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Ukraine

Health system review

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Ukraine:

Health System Review 2015

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Preface

The Health Systems in Transition (HiT) series consists of country-based reviews that provide a detailed description of a health system and of reform and policy initiatives in progress or under development in a specific country. Each review is produced by country experts in collaboration with the Observatory's staff. In order to facilitate comparisons between countries, reviews are based on a template, which is revised periodically. The template provides detailed guidelines and specific questions, definitions and examples needed to compile a report.

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

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

Compiling the reviews poses a number of methodological problems. In many countries, there is relatively little information available on the health 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 World Health Organization (WHO) Regional Office for Europe's European Health for All database, data from national statistical offices, Eurostat, the Organisation for Economic Co-operation and Development (OECD) Health Data, data from the International Monetary Fund (IMF), the World Bank's World Development Indicators and any other relevant sources considered useful by the authors. Data collection methods and definitions sometimes vary, but typically are consistent within each separate review.

A standardized review has certain disadvantages because the financing and delivery of health care differ across countries. However, it also offers advantages because it raises similar issues and questions. HiTs can be used to inform policy-makers about experiences in other countries that may be relevant to their own national situations. They can also be used to inform comparative analysis of health systems. This series is an ongoing initiative and material is updated at regular intervals.

Comments and suggestions for the further development and improvement of the HiT series are most welcome and can be sent to info@obs.euro.who.int.

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This edition was written by Valery Lekhan (Dnipropetrovsk State Medical Academy), Volodymyr Rudiy (Committee on Health of the Verkhovna Rada), Maryna Shevchenko (Ukrainian National Institute of Strategic Studies), Dorit Nitzan Kaluski (WHO Country Office for Ukraine) and Erica Richardson (European Observatory on Health Systems and Policies). It was edited by Erica Richardson of the Observatory's team at the London School of Hygiene & Tropical Medicine. The basis for this edition was the previous HiT Ukraine, which was published in 2010, written by Valery Lekhan, Volodymyr Rudiy and Erica Richardson, and edited by Erica Richardson.

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The Observatory team working on HiTs is led by Josep Figueras, Director, Elias Mossialos, Martin McKee, Reinhard Busse, Richard Saltman, Ellen Nolte and Suszy Lessof. The Country Monitoring Programme of the Observatory and the HiT series are coordinated by Gabriele Pastorino. The production and copy-editing process of this HiT was coordinated by Jonathan North, with the support of Caroline White, Alison Chapman (copy-editing) and Steve Still (typesetting).

List of abbreviations

Abbreviations	
AUC	Association of Ukrainian Cities
CIS	Commonwealth of Independent States
COPD	chronic obstructive pulmonary disease
CPI	Corruption Perception Index
DALE	disability-adjusted life expectancy
DALY	disability-adjusted life year
DCFTA	Deep and Comprehensive Free Trade Agreement
DOTS	directly observed treatment, short-course
DRG	diagnosis-related group
EBRD	European Bank for Reconstruction and Development
EDQM	European Directorate for the Quality of Medicines
EU	European Union
FAP	*feldsher*-midwife [*akusher*] point
GDP	gross domestic product
GEON	General European OMCL Network
GLP	good laboratory practice
GMP	good manufacturing practice
GP	general practitioner
GPS	global position satellite
HFA	Health for All
HTA	health technology assessment
IHME	Institute for Health Metrics and Evaluation
IMCI	Integrated Management of Childhood Illnesses
IMF	International Monetary Fund
IMR	infant mortality rate
MMR	maternal mortality rate
MoH	Ministry of Health
NATO	North Atlantic Treaty Organization
NCD	noncommunicable disease

Abbreviations	
NGO	non-governmental organization
NHA	National Health Accounts
OCHA	Office for the Coordination of Humanitarian Affairs
OECD	Organisation for Economic Co-operation and Development
OMCL	official medicines control laboratories
OSCE	Organization for Security and Co-operation in Europe
PIC/S	Pharmaceutical Inspection Convention and Pharmaceutical Inspection Co-operation Scheme
PLHIV	people living with HIV
PPP	purchasing power parity
PROM	patient-reported outcome measure
SAUMP	State Administration of Ukraine on Medicinal Products
SDR	standardized death rate
SES	Sanitary–Epidemiological Service
STI	sexually transmitted infection
TB	tuberculosis
THE	total health expenditure
TRIPS	Trade-Related Aspects of Intellectual Property Rights
UAH	hryvnya (currency)
UIPH	Ukrainian Institute of Public Health
UISS	Ukrainian Institute for Strategic Studies
UN	United Nations
UNICEF	United Nations Children's Fund
USAID	United States Agency for International Development
VAT	value added tax
VHI	voluntary health insurance
WHO	World Health Organization
WTO	World Trade Organization

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Abstract

This analysis of the Ukrainian health system reviews recent developments in organization and governance, health financing, health care provision, health reforms and health system performance. Since the country gained independence from the Soviet Union in 1991, successive governments have sought to overcome funding shortfalls and modernize the health care system to meet the needs of the population's health. However, no fundamental reform of the system has yet been implemented and consequently it has preserved the main features characteristic of the Semashko model; there is a particularly high proportion of total health expenditure paid out of pocket (42.3% in 2012), and incentives within the system do not focus on quality or outcomes.

