital about 230 beds. They offer several specialties in usually 7 to 12 units, although the range of specialties covered is not regulated. Larger cities have specialized hospitals, most often for communicable diseases, as well as maternity hospitals. In addition, municipal dispensaries provide inpatient health care for some socially significant diseases such as tuberculosis, STDs, mental disorders, endocrine conditions and others. The third level is that of regional and supra-regional specialization provided by oblast hospitals and dispensaries, and specialized clinical and diagnostic centres of national research institutes. These facilities comprise over 25% of the total number of hospital beds. They were designed, originally, to provide highly specialized medical care to patients with the most severe and complicated conditions. However, the boundaries between secondary and tertiary inpatient care have become blurred recently. It has been reported that about one third of patients admitted to oblast hospitals should, in fact, have been treated in secondary-level hospitals (41).

Hospital restructuring

Ukraine has had a very high proportion of hospital beds in 1990 and only recently has this fallen close to the European Union average (Fig.10). Since independence, the number of hospitals per 100 000 population fell from 7.3 in 1991 to 5.9 in 2002; during the same time the total number of hospital beds fell by 36%, and the number per 100 000 population fell from 13.0 in 1991 to 8.9 in 2002. The reduction was mainly because of the economic decline, when it became increasingly difficult to pay for the massive over-capacity that the hospital sector had inherited from the Soviet era. In an attempt to reform the hospital sector the Ministry of Health focused on reducing bed numbers, along with streamlining the network of inpatient facilities. This was primarily done

using administrative methods by setting a rate of 8 beds per 1000 population as a norm, thus requiring regions to adjust the bed numbers accordingly.

Fig 10. Number of hospital beds in acute hospitals per 1000 population in Ukraine and selected countries



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

While closure of beds started immediately after independence, the most dramatic changes occurred between 1995 and 1997, when over 20% of hospital beds were closed, due to the introduction of area-specific norms in 1997 (see *Planning, regulation and management*). Eventually, the number of inpatient health facilities within the normative scope of the Ministry of Health was reduced by 717 facilities (Table 10). The downsizing mainly affected rural hospitals, 36% of which were converted into rural physician ambulatories. Municipal hospitals have also been reduced by 14%, and most of these have been reorganized into polyclinics. However, the reduction in hospital beds was largely achieved by decreasing the capacity of primary and secondary level inpatient facilities, with the average capacity of municipal hospitals falling from 254 to 190 beds, of central district hospitals from 359 to 230 beds and of rural hospitals from 36 to 16 beds.

Table 10. Inpatient health facilities within the administrative scope of the Ministry of Health, 1991–2000

Facility type	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000
All hospitals	3 766	3 764	3 766	3 754	3 672	3 510	3 211	3 146	3 122	3 049
Oblast hospitals	30	29	28	28	28	27	27	27	26	25
Municipal hospitals	683	686	864	680	673	661	625	607	596	592
Pædiatric municipal hospitals	124	121	124	121	120	114	109	107	106	104
Central district (rayon) hospitals	481	485	487	487	487	488	488	488	487	486
Rural hospitals	1 481	1492	1489	1487	1423	1293	1047	1009	1000	948
Specialized hospitals	125	125	129	131	130	131	134	129	126	125
Psychiatric, narcological hospitals	92	91	89	91	90	86	87	90	92	93
Maternity hospitals	83	84	87	87	87	87	87	89	91	93
Dispensaries	411	403	404	404	398	390	379	374	370	367
Hospital beds (thousand)	671	661	648	636	610	551	473	453	444	434
Hospital beds per 1000 population	13.0	12.7	12.5	12.3	11.9	10.9	9.4	9.1	9.0	8.9

Source: (36,56).

Parallel to the reduction of hospital beds, reforms have also involved substituting other forms of care for inpatient care, such as day care, hospital-at-home care and day surgery. Day hospitals provide services to outpatients requiring lengthy and intensive treatment, enabling complex diagnostic testing and examinations along with intensive curative interventions using innovative medical technologies without actually admitting the patient. Hospital-at-home care provides care for acute and chronic patients who need to stay in bed but do not require 24-hour medical monitoring. General, specialized and multi-specialty day care and home care hospitals perform diagnostic examinations and treatment and perform simple surgical interventions.

Table 11. Development of inpatient-substituting forms of health care, 1991–2000

Indicator	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000
Day care										
Structural units	746	848	874	959	1 142	1 362	1 934	2 328	2 767	3 331
Beds	8 686	9 601	10 143	10 813	13 111	16 898	25 843	31 528	36 311	42 398
Cases (thousand)	340	404	424	435	478	538	770	908	1 048	1 266
Hospital-at-home care										
Structural units	713	824	1 114	1 148	1 335	1 871	2 341	2 395	2 727	3 207
Cases (thousand)	310	366	457	485	554	625	792	938	1 023	1 204

Source: (36,53).

During the last 10 years the number of day care and home care hospitals has grown about 4.5 times, with the number of day beds rising to 0.86 per 1000 population. These developments were accompanied by an increase in the overall

volume of cases (Table 12). In 2000 alone almost 2.5 million patients were treated in these settings, equal to 26% of those admitted to regular hospitals. The number of cases in day-stay hospitals was 24.8 per 1000 population (hospital-at-home care, 23.5). Patients appear to prefer these forms of services to treatment in a regular inpatient hospitals if indicated.

However, despite its growing volume, the substitution of inpatient care has had a relatively low impact on the utilization of inpatient facilities, mainly because of a lack of incentives for hospitals to reduce the number of admissions, as financing is still based on bed capacity. Also, other forms of care have been established in outpatient polyclinic facilities only although there are some exceptions, for example in Kiev where some hospitals operate as day care units thus enabling them to save expenses on meals and other services. Experts in Ukraine think it unwise to exclude hospitals from the range of facilities that have been given the right to establish inpatient-substitute services, mainly because of lack of appropriate regulation regarding financial and institutional aspects of substitution such as allocation of premises, equipment, personnel training *(27).*

Still, the reduction of hospital beds has had some impact on utilization of inpatient care, with the number of admissions to acute hospitals falling from 23.2 per 100 population in 1991 to 18.5 per 100 in 2000 (-20%), although rates seem to be rising again. The average length of hospital stay has also been declining, from 14.2 days in 1991 to 12.3 in 2002 (-13%); however, length of stay remains substantially higher than in most European countries (Table 12, 13).

The occupancy rate in acute hospitals was around 85% in the first half of the 1990s, falling to 82% in 1996. Since then, however, bed occupancy has been increasing again, presumably due to the reduction in hospital beds.

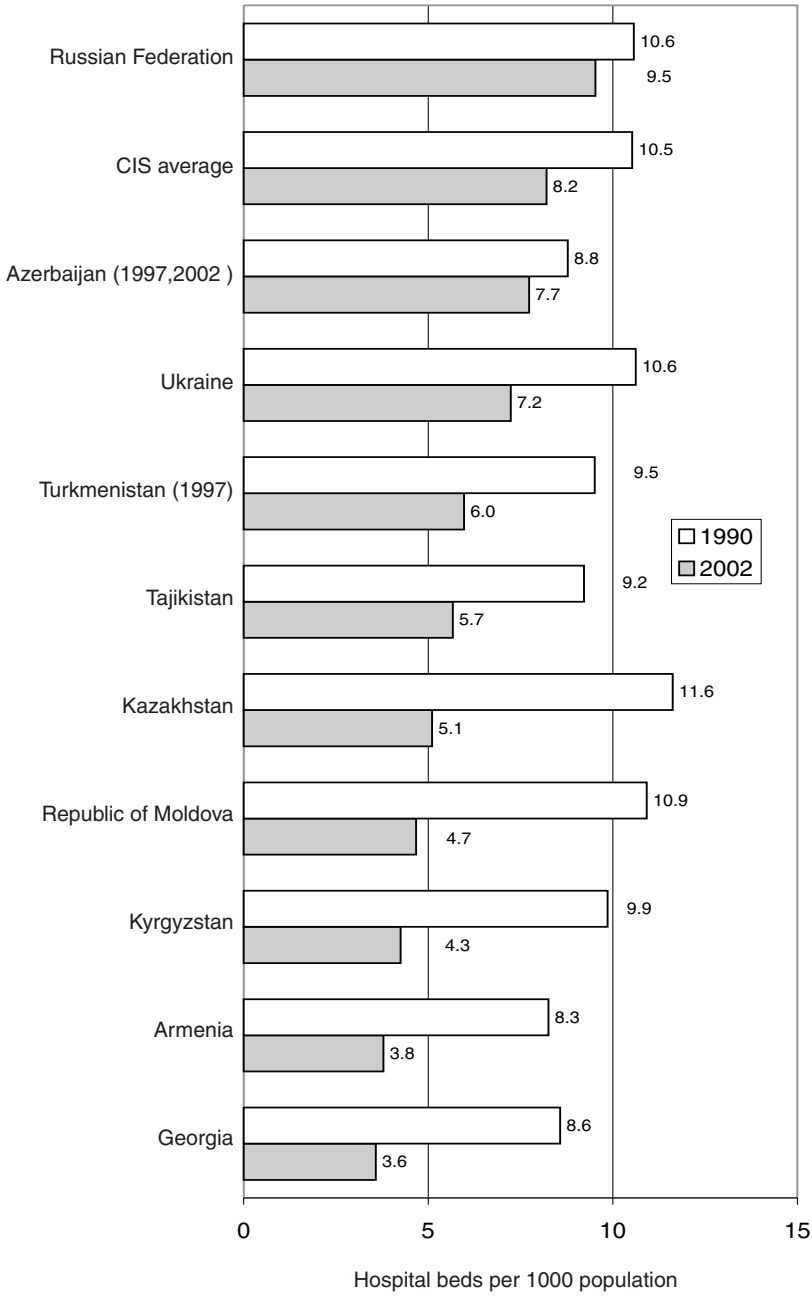
Table 12. Inpatient facility utilization and performance in acute hospitals, 1980–2002

	1980	1985	1990	1995	2000	2001	2002
Admissions per 100 population	23.2	24.8	23.2	20.8	18.4	18.8	19.2
Average length of stay in days	14.5	13.7	14.0	14.6	12.7	12.5	12.3
Occupancy rate (%)	91.5	91.1	84.2	83.0	87.9	89.5	89.2

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

Overall, the changes that have taken place in the hospital sector have not yet resulted in any significant improvement in efficiency of inpatient care in Ukraine since they have not been accompanied by a wider reform of the health care system, particularly primary health care. Also, the economic impact of

Fig. 11. Hospital beds in acute hospitals per 1000 population in the Commonwealth of Independent States, 1990 and 2002 or latest available year (in parentheses)



Source: WHO Regional Office for Europe health for all database.
Note: CIS: Commonwealth of Independent States.

Table 13. Inpatient utilization and performance in acute hospitals in the WHO European Region, 2002 or latest available year

Country	Hospital beds per 1000 population	Admissions per 100 population	Average length of stay in days	Occupancy rate (%)
Western Europe				
Andorra	2.8	10.1	6.7[c]	70.0[c]
Austria	6.1	28.6	6.0	76.4
Belgium	5.8[a]	16.9[c]	8.0[c]	79.9[d]
Cyprus	4.1[b]	8.1[a]	5.5[a]	80.1[a]
Denmark	3.4[a]	17.8[a]	3.8[a]	83.5[b]
EU average	4.1[a]	18.1[c]	7.1[c]	77.9[d]
Finland	2.3	19.9	4.4	74.0[g]
France	4.0[a]	20.4[c]	5.5[c]	77.4[c]
Germany	6.3[a]	20.5[a]	9.3[a]	80.1[a]
Greece	3.9[b]	15.2[d]	–	–
Iceland	3.7[f]	15.3[d]	5.7[d]	–
Ireland	3.0	14.1	6.5	84.4
Israel	2.2	17.6	4.1	94.0
Italy	3.9[a]	15.6[a]	6.9[a]	76.0[a]
Luxembourg	5.6	18.4[h]	7.7[d]	74.3[h]
Malta	3.5	11.0	4.3	83.0
Netherlands	3.1[a]	8.8[a]	7.4[a]	58.4[a]
Norway	3.1[a]	16.0[a]	5.8[a]	87.2[a]
Portugal	3.3[d]	11.9[d]	7.3[d]	75.5[d]
Spain	3.0[e]	11.5[d]	7.5[d]	76.1[d]
Sweden	2.3	15.1	6.4	77.5[f]
Switzerland	4.0[a]	16.3[d]	9.2[a]	84.6[a]
Turkey	2.1	7.7	5.4	53.7
United Kingdom	2.4[d]	21.4[f]	5.0[f]	80.8[d]
CSEC				
Albania	2.8	–	–	–
Bosnia and Herzegovina	3.3[d]	7.2[d]	9.8[d]	62.6[c]
Bulgaria	–	14.8[f]	10.7[f]	64.1[f]
Croatia	3.7	13.8	8.7	89.6
CSEC average	5.2	17.6	8.1	72.5
Czech Republic	6.3	19.7	8.5	72.1
Estonia	4.5	17.2	6.9	64.6
Hungary	5.9	22.9	6.9	77.8
Latvia	5.5	18.0	–	–
Lithuania	6.0	21.7	8.2	73.8
Slovakia	6.7	18.0	8.8	66.2
Slovenia	4.1	15.7	6.6	69.0
The former Yugoslav Republic of Macedonia	3.4[a]	8.2[a]	8.0[a]	53.7[a]
CIS				
Armenia	3.8	5.9	8.9	31.6[a]
Azerbaijan	7.7	4.7	15.3	25.6
Belarus	–	–	–	88.7[h]
CIS average	8.2	19.7	12.7	85.4
Georgia	3.6	4.4	7.4	82.0[a]
Kazakhstan	5.1	15.5	10.9	98.5
Kyrgyzstan	4.3	12.2	10.3	86.8
Republic of Moldova	4.7	13.1	9.7	75.1
Russian Federation	9.5	22.2	13.5	86.1
Tajikistan	5.7	9.1	12.0	55.1
Turkmenistan	6.0[e]	12.4[e]	11.1[e]	72.1[e]
Ukraine	7.2	19.2	12.3	89.2[d]
Uzbekistan	–	–	–	84.5

Source: WHO Regional Office for Europe health for all database.
Notes: [a] 2001, [b] 2000, [c] 1999, [d] 1998, [e] 1997, [f] 1996, [g] 1995, [h] 1 994.
CIS: Commonwealth of Independent States; CSEC: Central and south-eastern countries.

reducing inpatient bed capacity was lower than expected, with only small savings achieved due to reductions in hospital staff. However, many expenditures such as maintenance and utility costs were hardly affected at all, let alone expenditures on drugs and hospital food, as these are essentially paid for by the patients anyway (see *Out-of-pocket payments*). In addition, in some cases formal closure of inpatient facilities has had a negative impact. For instance, converting low-capacity rural hospitals into physician ambulatories with day care hospitals has been poorly accepted by rural populations despite its obvious economic rationale. Instead, these closures are considered to have greatly reduced access of people to health care in so-called "non-post" villages, rural areas without a physician ambulatory. Economic hardship of many rural people and poor transportation links between villages along with the lack of inpatient facilities pose challenges to effective treatment. Experts of the Ministry of Health therefore believe it reasonable for the immediate future to retain small rural catchment-area hospitals that provide both day care and inpatient beds *(36).* Another effect has been the closure of beds for dermato-venerological and tuberculosis patients, which, it has been argued, failed to acknowledge the alarming increases in tuberculosis and STI incidence, although of course these diseases are more appropriately treated in the ambulatory setting. Furthermore, the already small number of beds for rehabilitation has been reduced even farther, to half the previous number.

Health care quality

In their attempt to reform health care, the government and Ministry of Health have now also taken first steps to improve the quality of health care. Current activities are mainly aimed at licensing and accreditation of health facilities. Accreditation was introduced in 1997, in this case by a decree of the Cabinet of Ministers, "On Approving the Procedure of State Accreditation of a Health Facility", which was further amended in 2001 *(72)*. Within five years of its introduction, 27 accreditation commissions were set up at oblast and city level to accredit health facilities in municipal ownership. Decisions taken by these commissions are then taken up by the Main Accreditation Board at the Ministry of Health, which accredits public and private health facilities. In 1998, Ukrainian experts, with technical assistance from the United States and Canada, developed state accreditation standards, approved in 2001. Assessment of the first stage of accreditation indicated that it has led to some improvement in material and technical resources, qualifications of medical staff and the quality of care *(53).* However, the full potential of accreditation has not yet been reached, as none of the facilities that failed to meet the requirements were reorganized or closed.

Also, a lack of appropriate training and expertise among officials engaged in accreditation means that the actual process often lacks objectivity.

Until recently only nongovernmental health facilities and individuals running medical practices were subject to licensing. This changed with the enacting in 2000–2001 of "On Licensing Certain Types of Business Activity" (2001) and the joint decree on "Licensure Conditions for Introducing Medical Practice Business Activity" (2001). However, the law on licensing is not applicable to public and municipal health facilities as these are not 'business' entities as such and do not have necessary autonomy as they are directly accountable to the health administrations *(72)*. The licensure law is designed to ensure that professional staff or provider organizations achieve minimum standards of competence and meet function-specific requirements regarding sanitation and safety of premises and technical standards of equipment used. The Ministry of Health is planning to use licensing mechanisms to rationalize health services by reducing the supply of secondary and tertiary level services. The Ministry, along with a number of professional associations, is also involved in activities to standardize medical practice, by developing clinical protocols and clinical-organizational guidelines based on the principles of evidence-based medicine. However, none of these have been completed as yet. In fact, at present there is no person within the Ministry of Health explicitly in charge of quality issues.

However, despite these efforts to improve the quality of health care, many facilities – especially in rural areas – still face severe structural problems. Many buildings have become dilapidated, with equipment run down and outmoded. Replacement of outdated medical equipment is still progressing very slowly, at a rate of less than 2% per year in most facilities. Moreover, there is no policy that would provide for timely replacement of equipment. Furthermore, although in its preparations for administrative reform in 1999 the Ministry of Health identified assurance of health care quality as a priority, the actual reorganization in 2000 led to the closure of the Department of Licensure and Accreditation *(72)*. Thus, at present, activities for quality assurance are unsystematic and often undertaken by staff lacking appropriate training and expertise.

Social care

Social care in Ukraine is largely provided in institutions for dependent groups, including older people, war and labour veterans and other groups with special needs, such as disabled people. There is no clear division between social and medical care, and community services are poorly developed. Social care is

generally the responsibility of the Ministry of Labour and Social Policy, with nursing homes the main residential facility for those needing assistance with daily living. Priority is given to war veterans, Chernobyl victims, labour veterans and seniors without relatives. Many such facilities are poorly equipped and in a generally neglected state. Local budgets are not always sufficient to maintain adequate sanitation and hygiene and ensure adequate nutrition of residents. The quality of services is also extremely low. However, the demand for nursing home beds far exceeds their availability, with waiting lists increasing as available beds decrease (Table 14). Patients who have able-bodied relatives may not be admitted to a nursing home but are left without special care and, ultimately, their families without help and support. This is further compounded by a general lack of appropriate training facilities for social workers.

Table 14. Nursing homes, 1985–2000

	1985	1990	1995	1996	1997	1998	1999	2000
Nursing homes	67	74	80	78	76	78	76	75
Nursing home beds (1000)	8.8	8.9	8.1	6.1	4.6	3.5	3.2	3.0
Nursing home beds for the elderly and disabled adults (1000)	7.6	7.6	7.9	6.3	5.0	4.2	4.0	3.8
Nursing home beds for disabled children (1000)	1.2	1.3	0.2	0.8	0.6	0.3	0.2	0.2

Source: (73)

At the same time residential care is poorly developed and day care facilities are very few. Those who have retained a certain degree of independence at home often do not have access to basic services or nursing care to maintain their independence. In 2000, there were 905 units providing home social care services to 394 200 people; an additional 750 territorial centres provided domestic and medico-social care services to disabled citizens in daycare settings or at home. However, many very elderly people who do not receive any support are placed in hospitals. The main burden of medico-social care generally tends to fall on health care facilities, primarily hospitals, where there is no strict differentiation of beds according of intensity of treatment and care. There are no beds specifically designated for chronic patients requiring long-term stay but no intensive therapy. Thus, specialized inpatient units keep both acute patients and chronic patients who require long-term care as well as the terminally ill. This is generally perceived as a waste of resources, posing a substantial additional burden on the already tight health care budget. Attempts to reallocate beds or to create nursing care units in hospitals are constrained by the existing system of hospital finance as reorganization of beds may result in a possible reduction in personnel and partial loss of scant financing.

In recent years a number of cities have introduced palliative care facilities for dying patients (hospices), usually initiated by local governments or public and religious organizations. The Ministry of Health has included hospices in the nomenclature of health facilities and determined personnel quotas for them. However, the hospice movement in Ukraine is still in its infancy, with only very few meeting the considerable need for palliative care, which is growing rapidly with the spread of AIDS *(74)*.

Care for patients with psychiatric disorders is mainly provided in an inpatient setting. Psychiatric beds are concentrated in specialized hospitals with units for both acute and chronic patients. However, with little funding available for mental institutions, the quality of treatment and care is low. Between 1991 and 2000, a period of general reduction in hospital beds, the number of beds for psychiatric patients fell by 31% (from 70 700 to 48 800). This was, however, not paralleled by compensatory mechanisms such as expansion of outpatient services or day care hospitals. In contrast, the number of day care facilities has fallen to 95 with an overall capacity of about 5000 beds. Rehabilitation services are provided by very few occupational therapy workshops. There are no community psychiatric services; however a civil movement for the protection of people with mental disabilities is beginning to develop, largely consisting of patient, family and human rights organizations campaigning for relevant legislation. Also, for the first time in Ukraine, the law "On mental care" of 2000 has set out the legal and institutional basis for providing mental care based on the principles of human and civil rights. It determines the responsibilities of executive authorities and local governments as well as the legal and social rights of individuals with mental illness, and regulates the rights and responsibilities of physicians and other workers involved in mental care provision.

Care for children with learning difficulties is provided by a network of facilities for rehabilitation and convalescence within the responsibility of various ministries and departments. For instance, in 2000, the Ministry of Education was responsible for 239 auxiliary boarding schools for children with learning difficulties (38 600) *(45)*, 31 schools for mentally retarded children (5000), 14 schools for 3200 children with speech disorders, 6 sanatoria-type boarding schools for 1300 children with learning difficulties, 19 schools for 2300 children with cerebral palsy, 11 schools of social rehabilitation for 600 children with behaviour disturbances and 3 vocational schools for 350 adolescents with behaviour disturbances. The Ministry of Labour and Social Policies is responsible for 57 specialized nursing homes for children and the Ministry of Health for 21 specialized sanatoria and 20 orphanages for children with neurological and mental disorders (4969 by the end of 2000) *(54)*. At present this network requires restructuring and development. Both Ministry of Health and the Ministry of Education are currently planning to establish

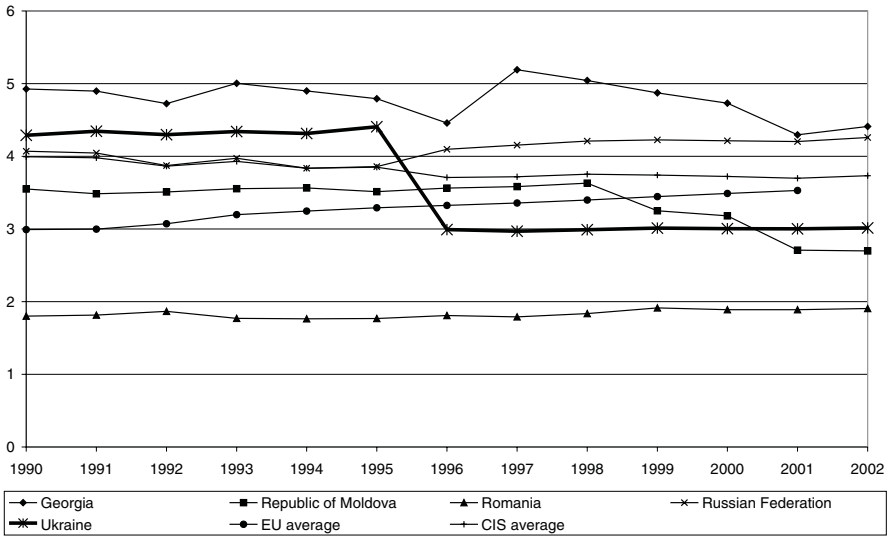
specialized treatment and rehabilitation facilities for children and adolescents with antisocial behaviour and to transform boarding schools for children with learning difficulties into sanatoria-type boarding schools. Local governments in Kiev and western Ukraine are pursuing development of outpatient non-residential services for the mentally disabled and children with special needs.

The government is planning to reform the sector of medico-social care, including expanding the network of medico-social care provision to the elderly through hospitals at all levels; introducing facilities that provide medico-social care to people with severe chronic mental disorders; organizing hospices; introducing rehabilitation centres for disabled children; and, jointly by health and by social protection services, introducing 'social' beds for disabled individuals who do not have relatives. Successful implementation of these proposals will, however, depend to a large degree on structural reorganization of the health sector in general. A further step has been taken with the recently approved law "About Social Services" (# 966-IV of 19 June 2003), which sets out the main directions for the development of social services, stipulating that they can be provided both on a user fee and free-of-charge basis and can be financed from state and local budgets as well as by enterprises, charitable funds and individuals. Local authorities are required to allocate resources for social services. If social services are to be financed by public funds, local authorities and self-administrations are, however, allowed to contract with nongovernmental organizations for service provision. Social workers and volunteers with appropriate training can provide social services directly.

Human resources and training

Until the mid-1990s, the health care sector in Ukraine had a large workforce, both in terms of the medical profession and mid-level health staff. In 1991, Ukraine had 4.3 physicians per 1000 population compared to 4.0 in the CIS and 3.0 in the European Union (Fig. 11). Only Georgia recorded higher numbers at 4.9 per 1000. In 1995, there was a substantial fall of about 35%, to 2.9 per 1000 population in 1996, due to a switch to the WHO definition of health personnel, which only includes active physicians working in health services and excludes those who perform administrative functions or who work in the San-Epid service, in training and research and/or diagnostic units as well as dentists. Using the previous definition, the number of qualified physicians did not change appreciably during the 1990s, remaining rather stable at around 4.6 per 1000 population (Table 15).