The most recent health reform programme began in 2010 and sought to strengthen primary and emergency care, rationalize hospitals and change the model of health care financing from one based on inputs to one based on outputs. Fundamental issues that hampered reform efforts in the past re-emerged, but conflict and political instability have proved the greatest barriers to reform implementation and the programme was abandoned in 2014. More recently, the focus has been on more pressing humanitarian concerns arising from the conflict in the east of Ukraine. It is hoped that greater political, social and economic stability in the future will provide a better environment for the introduction of deep reforms to address shortcomings in the Ukrainian health system.

Executive summary

Introduction

Ukraine is the second largest country in Europe by area, after the Russian Federation. In 2013, Ukraine had a population of 45.5 million; 12% less than 1991, when the country gained independence from the Soviet Union, due to a combination of below-replacement birth rate and emigration. Although key population health indicators such as life expectancy and all-cause mortality fell after independence, they have since recovered to improve slightly on pre-independence levels, with rapid improvements between 2008 and 2012. Nevertheless, life expectancy in 2012 was still low by European standards: 66.2 years for men (compared to a European average of 73.1) and 76.2 years for women (compared to a European average of 80.3. High mortality rates in the general population are mostly attributable to cardiovascular diseases, which accounted for more than 60% of total mortality in 2010. However, infectious diseases are also key public health issues, particularly HIV/AIDS and tuberculosis (TB), which have increased rapidly as a cause of disability and premature mortality in Ukraine. There are also conflict-affected populations in the east of the country, who lack access to basic facilities (including health services, water and food), and 1.2 million displaced people.

Rapid marketization and hyperinflation following independence caused severe socioeconomic hardship in Ukraine. While there was some stabilization in the economy from 2000, and even growth from 2003 to 2004 and 2006 to 2007, the global economic downturn from 2008 severely affected the Ukrainian economy. Assistance from the IMF and World Bank stabilized the economy, but by the end of 2012 Ukraine was back in recession.

From 2008, Ukraine established much closer ties with the European Union (EU), and a Deep and Comprehensive Free Trade Agreement (DCFTA) was agreed in principle in July 2012. However, this caused friction both nationally and internationally, as ratification of the DCFTA with the EU would close off the possibility of Ukraine joining the Eurasian Customs Union with Belarus,

Kazakhstan and the Russian Federation. Protesters in Kyiv drove Ukraine's then President from office in February 2014, in part because his government decided not to sign the DCFTA in favour of joining the Eurasian Customs Union. Although not supported unanimously across the country, the DCFTA was eventually signed by Ukraine in June 2014 in the hope of greater economic stability and prosperity.

In March 2014, the Russian Federation took control of the Crimean Autonomous Republic. In April 2014, an increasingly violent armed conflict began in the Donbas area of eastern Ukraine. These events have prompted large-scale population movements as local civilian populations have sought to escape conflict and the breakdown in basic services. As of January 2015, at least 4800 people had been killed in fighting and 1.2 million displaced. Most left with few belongings and are in need of shelter, food and non-food assistance, placing pressure on neighbouring regions. This creates particular health care challenges; in particular, the delivery of TB care has proved most challenging in the face of mass population movements. By January 2015, approximately 5.2 million people were still living in conflict-affected areas.

Organizational overview

In 1991, Ukraine inherited an extensive and highly centralized Semashko health system (a hierarchical, nationally controlled system the staff of which were state employees), which it was not possible to maintain through the economic downturn that followed independence. There has been considerable decentralization in the system since independence; however, in most other respects, the system remains largely unreformed. Decentralization has largely meant passing functional and managerial powers to the 27 regions and the local level (see section 1.1). Regional and local health authorities are responsible for health care facilities in their territory and are functionally subordinate to the Ministry of Health, but managerially and financially answerable to regional and local government. Decentralization through privatization has been largely inhibited by provisions of the Constitution prohibiting the reduction of the existing network of publicly owned health care facilities. The private sector in the Ukrainian health system is small in organizational terms and consists mostly of pharmacies, diagnostic facilities and privately practising physicians.

Approaches to capacity planning in the Ukrainian health care sector have remained almost unchanged since the centralized, input-based approach of Soviet times, and the mechanisms in place neither reflect the health care

needs of the population nor take into account regional characteristics of health service provision. There is also little incentive for rational use of resources or cost control over health care facilities. An approach to planning based on centrally determined standards, characteristic of the Semashko model, along with financing based on capacity (rather than volumes or quality provided, or local need, for example), encourages unnecessary hospitalizations and excessive lengths of stay. Changing planning mechanisms in the Ukrainian health system is further complicated by the absence of a unified people-centred health information management system.

The Ministry of Health develops and approves state quality standards and clinical protocols. The Ministry is responsible for the organization and implementation of the mandatory accreditation of health care facilities and issuing licences to legal entities and individuals that are engaged in the delivery of medical services, or the production and sales of pharmaceuticals and medical equipment. However, the regulatory process is largely a formality and has no real impact on the quality of care as there is a lack of suitable enforcement mechanisms.

Most pharmaceuticals are purchased directly by patients, so the scope for influencing prescribing patterns is rather limited, and is further hampered by *de facto* liberal pharmacy dispensing procedures and the strong influence pharmaceutical companies have on prescribing practices.

Patient empowerment is not a significant feature of the Ukrainian health system. By law, all citizens have the right to access information about their health and services available to them, but the mechanisms for accessing such information are not transparent, so most rely on personal recommendations and informal networks when making decisions about health services. Many people try to exercise choice in the system by paying out of pocket for services, but this does not necessarily help; nearly half of all patients who self-refer to specialist care at hospitals do not have a condition compatible with the hospital's level or profile and so are transferred to a different health facility. Patient rights in the Ukrainian health system are not protected systematically and there is no specific legal mechanism for patient complaints procedures within the health system. However, with the most recent attempt at reform of the system (see below) the public became much more active, founding non-governmental organizations in order to express their opinions about the changes. Most often this was to protest against the reforms, partially in response to the inadequate public communication informing people of the proposed reforms, what they meant and why they were necessary.

Financing

Health expenditure as a proportion of GDP in Ukraine was 7.6% in 2012; this is middling in comparison with Europe as a whole, but relatively high in comparison with Ukraine's neighbours and the Commonwealth of Independent States (CIS) average of 6.3% (see section 3.1). However, only a little over half (54.9%) of this total health expenditure (THE) was from public sector sources in 2012, below even the CIS average of 56.4% (see section 3.1). This has significant implications for equity in health system financing as private spending on health makes up the rest, dominated by out-of-pocket payments.

The bulk of government expenditure (46% in 2012) pays for inpatient medical services, with only a relatively small proportion going to outpatient services (around a fifth) and public health (4.3%). Private expenditure primarily consists of out-of-pocket payments, which are high on account of the high cost of pharmaceuticals, which are generally purchased at full cost price by patients. Although in theory vulnerable groups and inpatients should be covered by public provision, in practice they are often obliged to pay for their medications. Officially, Ukraine has a comprehensive guaranteed package of health care services provided free of charge at the point of use as a constitutional right; nevertheless, so-called charitable donations are widely levied. Government attempts to define a more limited benefits package have left it to the individual facilities to determine which services are covered by the budget and which are subject to user charges. This has led to a lack of transparency in the system that has contributed to the expansion of informal payments.

Most health financing comes from general government revenues raised through taxation (value added taxes, business income taxes, international trade and excise taxes). Personal income tax is not a significant contributor to total revenues. Out-of-pocket payments account for most other health expenditure; although there are some voluntary health insurance schemes, their impact is marginal, contributing less than 1% to THE. Budgetary funds are pooled at the national and the local level, as local governments retain a proportion of the taxes raised in their territories. There are also interbudgetary transfers to boost the resources of poorer local authorities that cannot raise as much revenue. However, the progressivity of the taxation system in Ukraine is undermined by the scale of the shadow economy (up to 40% of GDP).

With the exception of pilot projects in four regions that moved towards contracting mechanisms for primary care, allocations and payments are made according to strict line-item budgeting procedures as under the Semashko system. This means that payments are related to the capacity and staffing levels of individual facilities rather than to the volume or quality of services provided.

Since the beginning of the global financial crisis in 2008, pharmaceutical prices have increased considerably (by 40–70%), largely as a result of currency devaluation. To stabilize the situation in the pharmaceutical market, the government adopted a number of potential solutions to curb rising pharmaceutical prices, including initially by significantly expanding the list of pharmaceuticals subject to state price regulation to cover almost the entire Essential Medicines List – 903 generic drugs or 85% of all registered drugs in Ukraine.