Fig. 12. Number of doctors per 1000 population in Ukraine and selected countries, 1990–2002



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

Table 15. Trends in number of doctors, 1990–2000

	1990	1995	1996	1997	1998	1999	2000
Total number of physicians (1000)	227	230	229	227	227	228	226
Physicians per 1000 population	4.4	4.5	4.5	4.5	4.6	4.6	4.6
Physicians per capita population	228	225	–	–	–	217	217

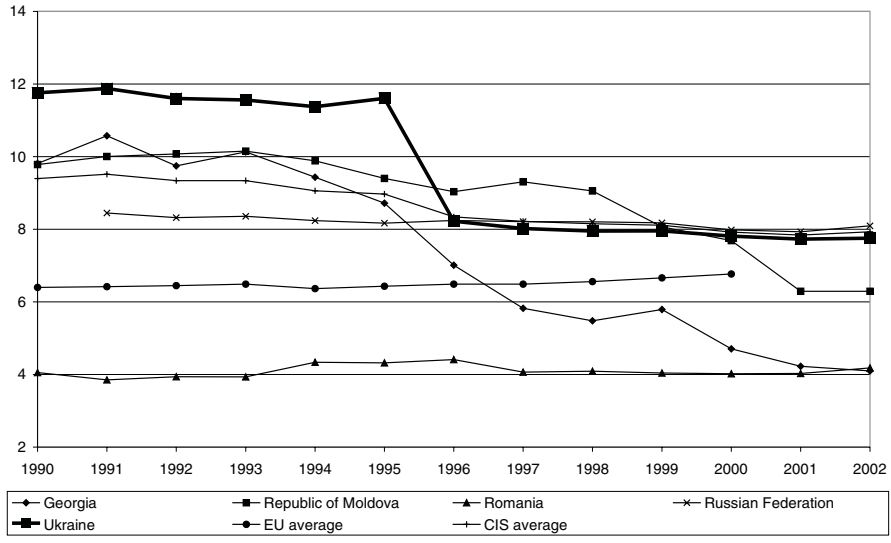
Source: (51).

A key feature of the medical workforce in Ukraine is the overprovision of specialists relative to physicians working at the primary care level, who constituted only 26.6% of the total number of active physicians in 2000. The current situation is further characterized by low remuneration of doctors and other health care staff. Many specialists are working for only 50% or 25% of the average salary. At the same time, however, there were about 13 000 vacant doctor posts in 2000. Shortages are especially critical in the primary care sector and the tuberculosis service. In addition, the majority of physicians are

concentrated in urban areas. The Ministry of Health is now concentrating on increasing personnel in rural health facilities, by annually distributing 56% of newly qualified medical graduates whose training was state-funded to rural areas. In doing so, more than 6000 doctor posts in rural health facilities were filled in recent years. However such policies are unsustainable and shortage of housing and difficult living conditions in rural areas cause many health care workers to leave *(53)*.

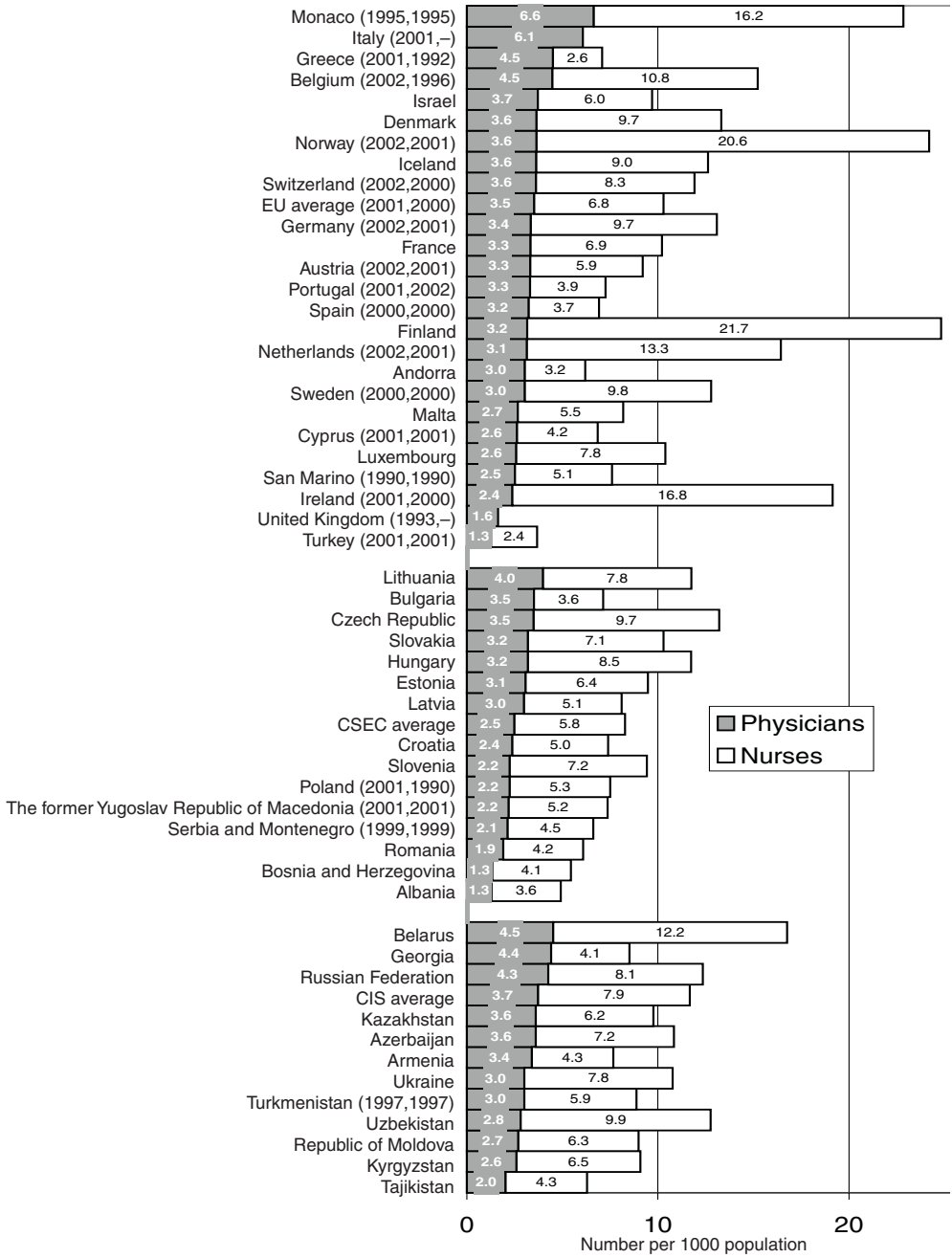
The supply of nurses in Ukraine is falling steadily. While in 1991 it was considerably higher than the NIS average, at 11.9 per 1000 population compared with 9.4 per 1000, after 1995 it fell rapidly, to 7.8 per 1000 in 2002. Similar trends were seen in Georgia and Moldova. However, as with trends in doctors in Ukraine, the apparent sudden fall in the number of nurses between 1995 and 1996 (Fig. 13) is largely due to changes in the definition of a nurse. Until 1995 this definition included all mid-level health personnel (nursing and paramedical staff), whereas from 1996 it includes nurses and feldshers only, with midwives excluded. Still, there is a general tendency towards fewer nurses in the country,

Fig. 13. Number of nurses per 1000 population in Ukraine and selected countries, 1990–2002



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

Fig. 14. Number of physicians and nurses per 1000 population in the WHO European Region, 2002 or latest available year (in parentheses)



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

Note: CIS: Commonwealth of independent states; CSEC: Central and south-eastern European countries; EU: European Union.

Table 16. Health care personnel per 1000 population, 1991–2002

	1991	1995	1996	1997	1998	1999	2000	2001	2002
Active physicians	4.30	4.40	2.90	2.90	3.00	3.00	3.00	3.00	3.00
Active dentists	0.37	0.37	0.37	0.37	0.39	0.39	0.40	0.40	0.40
Certified nurses	11.90	11.60	8.20	8.00	8.00	8.00	7.80	7.70	7.80
Midwives	0.78	0.66	0.63	0.60	0.58	0.57	0.55	0.53	0.51
Active pharmacists	0.88	0.71	0.58	0.47	–	–	–	–	–
Graduates from medical universities (physicians)	0.12	0.14	0.11	0.12	0.12	0.12	0.13	0.13	0.13
Graduated nurses	0.61	0.54	0.41	0.42	0.37	0.35	0.34	0.35	0.36

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

attributed to declining prestige of the mid-level health profession. Also, nurses are increasingly leaving the health sector because of low pay and the lack of career prospects. Replacement by new personnel becomes increasingly difficult due to falling numbers of nurses graduating.

Training

Physicians

State policies stipulate that higher medical and pharmaceutical education shall remain in the state health system. Higher medical education is provided, mainly, in state owned university-level medical schools and faculties as well as postgraduate training institutions. Standards for higher medical and pharmaceutical education as well as curricula and qualification requirements for specialist training are set by the state.

Reform of higher medical education was initiated soon after independence and work is now under way to assess training programmes and to bring them in line with European standards. Higher medical education is organized into several stages, comprising generalist medical education, specialist training and postgraduate training at the Master of Science level. At present, training is provided by 18 state university-level medical schools and faculties including three postgraduate medical schools. The institutions are funded by the Ministry of Health and are supervised by both the Ministry of Health and the Ministry of Education. In addition, there are three medical faculties within multi-specialty universities supervised and funded by the Ministry of Education. There were also six nongovernmental institutes offering higher medical education that had been established during the 1990s. However, of those five have now lost their license for training and were closed because of the low level of training provided.

Undergraduate medical education aims to train general practitioners, with

training usually lasting for six years (general dentistry: five years). To safeguard the achievement of a minimum level of professional competence within the higher medical education system, Ukraine has introduced the state integrated licensing examinations, which are carried out in all higher medical educational establishments by the Centre for Testing Professional Skills of Health Workers, an independent unit established at the Ministry of Health. Medical students have to complete two state licensing examinations during their undergraduate training, after studying basic disciplines ("Step 1") and after completion of the full training course ("Step 2"). Postgraduate medical training is based on the principle of continuous education and involves a main specialization, further specialization and advanced professional training of physicians. The main specialization is achieved through an internship which, at present, can be in one of 52 specialties. The number of internship places available for each specialty is determined according to the requirements for specialists as identified by regional health authorities. The internship combines full-time and extracurricular forms of training. Medical schools usually do not have their own clinical centre, thus, the full-time part of the internship takes place within the medical schools while only the extracurricular part is undertaken within health facilities. The length of internship training has been reduced due to lack of resources in the health care system and, depending on specialization, currently varies between one and two years, which is clearly insufficient to acquire the necessary clinical and practical experience for future practice. A further shortcoming of the current system of internship training is the lack of training in family medicine/general practice.

Training in specialties not covered by the internship programme is offered at the postgraduate medical faculties, after completion of an internship in the main specialty, taking place in several cycles. The length of this training is usually similar to the length of the full-time part of an internship, which again may be considered too short to provide sufficient training in the specialty chosen. At present, specialist medical training offers a remarkable 138 specialties. The nomenclature of specialties has been reviewed repeatedly, with the number of officially recognized specialties increasing steadily, from 107 in 1991 and 119 in 1993 to 124 in 1997. The list of specialties includes the category of "folk and non-traditional medicine". Physicians graduating in this specialty provide preventive, diagnostic and curative services using the approaches of folk and non-traditional medicine, including phytotherapy, homeopathy, manual therapy, bio-energy therapy, etc. This training is provided by the country's only nongovernmental institute of higher medical education. However, completion of specialist medical training generally leads to doctors being awarded the title "specialist doctor" in a particular specialty. Preparations are now under way to put this procedure on a more formalized basis by introducing state licensing

examinations for internship training, which would be equivalent to "Step 3" in the current system of higher medical education.

General practitioners (GPs)/family doctors are trained through a two-year internship and a six-month retraining course of active physicians. The official training programme for GPs/family physicians comprises 21 main modules and complementary modules such as medical informatics or medical psychology and philosophy. Training of GPs is, however, hampered by a shortage of trained teachers as well as lack of appropriate clinical facilities for practical training. Because of the general shortage of GPs, a large-scale training programme was initiated in 1998. Between 1998 and 2000, 1938 GPs were trained. However, almost 40% of those undergoing this training are actually not working as GPs, mainly because of the low pay in relation to the size of the workload and responsibilities.

Physicians who have completed formal medical training are required to pursue continuing professional development in order to maintain knowledge and skills, with corresponding programmes being provided at postgraduate medical faculties. All practicing physicians are subject to regular attestation at a maximum of five years. Eligible physicians are required to have completed a pre-attestation cycle within one year before the official attestation, which is performed by committees at the Ministry of Health or regional health bodies. The main criterion for appraisal is the length of professional record. There are no clear appraisal criteria for the quality of a doctor's performance, however, and decision-making has thus been rather subjective. One major drawback of the existing attestation system is that it largely aims at increasing the specialist's salary. Thus, a specialist who failed to verify his/her qualification rate will only lose out on salary whereas the right to medical practice will not be affected.