Physical and human resources

Ukraine has an extensive health care infrastructure, despite substantial bed reductions in recent years. The repurposing of small village hospitals as primary care centres since the mid-1990s drastically reduced the number of hospital beds and the hospital stock (by 63% over 18 years), with more than half the rural facilities converted into physician-led primary care clinics. Although relatively low in comparison with countries of the CIS, at 721.01 per 100 000, the number of acute care hospital beds in Ukraine remains high by international standards (and nearly double the EU average of 385). Ukraine has also retained a large number of facilities in parallel health systems (for example, for railway workers).

In 2013, the routine monitoring of facilities by the Ministry of Health found that 37% of primary care facilities required renovation or rebuilding – 23% in rural areas and 46% in urban areas. Unsatisfactory sanitary conditions are most often found in rural health care facilities. The Ukrainian health system has also consistently encountered severe difficulties with the supply and maintenance of existing technological equipment.

Operating indicators for acute care hospitals in Ukraine show that, despite the large number of hospital beds, utilization remains quite high (at 91.2% for acute beds, well above the European region average of 78.9%) and, once admitted, patients on average stay for 10 days (above the European region

average of 7 days). The high utilization and long length of stay highlight the inefficiency of financing hospitals based on capacity; research has shown that almost a third (32.9%) of hospitalizations in Ukraine are unnecessary.

Since 1990 there has been a steady increase in the number of health workers per capita nationwide, but this does not reflect a growing number of doctors so much as a decline in the total population; the absolute number of doctors has been falling and Ukraine faces serious challenges with doctors leaving the health sector or the country itself. The key staff shortages are in rural areas and in primary care, which has a high turnover. The number of nurses has fallen due to the low wages, low status of nursing and limited opportunities for professional development. This is a trend witnessed throughout the CIS and one that runs counter to developments in EU countries.

Public health services have been recently reorganized in an effort to reduce administrative burdens on enterprises, although there are concerns that the reduced and reformed structures will not be able to ensure public health in areas such as food safety and immunization against vaccine-preventable diseases. A combination of shortages, underfunding and public concern about vaccination has left Ukraine with low vaccination coverage rates and a growing number of unvaccinated children.

Provision of services

Traditionally, primary health care in Ukraine has been provided within an integrated system by therapeutic specialists (district internists and paediatricians) employed by state polyclinics. In 2000, the transition to a new model of primary care based on the principles of family medicine began. Family doctors/general practitioners (GPs) now make up more than half (57.2%) of all primary care physicians; they work at family medicine polyclinics or in appropriate polyclinic departments. Reforms begun in 2010, which sought to reorient the system to prioritize primary care, were rooted in GP-led care with clear patient pathways and strong gatekeeping at the primary care level. The aim was to reduce irrational use of specialist services but unnecessary self-referral to hospitals (effectively bypassing primary care) has continued to be a major source of inefficiency in the system and gatekeeping has been broadly opposed by patients.

The inpatient system is a hierarchical system organized into three levels. The first (lower) level is that of rural hospitals providing basic inpatient facilities. The second (middle) level is the true foundation of the system. Secondary inpatient care is provided in central district and municipal multiprofile hospitals, and also children's hospitals, specialized clinics (*dispensarii*) and specialized hospitals, which are located and governed at this organizational level. The third (higher) level is that of regional and supraregional specialization provided by regional hospitals, diagnostic centres and specialized clinics, and specialized clinical and diagnostic centres at the national research institutes of the Ministry of Health and the National Academy of Medical Sciences. These were originally designed to provide highly specialized medical care to patients with the most severe and complicated conditions but there has been some blurring of the lines between secondary and tertiary care levels.

Health care reforms

The Ukrainian health system has preserved the fundamental features of the Soviet Semashko model against a background of changes that have developed along market economic principles. Although no fundamental reform has taken place, some changes in the health sector have been initiated and realized since independence; the most recent package of reforms was introduced from 2010. Three phases of the reforms were to be implemented over a four-year period (2010–2014), and started with changes to health financing to reduce fragmentation and prioritize primary care. Phase two was to pilot the programme in four pilot areas. In phase three, the pilot areas were then due to deepen the reforms, but these plans were put on hold in view of the unstable political situation.

Strengthening primary and emergency care, rationalizing hospitals and transforming the model of health care financing are ambitious aims in health care reforms, and ones which often face strong resistance from patients and existing power structures. To implement these reforms at a time of severe economic constraint was an understandable, but bold, move. Fundamental issues such as numerous institutional barriers (including constitutional difficulties) that have hampered reform efforts in the past, re-emerged. However, conflict and political instability have proved the greatest barrier to reform implementation. More recently, governments have necessarily concentrated on more pressing humanitarian concerns.

At the time of writing, the political situation was such that, although health system reform was nominally high on the agenda, plans remained undeveloped and secondary to macroeconomic concerns. This has created space for special interest groups to lobby for the health system to be reformed in ways that serve their purposes. It is hoped that greater political, social and economic stability will provide a conducive environment for the introduction of far-reaching reforms to address shortcomings in the Ukrainian health system but that these reforms will also draw on the best available international evidence of what works to promote equity, quality and efficiency.

Assessment of the health system

The core challenges for the Ukrainian health system are still the ineffective protection of the population from the risk of catastrophic health care costs and the structural inefficiency of the health system, which is sustained by an inefficient system of health care financing. Health system weaknesses are also highlighted by increasing rates of avoidable mortality.

Patients and doctors alike recognize the need for fundamental reform of the Ukrainian health system; however, government reform efforts to date are viewed negatively and popular mistrust of doctors is strikingly high. Improving the quality of care is necessary as this is the main popular concern but also because improving the quality of care would save lives. To rebuild trust in the system it will also be necessary to tackle the issue of informal payments in a way that moves beyond sloganeering about corruption to tackle the underlying issues of low wages and popular perceptions. Concerns about affordability are linked to the prevalence of informal payments and the cost of pharmaceuticals for treatment, and these concerns in themselves constitute a barrier to access.

1. Introduction

Ukraine is the second largest country in Europe and had a population of 45.5 million in 2013, which is 12% smaller than it was in 1991 when the country gained independence from the Soviet Union. While key population health indicators such as life expectancy and all-cause mortality fell after independence, there was some improvement after this with rapid improvements between 2008 and 2012. Nevertheless, life expectancy in 2012 was still low by European standards (66.2 years for men and 76.2 years for women). Maternal and infant mortality rates (IMR) have been falling steadily, but so too have birth rates. High mortality rates in the general population are mostly attributable to cardiovascular diseases, which accounted for more than 60% of total mortality in 2010. However, infectious diseases are also key public health issues, particularly HIV/AIDS and tuberculosis (TB), which have increased rapidly as a cause of disability and premature mortality in Ukraine.

Rapid marketization and hyperinflation following independence caused severe socioeconomic hardship in Ukraine and, while there was some stabilization in the economy from 2000, and even growth from 2003 to 2004 and 2006 to 2007, the global economic downturn from 2008 severely affected the Ukrainian economy and the country sought assistance from the International Monetary Fund (IMF) and World Bank. The economy has not recovered and, by the end of 2012, Ukraine was back in recession due to a poor harvest and lower than expected demand for steel, which is a key Ukrainian export.

From 2008, Ukraine established much closer ties with the European Union (EU) and a Deep and Comprehensive Free Trade Agreement (DCFTA) was initialled in July 2012. However, this caused friction, both nationally and internationally, as ratification of the DCFTA with the EU would close off the possibility of Ukraine joining the Eurasian Customs Union with Belarus, Kazakhstan and the Russian Federation. Protesters in Kyiv drove Ukraine's then President from office in February 2014, in part because his government decided not to sign the DCFTA in favour of joining the Eurasian Customs Union.

Although not supported unanimously across the country, the DCFTA was eventually signed by Ukraine in June 2014 in the hope of greater economic stability and prosperity.

The year 2014 also marked a time when Ukraine entered a period of conflict. In March 2014, the Russian Federation took control of the Crimean Autonomous Republic. In April 2014, an increasingly violent armed conflict began in the Donbas area of eastern Ukraine. These events have prompted large-scale population movements as local civilian populations have sought to escape conflict and the breakdown in basic services. At the time of writing, at least 4800 people had been killed in fighting and 1.2 million had been displaced. Most left with few belongings and are in need of shelter, food and non-food assistance, placing pressure on neighbouring regions. By January 2015, approximately 5.2 million people were still living in conflict-affected areas. The conflict in the east of Ukraine has also had a negative impact on the economy by severing industrial production in the area and limiting the revenue base.

1.1 Geography and sociodemography

Ukraine is the second largest country in Europe, situated strategically at the crossroads of Europe and Asia. The country is bordered by Belarus in the north-west, the Russian Federation in the east, the Republic of Moldova, Romania and Hungary in the south-west, and Slovakia and Poland in the west (Fig. 1.1). It is washed by the Black Sea and the Sea of Azov in the south. The climate is predominantly moderate continental; however, subtropical conditions are found in the southern shores of the Crimean peninsula.