The number of medical graduates has risen steadily over the past years, by about 20% between 1996 and 2001 (Table 17). The need for workforce planning in the health care sector prompted the Ministry of Health, by 1996, to reduce the number of university places for training specialists allocated by the state. Thus, the number of students trained at the expense of the state/local budget has fallen by 37%, from 7626 in 1996 to 4787 in 2001. However, at the same time, in an attempt to mobilize additional sources of funding, institutes of higher medical education were permitted to introduce tuition fees. This has led to a three-fold increase in the number of students entering higher medical education based on fees, which enabled medical schools and faculties to retain staff and to strengthen and upgrade their material and equipment. On the other hand, these developments have also counteracted he government's attempts to strengthen primary health care. Specifically, most students who are not trained in the state funded programme tend to opt for narrow specialization such as obstetrics/gynaecology or dermato-venerology where salaries are highest.

Indeed, available evidence suggests that there is a trend towards advanced specialization amongst doctors, thus further increasing the already abundant pool of specialists.

Table 17. Higher medical education

	1995/ 1996	1996/ 1997	1997/ 1998	1998/ 1999	1999/ 2000	2000/ 2001
Institutions of higher education – accreditation levels III–IV (under supervision by Ministry of Health)						
University-level medical schools and faculties	(15)	(15)	(15)	(15)	(15)	(15)
Number of admitted students	9 736 (8 720)	10 052 (9 410)	9 575 (9 044)	10 311 (9 699)	9 767 (8 841)	11 155 (10 107)
funded by state/local budget	7 626	5 970	4 549	4 500	4 737	4 787
other (personal, third party)	2 061	4 003	4 943	5 775	5 000	6 366
Total number of students	51 058 (47 269)	52 423 (48 977)	52 966 (49 321)	57 953 (50 423)	54 701 (50 143)	55 110 (50 520)
Total graduated	8 338 (8 191)	8 157 (8 015)	8 884 (8 094)	8 556 (8 542)	9 376 (8 594)	10 025 (9 167)
funded by state/local budget	8 299	8 114	8 498	7 768	7 899	7 765
Institutions of higher education – accreditation levels I–II (under supervision by Ministry of Health)						
	(110)	(111)	(96)	(97)	(100)	(99)
Number of admitted students	24 446 (24 583)	24 868 (23 814)	22 286 21 085)	22 867 (21 177)	23 209 (21 493)	24 833 (22 133)
funded by state/local budget	22 160	19 657	12 794	11 737	11 071	10 998
other (personal, third party)	2 083	5 154	9 456	11 115	12 121	13 831
Total number of students	68 093 (69 742)	69 228 (67 021)	64 751 (62 188)	63 011 (59 368)	62 162 (58 393)	64 869 (58 513)
Total graduated	27 137 (28 081)	26 152 (25 705)	25 259 (24 739)	24 130 (23 092)	22 361 (21 261)	21 343 (19 532)

Source: (35).

This highlights the need to revise current admission policies of higher medical education and especially approaches towards primary and secondary specialization. The Ministry of Health planned a gradual transition to the residency model starting in 2003, in order to concentrate specialist training at the higher education level, with competitive selection.

Nurses

After independence, training of nurses was reorganized as a graded education, including junior specialist and bachelor degrees, with a master's degree in development. Junior specialists are trained in 106 medical vocational schools

that under the new system have received the status of higher educational establishments at accreditation levels I–II. Most facilities training nursing personnel are financed by local budgets. Since independence, an additional seven nongovernmental educational establishments have been launched and have received licenses for the training of nurses. Junior specialist training involves a two-year basic course, which now also includes disciplines such as theoretical foundations of nursing, interpersonal communication, clinical nursing, public health and nursing. Graduates may then enter advanced training at the bachelor level, which, in full-time mode lasts for two years. This further training allows for specialization in nursing such as family medicine, surgery, obstetrics and management.

While, in theory, nurses trained at bachelor level qualify for positions of chief and senior nurses or of the deputy chief physician for managing nursing staff, this is rarely the case. Qualified nurses still work in positions similar to junior specialist nurses and their degree does not affect their salary. It is expected that this will also be the case for nurses with master's degrees, due to the lack of an appropriate regulatory framework. However, the Ministry of Health is planning to continue restructuring the nurse training system with the aim of establishing nursing as a separate profession, with nurses working in health promotion, disease prevention and patient care traditionally performed by doctors.

Feldshers

Feldshers represent a special category of mid-level health workers between nurses and physicians. They run feldsher-midwife aid posts, health aid posts as well as accident and emergency teams. Unlike nurses, who in Ukraine work as assistants to physicians, feldshers are sufficiently independent in their work, performing a broad range of preventive, diagnostic and therapeutic tasks, prescribing drugs and, in certain circumstances, conducting expert examinations to establish the ability to work and performing administrative functions. Training of feldshers in Ukraine continues, but in view of the growing professionalization in the nursing sector it is expected that their role will be decreasing gradually.

Managerial staff

The efficiency of health facilities' performance is determined to a considerable extent by the training of managerial staff. However, in Ukraine there is practically no system for basic training of professional managers for administrative bodies and health facilities, with perhaps the only exception being the School of

Health Administration at the Ukrainian Academy of Public Administration (see below). Traditionally, senior posts were filled by doctors on the basis of their clinical expertise even if they had no professional training in management. They did receive special training at regular intervals in "health care organization and management", which was introduced in 2000, but only after they had been appointed. At present all newly appointed senior managers are trained in specialization courses leading to certificates. Training is conducted at the postgraduate medical schools and covers six modules. However, the introduction of management courses may be interpreted as rather palliative, as neither the duration (two months) nor the content of the training ensure high quality. It is widely accepted that the lack of appropriately trained managers poses an important obstacle to health care reform. There are plans to launch faculties of health care management and marketing. A concept for an education system in the field of health services has been developed that aims to retrain administrators within 10 years and to introduce training in health care management at the master's level.

The School of Health Administration mentioned earlier was established in 1994 at the Institute of Public Administration and Local Government (since 1995, the Ukrainian Academy of Public Administration, Office of the President of Ukraine) on initiative of the World Bank and Ministry of Health. At present, the Academy runs four branches in Dnepropetrovsk, Kharkov, Lvov and Odessa. The major focus is on training public servants in public health as part of the health for all policy. Graduates from the Academy with specialization in health care management in the field of public administration work for the Office of the President, the Cabinet of Ministers, the parliament and central and local governments. Some health care management departments also offer training for managers of health care facilities and heads of local authorities, provided in the Master of Public Administration programme with full-time training lasting 12 months and intra/extramural training 2.5 years. More than 150 professionals were trained within the last seven years. However, in its present format the training does not meet the needs of health care and there is a relative lack of employment opportunities for trained professionals.

Further initiatives to strengthen capacity in health services management and public health have been launched only very recently. Thus, in 2001, for the first time in Ukraine, a department of health care management was established at Kharkov Medical Academy of Postgraduate Education, offering a one-year training programme to professionals with higher medical education (intra/extramural training: 2 years). Students graduating from the department receive a specialist diploma in health care management, qualifying them to work in related fields. The first 15 students graduated from the programme, which is licensed and accredited by the Ministry of Education and Science, in

2002. However, "health care manager" has not been officially recognized as a medical specialty and there are no corresponding positions at medical facilities, thus limiting students' prospects of adequate employment after graduation. In 2003, a consortium was set up at Kyiv Medical Academy of Postgraduate Education, Kyiv-Mohyla Academy and the Ministry of Health to establish the first Ukrainian School of Public Health (SPH). At present, teaching staff competitively selected for the SPH is undergoing training at the School of Public Health at the University of Maastricht.

Pharmaceuticals and health care technology assessment

Drug supply in the former Soviet Union was highly centralized with specialized production plants scattered across the whole territory. Many products were also produced by manufacturers in eastern European countries, in accordance with trading agreements within the Council for Mutual Economic Assistance (COMECON). The pharmaceutical market was thus dominated by cheap medicines mainly of domestic and eastern European origin. Modern drugs from the West were practically inaccessible. After the breakup of the Soviet Union the pharmaceutical sector in Ukraine faced immense difficulties due to the breakdown of established trading links. The country was left with a small domestic pharmaceutical sector whose range of products was very limited and of substandard quality, leading to an acute shortage of drugs. In 1991, the domestic industry met only 20% of the market's needs. The resulting vacuum began to fill rapidly with imported drugs of sometimes rather dubious quality and relevant state agencies, manufacturers or licensing bodies were not prepared to address these problems adequately.

However, with the introduction of market-based mechanisms the pharmaceutical sector has undergone substantial changes, with privatization of manufacturing and retailing. At present, there are 180 domestic drug manufacturers, 90% of which are private enterprises. Only manufacturers recognized as strategically important for the county's economy and security have remained in state ownership. Some companies have established drug manufacturing in compliance with GMP requirements (Darnitsa, Borshchagovsk Chemical and Pharmaceutical Factory, Styrolpharm). The range of domestically manufactured drugs comprises more than 1500 chemical entities and their cost is on average 20%–60% lower than that of foreign analogues. In 2001, the market share of domestic drugs approached 50%. There are now about 100 large wholesale companies and 460 smaller distribution companies.

The majority of pharmacies have now also been privatized. Over a period of 10 years the number of pharmacies has grown almost three-fold to 39 facilities per 10 000 population. In 2001, the pharmacy network comprised about 19 000 pharmacies, pharmacy retail outlets and kiosks, of which 18% were private and 52% in collective ownership; less than one third belonged to the state or community, with the last model largely confined to rural areas. As a result of these changes, the supply of drugs in Ukraine has become sufficient at least in terms of overall availability. However, with the changes in the pharmaceutical sector, prices have risen sharply, leading to unaffordability of high quality, safe drugs and medical devices. As shown earlier (see *Health care finance and expenditure*), up to one third of households in Ukraine were unable to obtain necessary health care in 2000, largely because of the high costs of drugs *(35).*

A series of interventions have now been implemented to regulate the pharmaceutical sector. With the 1996 law "On Pharmaceuticals", foundations were laid for state policies on the development, registration, production and quality control of drugs manufactured in Ukraine. The State Department on the Control of Quality, Safety and Production of Medicines and Medical Devices is responsible for the management and control of quality, safety and production of drugs, biomaterials, medical equipment and medical devices; for ensuring state control of exports, imports, wholesale and retail distribution; and for developing and implementing state policies on the manufacture and distribution of drugs. Additional regulatory committees and agencies have been established at the Ministry of Health, including the Pharmacological Expert Centre, the Pharmacopoeia Committee, the Committee on Immunobiological Preparations and the Committee on the Control of Traffic of Narcotic and Psychotropic Medicines. The National Pharmacopoeia has been issued and special agencies have been set up for quality control of pharmaceuticals: the Good Manufacturing Practice Inspection and the State Inspection for Drug Quality Control, which is responsible for quality control at the distribution stage. A further important component of state regulation in the pharmaceutical sector is licensing, which is the responsibility of the State Department on the Control of Quality, Safety and Production of Medicines and Medical Devices. In addition, since 1998 pharmacies are subject to mandatory state accreditation.

Until recently, the system of distributing pharmaceuticals in Ukraine was only loosely regulated. However, with the law "On Procurement of Goods, Operations and Services on State Funds", passed in 2000, public health facilities and institutions are now required to purchase pharmaceuticals through tender procedures. There are also certain centralized procedures in which the Ministry of Health purchases pharmaceuticals primarily for patients with specific diseases (tuberculosis, diabetes, malignant neoplasms) which, in 2001, ensured savings

of 12.3% of resources allocated for this purpose.

In 2001, the government approved a national list of essential pharmaceuticals and medical devices. This positive list has been developed according to the ATC (anatomic-therapeutic-chemical) classification based on international non-proprietary names and includes 741 efficient and safe pharmaceuticals for treatment of the most common conditions. The list forms a basis for a basic medical entitlement package and, by virtue of an order by the Ministry of Health, is to be used for arranging tender procurement, for state purchases to support targeted programmes and for state support of the domestic pharmaceutical industry. In addition, the National list is intended to: be the basis of a formal definition of drugs available at health facilities; establish unified standards for the provision of health care; maintain state registration of wholesale prices and monitor prices of domestic and imported pharmaceuticals and medical.

Alongside the national list three special lists have also been approved: the list of domestic and imported pharmaceuticals and medical devices whose prices are subject to state regulation (600 pharmaceuticals from 9 pharmacological groups), the list of domestic and imported pharmaceuticals that may be purchased by public health facilities using state/local budget (1500 domestic and 800 imported), and the list of mandatory pharmaceuticals for the pharmacy network (418 names: 300 domestic and 118 imported) *(75)*. Technically, these three lists were developed before the positive list, so there is some duplication. There are now plans to merge all lists into one to simplify the system.