Ukraine is divided administratively into 27 regions: the Crimean Autonomous Republic, 24 *oblasts* (regions) and two city authorities (Kyiv and Sevastopol); 69% of the population live in urban areas. The eastern regions are the most urbanized. Heavy industry and manufacturing are concentrated in the east and south of the country, whereas the west is more agricultural. The Crimean Autonomous Republic and Sevastopol city have been under the *de facto* control of the Russian Federation since March 2014 and parts of Donetsk and Luhansk *oblasts* have been beyond the reach of the Ukrainian authorities due to ongoing violent conflict since April 2014.

Fig. 1.1
Map of Ukraine

Source: United Nations, 2014.

The 2001 census recorded more than 130 nationalities and ethnic groups in Ukraine. The main ethnic groups are Ukrainians (78%) and Russians (17%). Since the census, the number of Ukrainians has increased by 0.3% and their proportion among all the groups in Ukraine has increased by 5.1% (Lekhan, Rudiy & Richardson, 2010). The new Ukrainian census was scheduled to take place in 2013, but has been postponed. Freedom of religion and relative tolerance allow for the coexistence of various religions as well as atheism, with Christianity predominating: Ukrainian Orthodox in the north, east and central parts (Moscow and Kyiv Patriarchates, Autocephalous Church) and Catholic in the west (Ukrainian Greek Catholic and Roman Catholic). Ukrainian is the official state language but Russian, Romanian, Polish and Hungarian are also spoken and, from 2012, any language spoken by at least 10% of a region's population can assume the status of a regional language.

The demographic situation in Ukraine has undergone substantial change since independence, with the total population falling by 6.4 million (12%) to 45.5 million in 2013 (Table 1.1). Much of the decline in population numbers occurred between the mid-1990s and mid-2000s.

Table 1.1
Trends in population/demographic indicators, selected years

	1980	1990	1995	2000	2005	2010	2011	2012	2013
Population, total (millions)	50	51.9	51.5	49.2	47.1	45.9	45.7	45.6	45.5
Population, female (% of total)	54.3	53.7	53.5	53.6	53.7	53.9	53.9	53.9	53.9
Population ages 0–14 (% of total)	21.6	21.6	20.3	17.5	14.7	13.9	14.0	14.2	14.5
Population ages 65 and above (% of total)	11.9	12.0	13.5	13.8	15.8	15.8	15.6	15.3	15.1
Population growth (annual %)	0.4	0.2	–0.8	–1.0	–0.7	–0.4	–0.4	–0.2	–0.2
Population density (people per km^2 of land area)	86.3	89.6	88.9	84.9	81.3	79.2	78.9	78.7	78.5
Fertility rate, total (births per woman)	2.0	1.8	1.4	1.1	1.2	1.4	1.5	1.5	–
Birth rate, crude (per 1000 people)	15.1	12.7	9.6	7.8	9.0	10.8	11.0	11.4	–
Death rate, crude (per 1000 people)	11.3	12.1	15.4	15.3	16.6	15.2	14.5	14.5	–
Age dependency ratio (% of working-age population)	50.3	50.6	51.1	45.4	43.8	42.2	42.0	41.8	41.9
Rural population (% of total population)	38.3	33.2	33.0	32.9	32.2	31.3	31.1	30.9	30.7
Literacy rate, adult total (% of people ages 15+)	99.7	–	–	–	–	–	–	–	–

Source: World Bank, 2014b.

Part of the decline in population numbers is due to a low birth rate, dropping by 38% between 1990 and 1999, and although rates have increased slowly since, the overall birth rate has remained low, at 11.1 per 1000 population in 2013 (State Statistics Service of Ukraine, 2014a). At a rate of 1.5 births per woman, births do not outweigh the high mortality levels (see section 1.4), which, alongside high levels of outmigration, results in the negative population growth described above. The recent birth rate increase is because the last numerous group of women born in the 1980s have reached active reproductive age.

Since April 2014, violent conflict has affected the populations of Donetsk and Luhansk *oblasts* in the eastern part of Ukraine (see section 1.3). These events have prompted large-scale population movements as local civilian populations have sought to escape the conflict and breakdown in basic services. By January 2015, at least 4808 people had been killed and 10 468 injured in fighting, while 1.2 million had been displaced: 633 523 people were internally displaced in Ukraine and 593 622 had fled to neighbouring countries (OCHA, 2015). Most left with few belongings and are in need of shelter, food and non-food assistance, placing pressure on neighbouring regions. Approximately 5.2 million people were still living in conflict-affected areas as of January 2015.