There is currently no system of state price regulation for most popular and vital drugs. The main direct mechanism of state price regulation consists of establishing maximum retail surcharges for pharmaceuticals and medical devices, which was delegated to the regional administrative bodies by government decree in 1996. The decentralized regulation has, however, resulted in substantial regional differences in retail prices for pharmaceuticals, ranging between 10% and 50% of cost. A more indirect method of price regulation is the introduction of certain tax privileges. For example, since 1997 sales of pharmaceuticals and medical devices registered in Ukraine were exempt from VAT. The introduction of VAT on drugs seems to be unlikely at present; however, the possibility is still being discussed. Only recently (2001–2002) have the parliament and government started to become more active in this field and have proposed a number of initiatives aimed at strengthening state regulation of prices of pharmaceuticals and medical devices *(75)*. Concern about arbitrariness in the pricing policy has caused the Ministry of Health jointly with the Ministry of Finance and the Ministry of Economy to develop more systematic approaches towards price regulation in the pharmaceutical sector. Thus, 2001 saw the introduction of maximum retail surcharges at the national level on pharmaceuticals and medical devices whose prices are subject to state

regulation, with the following limits: 35% of the manufacturer's wholesale price (customs cost) distributed through the pharmacy network, and 10% for products that are purchased by public health facilities on funds allocated from the budget.

At present, state regulation covers 16% of the pharmaceuticals registered in Ukraine. The regional governments have retained the right to set retail surcharges within these limits. As a result of the increased central regulation the regional variability in retail prices fell. The average level of retail surcharges for the most commonly used pharmaceuticals declined from 40% to 23% and prices of pharmaceuticals manufactured in Ukraine fell by 0.2%–0.6%. At the same time, the introduction of maximum retail surcharges had a considerable negative impact on community-owned pharmacies that service public health facilities and cater to those population groups that are exempted from co-payments. Their profitability fell by more than one third, with many facing the imminent threat of bankruptcy.

It is difficult to assess the overall consumption of pharmaceuticals in Ukraine. Indirect evidence may be obtained from data on expenditures of the population on pharmaceuticals and medical devices purchased in pharmacies, which account for over 80% of the expenditures. Corresponding data from the State Statistics Committee indicate that expenditures increased more the 9.5 times between 1995 and 2001 *(35).* Average per capita consumption of pharmaceuticals in 2001 was close to US $12. Although these data do not take account of spending on medicines acquired through unofficial channels, they do point to a rather rapid increase in pharmaceutical consumption in Ukraine.

As much of the purchase of pharmaceuticals is done by both outpatients and inpatients, the scope for influencing prescribing patterns is rather limited, and further hampered by the liberalization of the pharmacy dispensing procedures. A list of prescription-only drugs has been developed by the Ministry of Health, but most of them can be bought over the counter, with alarming consequences for the spread of antibiotic resistance. Instead, the decisive factor impacting on prescribing patterns is the pharmaceutical industry, which pursues aggressive marketing policies, proactively advertising pharmaceuticals in the mass media (advertising for prescription-only drugs is banned in Ukraine), organizing workshops for physicians and various forms of compensation for doctors who prescribe their products. As a result, there is a high level of over-prescribing among physicians, who often prescribe expensive pharmaceuticals instead of less expensive analogues and, in certain cases, disregard rational drug therapy. The only exceptions are patients who are exempted from co-payments or who pay reduced prices for pharmaceuticals. Here, doctors prescribe generic drugs from the National Essential Drugs List, which the patient then obtains from the residential community pharmacy. However, this route is frequently blocked

as only 9% (rural areas: 5%) of the need for corresponding pharmaceuticals is satisfied.

In summary, although certain progress has been achieved in state regulation of the pharmaceutical sector, provision to the population remains a pressing problem due to lack of sufficient funds for the health care system in general and the procurement of pharmaceuticals in particular as well as limited economic solvency of the population and a lack of efficient mechanisms for rational drug use. To improve this situation plans are under way to:

- introduce a formulary-based drug procurement system and to improve the financing framework;
- develop pharmaco-economic standards for the administration of pharmaceuticals with due regard to their interchangeability and cost-efficiency;
- introduce clinical pharmacological posts in health facilities to reduce the number of unnecessary prescriptions and of the use of drugs of dubious quality and/or unproven efficacy;
- identify the volume of drugs to be supplied within state-guaranteed care free of charge;
- introduce a comprehensive system of control over the spending on pharmaceuticals;
- develop domestic production of essential pharmaceuticals;
- promote manufacturing according to good practices.

The health system in Ukraine also faces serious problems regarding the acquisition of technology and the maintenance of existing equipment. A recent review of medical equipment in health facilities pointed out that much of the more complex equipment was purchased before 1992. A number of facilities are still using devices manufactured in the 1970s. More than 50% of the equipment is considered technically outdated. However, in recent years the country has become increasingly active in developing and implementing policies aimed at improving the quality and efficiency of health care through increased provision of medical equipment and reducing its dependence on imported equipment. Despite the economic difficulties the country is facing, a comprehensive programme for the development of the medical industry (1997–2003) was approved in 1996. The programme has revitalized the domestic medical high-technology industry, mobilizing the production of a range of modern equipment and technology such as radiology, anaesthetic, electrocardiography and ultrasound machinery. The Ministry of Health has also been developing ways to overhaul the failing technical infrastructure in health facilities. These have now been translated into actual plans for technical refurbishment by the oblast health administrations for

Financial resource allocation

Third-party budget setting and resource allocation

Official funding of the health care system is mainly from two sources, national and local budgets, according to regulations set out in the Budget Code of Ukraine (2001). The process of national budget-setting for the health sector is initiated by the Ministry of Health, which produces a draft budget to cover its activities. It is organized according to the main categories of the Ministry's activities and includes administration, medical education and research, the Sanitary and Epidemiological service, health facilities under the direct supervision of the Ministry of Health and national public health programmes. In 2000–2001, this last activity comprised twelve national programmes targeting specific populations such as children or the elderly, specific diseases such as diabetes mellitus or arterial hypertension, as well as complex interventions such as AIDS control and prevention of drug abuse (1999–2000), reproductive health (2001–2005), genetic monitoring (1999–2003) and vaccination (1993–2000). The budget is based on the volume of work performed in the preceding year, the extent of cost recovery, epidemiological data indicative of changing needs in health services, institutional and financial restrictions set by the funding bodies for the next budgetary term as well as priorities in the health sector as determined by Cabinet of Ministers and Ministry of Health. The draft budget is then submitted to the Ministry of Finance to incorporate into the overall draft state budget for the following year. This takes account of the main directions of the country's budget policies, which are in turn determined by forecasts of macroeconomic indicators, and guided by the budget requests of the chief managers of budget funds. The budget is then approved by the parliament that passes the law on the State Budget.

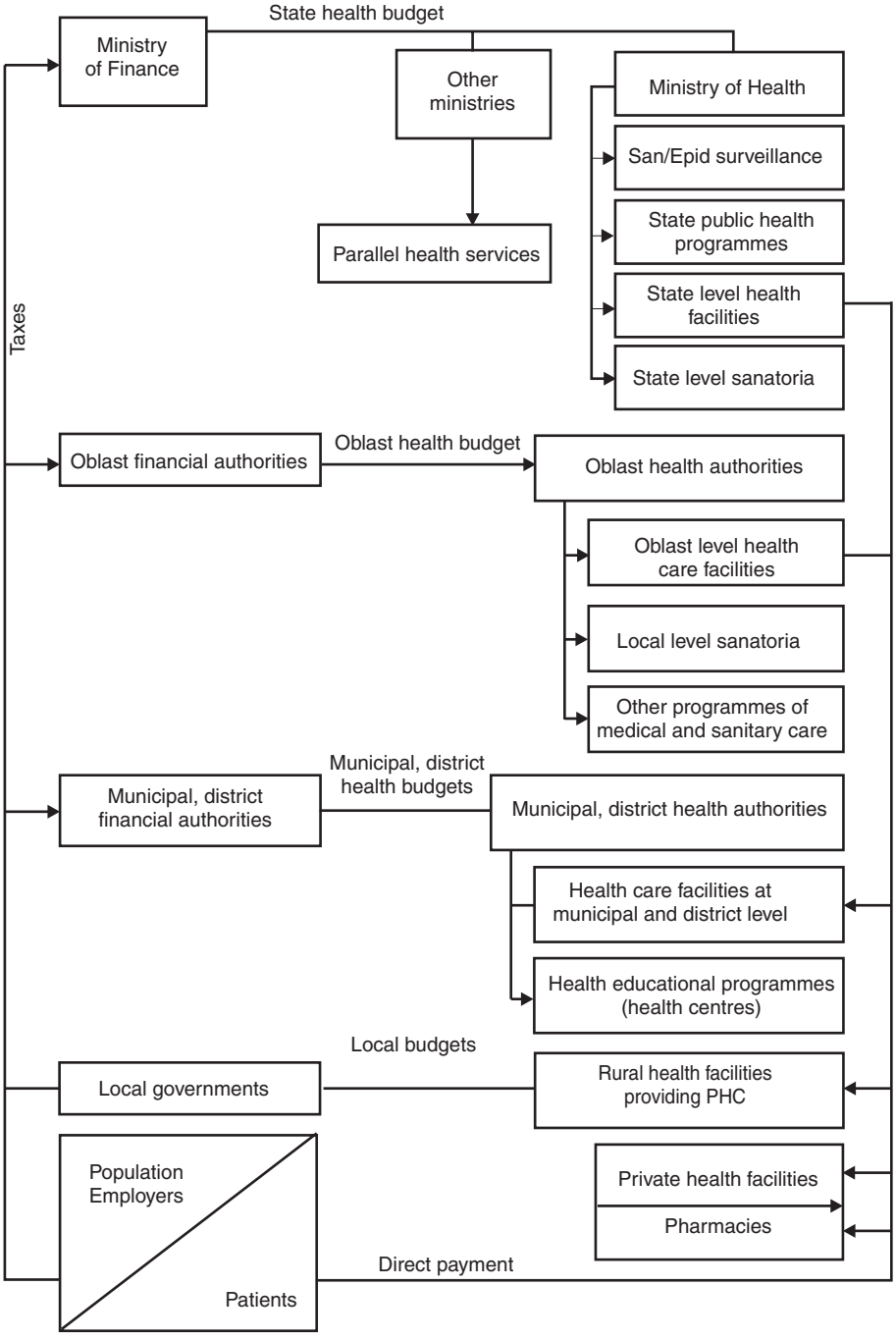
Local health budgets are developed in an essentially similar way. Local health authorities are the chief administrators of budgetary funds allocated to the health sector in their territory. Along with the executive authorities they draft local budget requests, which are then submitted to the local financial authorities. Decisions on and, if necessary, amendments to submitted local budgets are made by the regional administrations, taking account of socio-economic trends in the territory and estimated inter-budgetary transfers. Final approval of local budgets by representative authorities takes place not later than two weeks after the publication of the Law on the State Budget.

Allocation of budgetary (state and local) funds is based on a list of permitted line items, which in turn is based on norms set by the Ministry of Health, defining inputs such as beds, staff etc. per population served. The actual spending of state or local budgets follows in strict compliance with the powers delegated to the chief administrators of budgetary resources (Ministry of Health, local health authorities, local administrations). All procurement by health facilities and others of medical and office equipment, pharmaceuticals, supplies, etc. is to be done through tender procedures. The allocation of resources for maintaining health facilities is operated through the state treasury. The Ministry of Health, local health authorities and local administrations draft a budget request, taking account of the requirements of subordinated health facilities, which is then submitted to the local financial authority. The health facilities will then receive quotas according to which they develop their individual budget request (Fig. 15).

Capital investments are financed at both central and local levels, again through tender procedures. However, in recent years the funds available offered very limited opportunities to meet actual requirements. At the same time, lack of transparency often allows for the misuse of public funds regarding the acquisition of medical technology and equipment by public health facilities *(76).* Thus, in a number of instances expensive equipment was purchased at inflated prices without either obtaining appropriate information on market prices or alternative options or indeed without assessing the needs of the health facilities. As a consequence, from 2000, the Ministry of Health adopted the model of centralized planning and purchase of complex medical equipment.

Over recent years, Ukraine has implemented a series of measures aimed at strengthening control over the use of budgetary resources. These included the adoption of the Budget Code, the involvement of the financial authorities in developing the budget and the introduction of tender procedures for the procurement of goods and services with public funds. The Budget Code has stipulated strict procedures for balancing budgets among the different regions through inter-budgetary transfers and subsidies. However, there have been no substantial changes regarding the actual allocation of resources within the health

Fig. 15. Financing flow chart



care sector. While the law On Procurement of Goods, Operations and Services on State Funds created the legal basis for establishing contractual relationships in the health care sector which would allow facilities to purchase health services from various providers on a tender basis, this has yet to be enforced.

Payment of health facilities

The budget allocation to hospitals and polyclinics remains largely based on their capacity, that is, the number of beds in the former and the number of visits in the latter. Budgets are strictly itemized according to line items, including payroll and additional payments to staff, goods (pharmaceuticals, medical equipment and supplies, food) and maintenance costs. The volume of resources set aside for each budgetary item is strictly regulated with the allocation of funds for payroll calculated as the product of staff quantity times the total of salaries for health care staff according to the pay scale set by Ministry of Health and Ministry of Finance (see *Planning, regulation and management*). Staff quantity, in turn, depends on the number and structure of hospital beds. Allocation of resources for pharmaceuticals and meals for inpatients are defined as the product of relevant normative expenditures times the bed-days and the expected number of bed-days. For polyclinics, the budgets would be calculated based on number of consultations.

Given the chronic under-financing of the health care sector, the resources available are hardly sufficient to meet needs and are therefore mainly allocated to cover the expenditures in protected categories, usually comprising payroll, expenses for pharmaceuticals and food, and basic maintenance costs. Recently, available resources were supplemented by additional funds to cover medical interventions for the protection of mother and child health. In 2000, 43.8% of local budgets was spent on salaries, 10.6% on pharmaceuticals, 5.4% on food and 13.3% on maintenance. However, itemized budget figures obscure the real costs. For instance, the funds allocated for purchasing drugs equal, on average, two hryvna or US $0.38 per bed-day; for food 1.5 hryvna or US $0.28 per bed-day and for a single consultation at a polyclinic 6 kopeks or US $0.01. Moreover, various medical supplies such as syringes, needles and gloves are paid for by patients. In many cases, inpatients are also required to pay for food and bedding. Low salaries of health staff are compensated by under-the-table payments.

The current system of payment of hospitals and polyclinics, which has largely retained the Soviet approach of resource allocation, offers little incentive to operate efficiently. In contrast, the system encourages facilities to increase

numbers of consultations and admissions and thus contributes to inefficient spending of public and human resources. The Ministry of Health is now considering the possibility of changing to a more progressive financing system. However, no real steps in this direction have been taken so far.

Payment of health care professionals

Ukraine has also largely retained the Soviet practice of remunerating public sector health care professionals by fixed salaries according to a national pay scale set by the Ministry of Health (see *Organizational structure and management*), with mid -level health care professionals earning about 70%–80% of the average salary of physicians. However, economic recession has led to considerable erosion of physicians' and other health professionals' salaries. Salaries in the health care sector are now below the country's minimum subsistence level and remain lower than in other sectors of the economy. Thus, among 25 economic sectors in Ukraine, the average salary in the health care sector ranks 22nd and is less than half the average wage in the industrial sector *(60)*. A survey of health care workers in Ukraine in 1998, covering a representative sample of doctors and mid-level health staff, indicated that over 75% of respondents were earning less than 5 years ago and over 85% expressed substantial concerns about their ability to live on their wages *(77)*. Only recently has the government increased the minimum salary level for mid-level health care professionals. This has, however, resulted in a loss of differentials between qualified and non-qualified personnel, with consequences for the ability to retain qualified staff. The erosion of salaries has also facilitated the expansion of the shadow economy in the health care sector with under-the-table payments for certain services viewed by health professionals as compensation for inadequate recognition of their work. Unofficial payments to doctors have become widespread in Ukraine with a negative impact on access to health care for an increasing number of patients on low incomes.

Another feature of health professionals' salaries in the public sector is the so-called "wage-levelling" (egalitarianism) which means the salary is determined according to the existing pay scale only and does not depend upon the quality, quantity or type of service provided. Thus, there is no financial incentive for physicians to provide cost-effective treatment. Only recently has the Ukrainian government begun a process of developing more sophisticated methods of payment that take account of qualification, quantity, quality, complexity and efficiency of the work of health professionals as well as their working conditions, as outlined in the "Concept of the Development of Health Care in Ukraine"

(2000). The first step in this direction was the joint publication by the Ministry of Labour and Social Policy of Ukraine and by the Ministry of Health of the Order "On streamlining and approving the terms of payment of employees of health facilities and of the facilities for the social protection of population" *(78).* The order has introduced an official pay scale to secure a minimum salary for specified health professions employed by public or private health facilities. It also gives managers the right to establish bonuses, increments, and, for some categories of employees, higher official salaries.

There are plans to raise official salaries for health professionals holding certain qualifications. A system of performance-related increments has also been determined, for instance for those providing 24-hour emergency care. Increments will take account of both the quantity, i.e. hours worked, and quality of work performed, for example complexity and intensity of work or high levels of achievement. High performance may thus result in additional payments of up to 100% of the official salary. In contrast, increments will be reduced or denied in cases of underperformance, such as failure to deliver on time, low quality work or poor discipline. However, in the absence of clear criteria for the application of these increments, their incentive power is largely neutralized. In addition, increments and bonuses may be introduced only within the limits of resources available for payroll. As a result and in view of the very limited funds available to health facilities, managers have to choose between retaining their team and raising salaries. In conclusion, while these new developments do, to some extent, increase the flexibility of reimbursing health professionals there is still considerable uncertainty in terms of linking the payment to actual performance of health staff.

Health care reforms

Aims and objectives

After independence from the Soviet Union in 1991, reforming the health care sector in Ukraine was placed on the national agenda almost immediately. The driving forces behind reform were mainly economical; there was also recognition that the inherited Soviet model of health care had failed to adapt to changing circumstances, was achieving very poor outcomes, and was inconsistent with the drive towards a market economy. Already by the late 1980s it became apparent that the Semashko model was no longer appropriate as it had created substantial oversupply of services in the hospital sector and dispersal of limited resources in health care, resulting in low quality care. At the same time, Ukraine was undergoing profound social and economic changes, and this, along with democratization and the integration into the world community, drove the demand for reform. Shortly after independence, the parliament adopted the Principles of Legislation on Health Care in Ukraine (1992), the major legislative act setting out the main principles of national health policy, with the intention of meeting international standards and recommendations in human rights and health systems' development. This document forms the main national legislative act that regulates all aspects related to the development and implementation of health policy in Ukraine. However, until the end of 2000 activities by major national decision-makers to reform the system lacked clearly defined formal aims and priorities either to implement the legislative framework set out in the Principles or to identify appropriate and effective policies to do so. This has, ultimately, slowed down the pace of reform and somewhat inevitably led to inconsistent and often contradictory policies.

Despite this lack of formally stated aims and priorities it is possible to identify a number of key objectives governing the development of Ukraine's health system at that time. First, in view of the deep economic crisis facing

the country in the first half of the 1990s, the main aim was to prevent the existing public health system from falling apart and to retain a minimum level of social guarantees of health care for the population. Activities thus pursued included mobilizing additional resources of health care financing, primarily through increasing contributions from the population; limiting the amount of health care provided free according to the actual financial and economic capacity of the country; reducing state expenditure on health by decreasing the number of inefficiently used hospital beds, health facilities, physicians and other health and auxiliary staff. Second, an important objective of reform was to improve structural efficiency and the quality of health care. Measures to this effect included placing a priority on development of primary health care, stimulating the development of substitutes to inpatient care, standardizing medical technologies and establishing a system of accreditation of health facilities. Finally, after the breakup of the Soviet Union, due to the dismantling of the supra-centralized governance in health care, national policies aimed at decentralizing management including the health sector. Thus, a number of administrative functions in the health care sector were delegated to regional and local levels, to local state administrations and to local governments.

The worsening of population health and the difficult demographic situation since independence created further pressure for systematic changes. At the same time, the recent relative economic stability has facilitated an accelerated and more efficient advancement of reforms. Thus, the Concept of the Development of Health Care in Ukraine was introduced by presidential decree in December 2000, setting out the following goals:

- to maintain and promote the health of the population and to extend active longevity;
- to create legal, economic and administrative mechanisms to empower citizens to exercise their constitutional right to health protection, care and insurance;
- to ensure a guaranteed level of high quality health care free of charge in accordance with the legislation
- to establish a regulated market for health services, facilitating the performance of health facilities of any type of ownership and creating conditions to meet the health care needs of the population;
- to ensure efficient use of available personnel, financial and material resources;
- to establish joint participation of the state, employers, communities, legal entities and individuals in the financing of health services.

Content of reforms

As noted above, the 1992 Principles of Legislation on Health Care in Ukraine forms the main legislative act with respect to health policy in Ukraine. It determines the rights and obligations of citizens with respect to health care and protection, the main principles of health protection and approaches to the development and implementation of state policy in health care. Specifically, it sets out the principles of health system organization and the procedures for financing, of state control and supervision of health care, of organizing health services and drug supply and of ensuring healthy and safe living conditions for the population as well as the general conditions for medical interventions and safeguarding patients rights, protection of mother and child health, general principles of medical examinations, medical and pharmaceutical activities and professional rights and obligations of health personnel.

It is important to note that the Principles specified, for the first time that primary health care, based on the (territorial) principle of family medicine/general practice, is to be the main mechanism for providing health care to the population. They further stipulated that free access to health care was to be restricted to a level to be specified by the Cabinet of Ministers. In addition, the Principles created, for the first time, a legal framework for individual entrepreneurial activities in health care, for extending financing beyond the state budget to also include local budgets as well as health insurance funds, charity foundations and other legally recognized sources. It further stipulated that resources of the state and local budgets were to be used to secure the guaranteed level of health care and to finance state and local health programmes and basic medical research. Also, to improve their performance, health facilities were allowed to raise additional resources from direct payments by patients. The legislative framework set out by the Principles further affirms that the state has to assure the introduction and maintenance of a health insurance system for the population, to be based on budgetary funding and contributions of employers and employees.

Table 18. Health care reform in Ukraine[5] *(76)*

1992

- Law: Principles of Legislation on Health Care in Ukraine
- Curriculum and programme for specialization as General Practitioner approved by Ministry of Health

1994

- Law: On Ensuring Sanitary and Epidemiologic Well-being of the Population

1995

- Laws: On the Donation of Blood and Its Components; On Circulation in Ukraine of Narcotics, Psychotropic Substances, their Analogues and Precursors; On Measures to Counteract Illicit Trafficking of Narcotics, Psychotropic Substances, their Analogues and Precursors
- General Practitioner/Family Physician included in the nomenclature of medical positions
- National programme Family Planning (extended by the National programme "Reproductive Health 2001–2005" approved in September 2001)

1996

- Constitution of Ukraine: "The human being, his(her) life and health … in Ukraine are recognized as the highest social value. Everybody has the right to health protection, health care and health insurance. The protection of health is guaranteed by state financing of respective socio-economic, epidemiologic and sanitary and health improving programmes. … State and community health facilities provide health care free of charge; the existing network of such facilities may not be reduced. The State encourages the development of health facilities of all forms of ownership."
- Law: On Medicines
- Law: On Insurance
- Introduction of user charges for defined services provided in public health facilities by government resolution
- Comprehensive programme for the development of the medical industry (1997-2003) approved by government resolution
- National programme Children of Ukraine approved by presidential decree

1996/97

- Institutes of higher medical education establish chairs for postgraduate training of general practitioners/family doctors.

1997

- Area-specific maximum norms for inpatient care introduced by government resolution, delegating responsibility of establishing the number of hospital beds to local/regional health authorities

[5] Wording of legal acts (decree, resolution, order, law) as given in the table may differ from the original wording due to translation.

- Procedures of state accreditation of health facilities approved by government resolution: all health facilities subject to state accreditation
- List of domestic and imported pharmaceuticals and medical devices, prices of which are subject to state regulation approved by Joint Order of Ministry of Health and Ministry of Economy (extended in 2001)
- National programme Health of the Elderly approved by presidential decree

1998

- Law: Fundamentals of Legislation on Mandatory State Social Insurance creates legal prerequisites for the development and adoption of a law on mandatory state social health insurance
- Law: On Preventing Cases of Acquired Immuno-Deficiency Syndrome (AIDS) and on Social Protection of the Population revised in accord with recommendations of the Council of Europe
- Law: On Quality and Safety of Food Products and Raw Materials
- Standards for the accreditation of health facilities approved by order of Ministry of Health (revised in 2000)
- Comprehensive interventions to prevent sexually transmitted diseases approved by government resolution
- Provisional standards for medical technologies for the integration of the requirements for volume and quality of health care provided at hospitals approved by order of Ministry of Health
- Ruling of the Constitutional Court recognizes the 1996 government resolution on the approval of user charges for defined services provided in public health facilities as unconstitutional and recommends establishment of state guarantees of a specified level of health care to be provided free of charge at public health facilities

1999

- Law: On Transplantation of Organs and Other Anatomic Materials to Humans
- Programmes on genetic monitoring in Ukraine for 1999-2003, on prevention and treatment of arterial hypertension in Ukraine and on diabetes mellitus approved by presidential decree

2000

- Law: On Procurement of Goods, Operations and Services on State Funds (state funds include state and local budgets, state credit resources and resources of the National bank of Ukraine, state targeted funds, Pension fund of Ukraine and social insurance funds)
- Law: On Mental Care
- Law: On Licensing of Certain Types of Economic Activities determines licensing to cover all organizational forms that involve the provision of health care; followed by the joint order of the State Committee of Ukraine on regulatory policy and entrepreneurship and the Ministry of Health (2001) approving the licensing conditions for economic activities related to medical practice
- Law: On the Protection of the Population against Communicable Diseases
- Law: On State Social Standards and State Social Guarantees determines the list of state social norms in health care that are to be developed and approved
- Programme On Comprehensive Measures for Introducing Family Medicine into the Health

Care System approved by government resolution

- Procedures to mobilize additional income from charity donations by public health facilities approved by government resolution
- Concept of the Development of Health Care in Ukraine approved by presidential decree

2001

- Law: On control of tuberculosis, National programme on tuberculosis control for 2002-2005 approved by presidential decree
- Plan of gradual transition to organizing primary health care on principles of family medicine, along with a number of regulations supporting its implementation approved by order of Ministry of Health
- First reading of the draft law On Mandatory State Social Health Insurance
- Parliament passes the Budget Code of Ukraine, thus giving public health facilities the status of budgetary institutions
- National list of essential drugs and medical devices approved by Cabinet of Ministers

2002

- Draft Law on Mandatory State Social Health Insurance passed in second reading
- Intersectoral programme Health of the Nation, determining the principles of state policy in public health for 2002-2011, approved by Cabinet of Ministers; comprises 38 sections and is implemented by 28 ministries and departments, national academy of sciences, academies of medical and paedagogical sciences
- Comprehensive interventions to improve health services for the population in 2002-2005 approved by presidential decree
- Law: On Changing the Law "On Ensuring Sanitary and Epidemiological Well-Being of the Population" centralizes administration and financing of the Sanitary and Epidemiological Service
- Constitutional Court ruling on user charges (Box 2)
- Programme for Providing the Citizens of Ukraine with Free Health Care Guaranteed by the State approved by government resolution.
- List of services that may be charged at public health facilities approved by government resolution
- Recommendation to authorities at all levels of governance to implement measures indicating the commencement of radical changes in the country by resolution of the parliament

2003

- 2000 law On Procurement of Goods, Operations and Services on State Funds amended to establish procurement by open tender
- Draft Law on Mandatory State Social Health Insurance rejected in third reading

Box 2 Constitutional Court ruling on user charges

In May 2002 the Constitutional Court of Ukraine decided that the introduction of user charges for health services provided in public health facilities was not constitutional and has thus strongly restricted the basis for legal charges for health care in the public sector. According to the official interpretation of the notion "health care free of charge in state and community health facilities", health care in health facilities, regardless of its scope, is provided to all citizens with no exceptions and without preliminary, current or written order payments by citizens (see " Health care benefits and rationing"). With this decision the Constitutional Court essentially removed the possibility of introducing a state-guaranteed basic package of health services from public resources. As noted earlier, the Court also decided that charging citizens insurance premiums would pose a violation of the constitution. Thus, introducing social health insurance would only work, i.e.not contradict the constitutional notion of free health care in public health facilities, if mandatory insurance contributions were collected through third-party payers.