1.2 Economic context

Ukraine is considered a lower middle-income country. Following independence and the transition to a market economy, Ukraine was challenged by a deep economic crisis, with industrial output and gross domestic product (GDP) more than halving during the 1990s (Åslund, 2005). In the early 2000s, the country implemented some economic reforms and GDP growth increased to 12.1% in 2004 (World Bank, 2014b). Average income remained low however and increasing dissatisfaction with the economic situation and political institutions helped to trigger the "Orange Revolution" at the end of 2004. This event amplified social expectations among the population and increased the government's expenditure on social needs, which was further stimulated by repeated parliamentary elections in March 2006 and November 2007. Populist socioeconomic policies, combined with attempts to reverse the results of privatization, drastically lowered economic growth from 12.1% in 2004 to 2.7% in 2005 (World Bank, 2014b). GDP stabilized somewhat in 2006 and 2007, but this did not reflect an improvement in industrial output; it was primarily due to price increases for energy and bank loans, which caused the price of goods and services to spike. The 2008 global economic crisis severely affected the already weak Ukrainian economy and annual GDP growth fell to −14.8% in 2009, while inflation reached 28% (World Bank, 2014b).

Following assistance from the IMF and the World Bank in late 2008, the economy stabilized but remained weak and by the end of 2012 Ukraine was back in recession due to a poor harvest and lower than expected demand for steel, which is a key Ukrainian export (World Bank, 2013). In 2012, GDP growth fell to 0.2%, while inflation almost halved from 14.4% in 2011 to 7.9% in 2012 (Table 1.2). However, the conflict in the east of Ukraine has hindered economic activity – Donetsk and Luhansk *oblasts* are heavily industrialized regions usually contributing on average 16% of GDP. The conflict has cut industrial production and made it very difficult to collect taxes (World Bank, 2014a). As a result, the economy has contracted sharply, reducing fiscal space, while spending pressures have increased, particularly with regard to energy debts to Russian gas suppliers. The World Bank projected that real GDP in Ukraine would decline by 8% on the previous year in 2014 and expected the fiscal deficit to increase (World Bank, 2014a). The devaluation of the local currency, the hryvnya (UAH), is continuing.

Table 1.2
Macroeconomic indicators, selected years

	1990	1995	2000	2005	2010	2011	2012	2013
GDP (current UAH, millions)	2	54516	170070	441452	1082569	1302079	1411238	1454931
GDP, PPP (current international $, millions)	353174	191236	187979	305528	353457	379140	386540	399755
GDP per capita (current UAH)	0	1058	3458	9372	23600	28488	30953	31984
GDP per capita, PPP (current international $)	6806	3712	3823	6486	7706	8295	8478	8788
GDP growth (annual %)	–6.3	–12.2	5.9	2.7	4.2	5.2	0.2	1.9
General government final consumption expenditure (% GDP)	16.5	21.3	20.9	18.6	20.3	18.2	19.5	19.4
Cash surplus/deficit (% GDP)	–0.6	–1.4	–6.5	–2.3	–4.0	–	–	–
Tax revenue (% GDP)	14.1	17.1	15.5	18.5	18.2	–	–	–
Central government debt, total (% GDP)	45.3	29.9	27.4	33.5	–	–	–	–
Industry, value added (% GDP)	44.6	42.7	36.3	32.3	31.3	30.0	29.2	26.9
Agriculture, value added (% GDP)	25.6	15.4	17.1	10.4	8.3	9.9	9.3	10.4
Services, etc., value added (% GDP)	29.9	41.9	46.6	57.3	60.4	60.1	61.5	62.6
Labour force, total (millions)	25.5	24.9	23.5	23.3	23.1	23.1	23.1	–
Unemployment, total (% total labour force)	5.6	11.6	7.2	8.1	7.9	7.5	–	–
Poverty headcount ratio at national poverty line (% population)	8.8	7.8	9.1	–	–	–	–	–
GINI index	39.3	29.0	24.8	–	–	–	–	–
Real interest rate (%)	–56.8	15.0	–6.7	1.9	1.4	9.5	15.3	–
Official exchange rate (UAH per US$, period average)	1.5	5.4	5.1	7.9	8.0	8.0	8.0	–

Source: World Bank, 2014b.

1.3 Political context

Under the Constitution of 1996, Ukraine is a republic and the people are the single source of sovereignty and power, which is implemented directly and through state and local self-governance bodies. The people express their will via elections, referenda and other forms of indirect representation. State power is split into legislative, executive and judicial branches.