At the same time, the Constitutional Court decided that a number of subjects require further clarification by legislation, such as the notion "health care" (versus "health service"), the conditions for the introduction of health insurance including social health insurance, the conditions for the development and implementation of voluntary health insurance and the definition of "health services of secondary importance that are beyond the scope of health care" that may be charged for at public health care facilities, along with a list of such services. Given the current political climate it seems unlikely that there will be any change to the constitution which would alleviate the above-mentioned restrictions in the foreseeable future.

Reform implementation

Ukraine is still lacking an integral long-term programme for reforming the national health care system. As noted earlier, the general shape of the future system and main objectives of transforming the inherited Soviet model of health care were determined as early as 1992, just after independence, by the Principles of Legislation on Health Care in Ukraine. Subsequent attempts to reform were, however, largely unsystematic and inconsistent, and failed to restructure health care fundamentally. Political instability, frequent changes of government and of the leadership of the Ministry of Health[6] have led to numerous revisions of

[6] Since 1991 there have been eight Ministers of Health, with a duration of service from six weeks to three years.

the course of reforms, ultimately delaying institutional change in health care and reorganization of primary health care. Reform activities undertaken so far can be classified into three broad groups that will be examined in turn: strategic interventions, aiming at structural reorganization; first aid actions, seeking to maintain the system; and changes driven by the political and economic transition.

Strategic interventions

Following the experience of the regional primary health care project in the late 1980s, the Ministry of Health affirmed its intention to reorganize primary health care on the principles of general practice/family medicine (see *Restructuring primary health care*). A first step in this direction was to reform medical education, with medical schools initiating training curricula for general practitioners/family physicians in 1994, thus replacing the specialty-oriented training of physisians at the undergraduate level. The reform of higher medical education has, however, run ahead of the reorganization of the health care system, which continued to require considerable numbers of paediatricians and internists. Lack of incentives for selecting specializations seen as having lower status resulted in a relative shortage of human resources and some positions remained unfilled. As a result and under pressure from regional health authorities, undergraduate training of physicians partly returned to the previous specialty-oriented model. Several medical schools are now setting up chairs and conducting postgraduate training of GPs. However, because of the delay in actually reorganizing primary health care and because of the general difficult economic situation, many specialists who have undertaken retraining in family medicine returned to their previous jobs as catchment area physicians or dropped out altogether.

Formal steps towards primary health care reform were only introduced in 2000, following the government resolution On Comprehensive Measures for Introducing Family Medicine into the Health Care System. As noted earlier, the Ministry of Health has now developed a strategy of gradual transition to family medicine and approved the necessary regulatory framework (see *Restructuring primary health care*). Family ambulatories have been established, primarily in rural areas based on rural medical ambulatories, rural catchment-area hospitals and large feldsher-midwife aid posts. The pace of restructuring depends essentially on the attitudes of local and particularly regional authorities. Thus, oblasts governed by more conservative authorities are still in a relatively early stage of service provision based on the principles of family medicine. In contrast, oblast authorities who actively encourage change by giving financial

and administrative support have succeeded in a relatively rapid move towards establishing family ambulatories. For example, Kharkov oblast established about 100 family ambulatories, complete with required equipment and trained health professionals within a period of only 1.5 years.

Further progress is, however, impeded by the lack of internal economic incentives for reform, with the health care sector still largely financed according to capacity rather than performance (see *Financial resource allocation*). Thus, despite increasing workload and responsibilities, remuneration of family physicians remains essentially similar to that of other specialties. Several local initiatives are now introducing new forms of organization and reimbursement of primary health care to create incentives for more efficient use of resources and optimization of care. For example, following the adoption of the "Concept of health care provision for the population of Komsomolsk and rationalization of the health care system during the financial crisis" by the city council in 1998, the city of Komsomolsk in Poltava oblast began reforming health care, with the goal of introducing multiple funding mechanisms to finance health care and developing family medicine and group medical practice *(79)*. Subsequently, 35 local physicians underwent training in general practice/family medicine, 7 of whom took training abroad (Germany, United States). Also, a department of family practice was set up at the city polyclinic, followed by the establishment of general/family practice ambulatories in 1999–2000. The network of general medical practices is financed on a per capita basis with elements of partial fund-holding based on contracts between the newly founded Territorial Medical Association (TMA), which manages the funds of the city health facilities and a number of general practices. In 2000, the city established the city sickness fund as a complementary source of financing, covering 7% of the residential population (see *Complementary sources of finance*). The 1998 Concept of health care provision was developed further into the Concept of the second stage of the city health care reform in Komsomolsk (Concept II) and was adopted by the city council in 2003. Also, in November 2003 Komsomolsk city council set up the city health care department which is a unique development as health authorities at this level of administration have so far been unknown in Ukraine. At present, 49% of the Komsomolsk population is covered by primary health care services based on the principles of general practice/family medicine. Unfortunately, this model receives inadequate scientific and administrative support from the Ministry of Health. Nor is there any published evidence on its performance or its potential to be extended to the whole country.

Elsewhere, the German Consortium CII Group AG/Epos Health Consultants is currently working on the EU funded project "Prevention and primary health care in Ukraine, Kiev and regions (oblasts)" aiming to improve the quality,

efficiency and accessibility to primary health care, using three sites as pilot regions (city of Khmelnitskiy, two districts in Zhaporozhya Oblast and Crimea Autonomous Republic). Supported by the Department for Primary Health Care at the Ministry of Health, intensive work is under way to develop a model of primary health care. Its main components are to convert health facilities into medical enterprises as legal entities and to move the financing base to a per capita system according to the model of partial fund-holding. The project does, however, face some challenges related to the weaknesses of the existing legislative framework and the reluctance within the Ministry of Health to adopt fundamental changes towards reforming the health care sector. In conclusion, although there are a number of creative initiatives the overall process of primary care reform in Ukraine remains at a very early stage.

The hospital sector has seen rather proactive interventions aimed at substituting other forms of care – day-stay, hospital-at-home and outpatient surgery centres – for inpatient care (see *Hospital restructuring*) although once again the pace of reform has differed between regions. However, the actual impact on inpatient care was rather small, mainly because of continuing inefficiencies in the current system of coordination and integration in the health care sector.

In contrast, rather consistent progress has been made in accrediting facilities in order to improve the quality of care and to prepare health facilities for operating in a health insurance environment (see *Health care delivery*). Supported by the US Agency for International Development, the Ministry of Health has created the organizational and methodological basis for accreditation; as a result, between 1998 and 2000 19.5% primary level health facilities and 37.8% of facilities at secondary and tertiary level were accredited. Although its impact was somewhat less than expected, the accreditation process allowed facilities to streamline administration and strengthen their logistical base. While there is still some way to go regarding the effectiveness of the accreditation process, the experience gained so far is generally viewed as extremely useful for developing further the health care sector in Ukraine

Another important strategic intervention has been the law On Procurement of Goods, Operations and Services on State Funds (2000), which created the legal basis for introducing a competitive environment in the health care sector enabling establishment of contractual relationships between health care funders (state, local authorities) and providers (see *Organizational structure and management*). However implementation of this law faces numerous challenges, such as the necessity to revisit the constitutional norm of providing health care free of charge in public facilities (Box 2) or issues of the state's ability to meet the commitment to guaranteed health care. There is considerable concern among decision-makers that the financing agency – local authorities – will accrue

financial obligations in excess of budgets. A shift to contracting also poses a substantial threat to the preservation of the existing health care infrastructure, should that be desirable. The medical establishment also appears to be rather reluctant to take on responsibility in this area.

To ensure the citizens' right to health care free of charge as established by the Constitution and under the pressure of the rulings by the Constitutional Court (Box 2), in 2002, the government eventually approved the "Programme for Providing the Citizens of Ukraine with Free Health Care Guaranteed by the State". The programme comprises a defined list of health care services to be provided by state and community health facilities (see *Health care benefits and rationing*) and determines criteria for the volume of care to be provided free of charge (outpatient care: number of visits per 1000 population; inpatient care: number of bed-days/1000, rate of admissions/1000, average length of patients' stay in hospital; emergency ambulance services: number of calls/1000). Though not aiming directly at restructuring the health care sector, it is expected that clear definition of state guarantees will initiate a process of reforms to increase financial resources and to improve the efficiency of their use through restructuring. However, the programme has yet to be implemented, facing a number of technical problems such as the lack of a unified methodology for determining the costs of health services as well as political challenges. Feasibility of the programme depends to a considerable part on valid cost estimates for a bed-day, a visit, an ambulance call. At the current very low prices the proposed guarantees will not be viable and remain a mere declaration. In contrast, applying economically reasonable costs within the existing framework of health financing and without mobilizing any additional resources will cause the volume of state guarantees to fall substantially, again a prospect likely to be rejected by politicians. In other words, there is political reluctance to face up to the substantial mismatch between the rhetoric and the reality of what can be provided, making reform politically unfavourable. Supporters of social insurance now view its introduction as a means not only to increase the overall volume of health care financing but as a catalyst of structural reforms.

The suggestion to replace the tax-based system of health care financing in the Ukraine by social (health) insurance emerged essentially with independence and transition towards a market economy. Profound political changes, liberalization of all spheres of public life and the example of other countries of central and eastern Europe and Russia beginning to dismantle their Semashko health systems created a favourable political and social climate for radical reforms. A first step into this direction was taken as early as 1991, when the parliament, supported by the government, drafted a first law on social health insurance. However, due to the difficult political situation followed by the deep economic recession in the 1990s, health care reform reverted to a low priority. The idea of

introducing social health insurance was frequently revisited in the pre-election programmes of politicians from right and right-centrist parties; however, it was not implemented after election campaigns had ceased. The only exception is, however, an initiative by the administration of the railway sector which, with support from the government, introduced health insurance for railway staff in December 1995. It was expected that this pilot project would be evaluated by the government before its end of term in 1996 and, in case of a positive evaluation, be extended to other departments running parallel services and to regional health administrations. Within the railway sector, the initiative has been recognized as acceptable and has been extended to the whole sector. At present, health insurance covers workers in the maintenance service and it is gradually being extended to cover other categories of employees in the railway sector. It is, however, strictly limited to coverage of care provided in railway service facilities. Unfortunately, the experience gained so far has received little attention in the discussions on social health insurance and did not find any recognition in the very many draft laws on social health insurance that have been developed over the past 10 years.

The law on social health insurance has been on the parliament's agenda for several years. Eventually, a draft law submitted 2001 was approved in two readings (June 2001 and January 2002). However, its final passage was prevented by a number of factors, including the end of the term of office of Members of Parliament in charge, substantial shortcomings in the draft law and concerns about the feasibility of effective implementation without accompanying economic, political and administrative changes (see *Health care finance and expenditure*). Thus, the draft law is still subject to serious criticism from all sides. There was considerable doubt regarding its final approval by the newly elected parliament of March 2002. In addition, there is substantial direct or indirect opposition by a number of vested interests. There is open opposition by private insurance companies who would like to gain access to the financial resources of the public health care system and to prevent the emergence or else limit the rights of an integral non-commercial quasi-governmental social health insurance fund acting on the principles of tripartite relationships between the state, employers and employees. More indirect opposition stems from pharmaceutical companies lobbying against increasing state control over the market. Employers object to the introduction of an additional tax. Finally, there is opposition from the medical establishment itself with heads of health care facilities concerned about their responsibility to meet obligations or health authorities not wanting to loose their current level of influence.

Concerns about the economic and political feasibility of introducing social health insurance in the immediate future became stronger after an assessment in December 2002 by the World Bank mission on health care in Ukraine that

discussed methods of restructuring the health care sector in the negotiations over the bank's strategy for aid to Ukraine for 2003–2007 *(80)*. Based on an analysis of the draft law on social health insurance then discussed by the parliament, the World Bank memorandum on health sector reform in Ukraine concluded that, first, Ukraine needed to undertake reforms aimed at increasing the efficiency of the health care sector. It particularly recommended modifying the system of allocating resources based on line item budgets to agreements based on the performance of services provided, restructuring hospitals and reforming the hospital finance system, reforming primary health care along the lines already proposed to improve accessibility to basic services, revising the volume of "privileges" provided in the system to be consistent with available resources and introducing co-payments. Second it recommended that Ukraine postpone the introduction of social health insurance until necessary preconditions have been created such as the normative and regulatory basis, an effective tax code, establishment of systems for procurement and contracting, information on the cost of services in the health care sector, legal reform of hospital activities, etc., and that it simultaneously enable the procurement of health services. Finally, it concluded that Ukraine needed to raise state funding for health care to the necessary level. The mission emphasized that the bank would support increasing the level of expenditures for the public health sector if, at the same time, steps would be taken towards raising its efficiency. It also noted that most measures to improve efficiency can be taken without introducing social health insurance and indeed some of these measures are prerequisites for introducing health insurance eventually. In any case, as noted earlier, the draft law was rejected in its third reading in September 2003; a fourth reading originally considered for May 2004 has now also been withdrawn.

Interventions aimed at retaining the public health care system and containing costs

In a recent report on the evolution of health care in the ten years of independence, the Minister of Health concluded that the main emphasis of that period was to "retain … the health system under difficult economic conditions" *(60)*. To ensure operation of the existing network of public health care facilities the government took several steps to mobilize additional resources mainly through setting fees for a number of services previously free of charge and through voluntary charitable contributions and donations (see *Health care benefits and rationing*). This has caused discontentment and elicited a contrary ruling by the Constitutional Court as noted earlier (see Box 2). Although the lack of health care funds contradicts the constitutional right to free health care, the notion is still being upheld. Current efforts to get round the legal deadlock concentrate

on the rather rhetorical exercise of defining "health care" (which should be provided free of charge) as opposed to "health service" (which can be charged for) instead of taking advantage of the substantial international experience in defining a basic package of health care guaranteed by the state.

The necessity to mobilizing additional income has, however, initiated the development of a number of organizations with charity status that collect resources from enterprises, agencies and individuals in the form of voluntary contributions for health care. As outlined earlier (see *Complementary sources of finance*) the most common form are sickness funds. Although health authorities and budget-financed health care facilities are not permitted to set up such institutions they usually initiate their creation. The government has now commissioned the Ministry of Health to analyse the experience of sickness funds and to explore the potential for their wider application. It should, however, be emphasized that funds obtained through fee-for-services, voluntary contributions and voluntary health insurance constitute a rather small proportion of the overall volume of health finance. Expenses incurred by private individuals for health care are still mainly of a "shadow" nature such as unofficial payments to health staff and out-of-pocket payments for pharmaceuticals, medical supplies, hospital meals, bed linen, etc. This, in turn, has led to considerable change in public opinion, which has become accustomed to the idea that health care has to be paid for, and substantially so in case of a serious illness. At the same time, most people would prefer private payments to be in line with their incomes and provide better quality and efficacy.

However, acute shortage of public finance for health care has become the driving force for changes in the most cost-intensive inpatient sector, with the introduction of area-specific maximum norms for hospital beds in 1997 (see *Planning, regulation and management*) accelerating the reduction of beds (over one third since independence; see *Secondary and tertiary care*). This was achieved by a combination of administrative methods and enforcement of existing approaches to financial resource allocation and capacity planning, eliciting strong resistance by the management because of the threat it posed to job security. As outlined in the section on *Secondary and tertiary care,* the economic impact of reducing inpatient capacity was rather small. In some cases the changes even had a negative impact, as with the conversion of low-capacity rural hospitals into ambulatories. Overall, however, bed numbers remain high and their allocation to different specialties and needs (e.g. rural areas, palliative care, the elderly) continues to be inappropriate. In addition, in an effort to retain their bed capacity and to obtain additional funding through "grey" channels by charging patients, hospitals have increased the volume of services by lowering admission thresholds. Thus, the changes that have taken place in the hospital sector so far did not result in any significant improvement in the efficiency of

inpatient care in Ukraine since they were not accompanied by general reform of the health care sector.

In a further attempt at cost containment the government also engaged in gradually reducing the number of health professionals trained with state funds. This did not, however, affect the supply of health professionals since there were no upper limits imposed on the number of students who pay for their training, thus providing additional income for medical schools (see *Human resources and training*). Only in 2002 did the law On Education limit this number to 50% of the total admitted to medical school, which will, however, hardly affect the current situation. At the same time, introducing tuition fees has created a number of additional problems such as lowering the entrance requirements for applicants willing to pay, with potential impact on the quality of training of health personnel in those universities. Also, as noted earlier, most students who are not trained in the state funded programme tend to opt for narrow specialization and thus further contribute to the existing imbalance between general practitioners on the one hand and highly specialized doctors on the other. The Ministry of Health is now planning to regulate the distribution of students outside the state funded programme by differentiating fees according to degree of specialization, with higher fees for higher specialization.

Changes in health care related to the political and economic transition

A third set of reform activities in the health care sector in Ukraine was initiated by the general political, social and economic transition, democratization of society and the development of market economy, with the development of local self-government having a particularly strong impact. Delegating the management and finance functions of public health care facilities to local authorities meant a drastic departure from the previous system of tight centralization. This has increased the responsibilities of local authorities with much of the local budget now being spent on health care. The procedure of resource allocation, in which health care facilities at different levels receive resources from different budgets has, however, increased the fragmentation of the system. Decentralizing financing has also resulted in increased inequalities between regions although the introduction of inter-budgetary transfers by the Budget Code of 2001 has the potential to ensure a more equal distribution of resources. At the same time, delegating power to local authorities has greatly weakened the ability of the Ministry of Health to implement reforms.

The transition towards a market economy has also stimulated the development of a nongovernmental sector in the health system, with the number of private health care facilities and private medical practices growing. Patients generally

perceive private facilities more positively than public facilities, largely because of their higher responsiveness. Also, the costs involved in receiving treatment in private facilities are clearly predictable, which is generally not the case in public facilities. However, private health care is not readily affordable by the majority of the population and the private sector, including voluntary health insurance, is growing rather slowly (see *Complementary sources of finance*).

Within the framework of general deregulation of industrial facilities, much of the medical and pharmaceutical industry and many pharmacies in Ukraine have now been privatized. The government has followed a rather explicit policy to reduce its dependency on imported products and to support development of the domestic medical industry despite economic difficulties. The domestic pharmaceutical industry has also become an increasingly important supplier, thus averting problems of acute shortages in drug supply prevalent immediately after independence (see *Pharmaceuticals and health care technology assessment*). However, the lack of appropriate state regulation has led to uncontrollable development of the pharmaceutical sector, with rapidly increasing prices of pharmaceuticals and medical devices. Also, pharmaceutical companies have become a decisive factor in determining the volume and range of drugs prescribed to and consumed by the population.

In summary, since gaining independence from the Soviet Union, Ukraine has initiated and partially implemented numerous reforms of the health care system. However, despite these efforts the system has generally retained the main features of the Soviet model of health care: a surplus of state guarantees, predominance of administrative approaches to problem solving, financing based on capacity rather than performance, structural disproportions and low efficiency in resource utilization. The preservation of the old system in the deep economic depression has had substantial negative impact on accessibility to health care by the majority of the population. In view of sustained shortage of funds continued adherence to established approaches of management and financing of health care will make it impossible to resolve this problem.

The reasons for postponing radical health care reforms in Ukraine are mainly of political nature as reform implementation will require the government to confront its inability, with existing funds, to meet its commitments to free health care. Also, the difficult economic situation creates a serious obstacle for firm action in restructuring health care. The new parliament, elected in March 2002, is now expected to address these issues more consistently. Based on hearings on the state of affairs in health care, on 28 November 2002, the parliament passed a resolution which considered the performance of the Cabinet of Ministers in the field of health care unsystematic and unsatisfactory and set out a number of requirements and recommendations for further reform of the health care sector. It recommended reforms focusing mainly on ensuring efficient use of

resources, increasing the quality of health care, preparing for the introduction of social health insurance and refining the procedures for contractual payments for health services. It suggested that authorities at all levels should immediately implement a package of priority interventions including:

- establishing the requirements set by the law "On Procurement of Goods, Operations and Services on State Funds" to enable procurement of health services through tender procedures;
- accelerating the development of unified approaches to determining the costs of health services;
- changing the legal status of health care facilities to independent economic entities to enable state procurement of health services;
- reorganizing primary health care on the principles of family medicine;
- accelerating the development, approval and implementation of state social standards in health care;
- ensuring effective planning of human resources in the health care sector.

The resolution also recommends modifying the Budget Code of 2001 to centralize the financing of rural health care, to enable a more equal distribution of resources and improved control of health services provision to the rural population. The parliament has committed itself to introducing necessary legislative changes to implement reform. This is expected to succeed despite the numerous obstacles, by virtue of the new structure of political power in Ukraine. For the first time, the government has a majority in the parliament, thus, the executive and legislative branches of power bear the responsibility to enact their policies.

Health for all policy

Ukraine does not have a specific document explicitly detailing state policies for implementation of the WHO strategy of health for all (HFA) ; there is nonetheless strong government support for this policy although this support has as yet not been translated into any financial resources towards implementation. Since 1993, Ukraine has been monitoring the implementation of its objectives and health for all principles formed the basis for the Principles of Legislation on Health Care, the Concept of the Development of Health Care in Ukraine, and other laws, resolutions and national programmes designed to improve population health. An important step towards implementing health for all policies was the adoption in 2002 of the previously mentioned intersectoral programme Health of the Nation for 2002–2011, but there is so far no clear means for implementing this ambitious programme.

Conclusions

Since independence, Ukraine has succeeded in creating a legal framework characterized by fragmentation and complexity, with overlapping and often ambiguous lines of accountability, against a background of inadequate resources to meet its stated goals. However, despite these many problems, some limited reform does seem possible, as shown by the example of primary health care. It has also created the legal prerequisites for the development of a private health care sector and for the manufacturing and distribution of pharmaceuticals. Voluntary health insurance has begun to develop. The newly established legal framework could also have permitted innovation in health care financing had it not been overruled on constitutional grounds, and could offer ways in which authorities at all levels could – within the limits of the existing system – improve clinical and economic efficiency of the health care system. However, the transformations that have taken place in the system so far can hardly be called reform since they were not sustainable in a way that would create structural changes in the system and major improvements to the way it operates.

Lack of experience in strategic planning and management coupled with lack of political will for rapid implementation of reforms, concerns about taking unpopular but necessary decisions to match the new economic environment and a propensity of politicians towards grand but unworkable declarations have all contributed to the rather slow pace of reform. This has led to the peculiar concentration of Soviet-style principles of resource allocation and capacity planning for public health care facilities and, at the same time, has created new problems through the substantial mismatch between state guarantees of universal, unlimited access to free health care and the actual availability of health care funding. The situation has been further complicated by failure to apply effective means of cost containment or to increase efficiency; the only exceptions were measures to reduce oversupply of hospital beds and health care

staff. However, as in other countries, the economic impact of such methods, in the absence of more comprehensive reform, was rather limited. This complex interplay of factors along with the difficult economic situation in the country has resulted in a drastic reduction in the quality of and accessibility to health care, with unofficial payments and other forms of charging for health services having become widespread and deaths that should be avoidable, such as those of young people with diabetes, increasing rapidly.

There is an understanding that improving the financial basis of health care in Ukraine will require overall economic growth in the country. Even if the draft law on mandatory state social health insurance were to be adopted eventually, it would not fundamentally change the economic situation of the health care sector. At the same time, experts, politicians and citizens have become increasingly aware that acute problems in the health care system are not only due to shortage of funds but also to its inefficiency in financing, planning and regulation. Efficient use of methods of cost containment and optimization is a decisive factor for improving the health care system regardless of the type of funding chosen for the future. Given the limitations in mobilizing resources, the importance of measures that ensure highly efficient use of what resources are available is growing considerably. In view of recent developments, it is now anticipated that in the foreseeable future the major strategy for restructuring the health care system in Ukraine will consist of improving the management of the existing system.

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Romania (1996, 2000[f])
Russian Federation (1998, 2003[g])
Slovakia (1996, 2000, 2004)
Slovenia (1996, 2002)
Spain (1996, 2000[h])
Sweden (1996, 2001)
Switzerland (2000)
Tajikistan (1996, 2000)
The former Yugoslav Republic of Macedonia (2000)
Turkey (1996, 2002[g,i])
Turkmenistan (1996, 2000)
Ukraine (2004[g])
United Kingdom of Great Britain and Northern Ireland (1999[g])
Uzbekistan (2001[g])

Key

All HiTs are available in English. When noted, they are also available in other languages:

[a] Albanian
[b] Bulgarian
[c] French
[d] Georgian
[e] German
[f] Romanian
[g] Russian
[h] Spanish
[i] Turkish