Legislative authority lies with the Verkhovna Rada of Ukraine, a unicameral parliament, which acts through its laws, and is composed of people's deputies elected by constituents based on equal suffrage. The right to elect and be elected belongs to citizens of Ukraine aged 18 and above. The Parliament has 450 seats, half of which are allocated to parties that gain at least 5% of the national vote on the basis of proportional representation and the other half of which represent directly elected single mandate districts. Following the parliamentary elections

in October 2014, the main parties and blocs now represented in the Verkhovna Rada are: Petro Poroshenko Bloc (132 seats); People's Front (82); Self Reliance (33); Opposition Bloc (29); and there were also 96 seats held by non-partisan deputies. In the first month after its election, the Parliament forms a coalition of factions, which includes the majority of deputies, who are elected for a five-year term. The coalition forms the government and suggests candidates for the Prime Minister and ministerial posts, which the President officially submits for consideration to the Verkhovna Rada. Arseniy Yatsenyuk has been Prime Minister since February 2014, retaining his post following the October elections. The main health care laws in Ukraine are enacted by the Verkhovna Rada.

The President of Ukraine is the head of state and guarantor of: state sovereignty, territorial integrity, compliance with the constitution of Ukraine, and citizen freedoms and rights. The President signs laws passed by the Verkhovna Rada or vetoes them, thus sending them back for revision. The President is elected on the basis of universal, equal and direct suffrage by secret ballot for a five-year term for not more than two consecutive terms. The current President is Petro Poroshenko (since 7 June 2014). The Cabinet of Ministers of Ukraine is the highest executive body and acts under the Constitution and laws of Ukraine as well as presidential decrees. The Cabinet of Ministers is headed by the Prime Minister appointed by the President with the consent of the Verkhovna Rada. The Cabinet of Ministers is approved by the President upon submission from the Prime Minister. The Cabinet of Ministers: directs and coordinates the work of ministries and other executive bodies; implements domestic and foreign policy of the state; carries out national economic, social and cultural policies; drafts law on the State Budget of Ukraine and enforces the Verkhovna Rada-enacted State Budget of Ukraine.

Judicial authority in Ukraine lies solely with courts that administer justice and their jurisdiction spans all legal relations in the country. The judiciary is based on the premises of territoriality and speciality. In addition to the general jurisdiction courts system, there are also specialized courts – administrative and commercial. The Supreme Court of Ukraine is the highest authority within the general jurisdiction courts system, while the legislative output of the Verkhovna Rada, the President and the Council of Ministers are checked by the Constitutional Court to ensure compliance with the Constitution.

The Constitution of Ukraine stipulates and guarantees local self-governance, and territorial communities of villages and their associations, settlements and towns elect local mayors to resolve local issues. Executive power in the regions and districts, and in the cities of Kyiv and Sevastopol, is executed by local state

administrations whose heads are appointed and dismissed by the President on appeal from the Cabinet of Ministers. Local self-government officials in Ukraine are elected directly by representatives of village, rural, municipal and district councils. Executive bodies of village, rural and city councils are represented by their executive committees (AUC, 2014).

The Crimean Autonomous Republic has its own Constitution, which was adopted by the highest representative body of the Crimean Autonomous Republic, the Verkhovna Rada of the Crimean Autonomous Republic, and approved by the Verkhovna Rada of Ukraine. Its government is the Council of Ministers of the Crimean Autonomous Republic. Local state administrations ensure: compliance with the Constitution and laws of Ukraine, presidential decrees, Cabinet of Ministers of Ukraine resolutions and ordinances of other executive bodies; implementation of national/regional social and economic programmes; cultural development; and formulation and performance of local budgets.

With cross-party support, Ukraine established much closer ties with the EU and a DCFTA was initialled in July 2012; ratification was stalled by EU concerns over the rule of law in Ukraine including the application of selective justice and changes to electoral laws (Council of the European Union, 2012). Ratification of the DCFTA with the EU closes off the possibility of Ukraine joining the Eurasian Customs Union with Belarus, Kazakhstan and the Russian Federation and this caused friction both nationally and internationally. Protesters in Kyiv drove Ukraine's then President (Viktor Yanukovych) from office in February 2014 in part because, in an unexpected move, his government decided not to sign the DCFTA in favour of joining the Eurasian Customs Union. The protests that preceded these events began on 21 November 2013, and came to be known as the EuroMaidan. These protests were not confined to the centre of Kyiv and security forces clashed with protesters who took control of local government buildings in cities around the country. On 21 February 2014, representatives of the EuroMaidan protesters came to an agreement with President Yanukovych to revert to the Constitutional amendments of 2004 from the Constitutional amendments of 2010 (thus shifting the balance of power away from the president back to the parliament) and to hold early presidential and parliamentary elections in 2014. However, not all the protesters were appeased by this agreement and on 22 February 2014 Yanukovych fled to the Russian Federation when protesters took control of the parliamentary building in Kyiv; the Speaker of the Verkhovna Rada assumed the role of President until new elections could be held in May 2014. The DCFTA was eventually signed by Ukraine in June 2014 in the hope of promoting greater economic stability

and prosperity. However, large parts of former President Yanukovych's old powerbase in the south and the east of the country are not persuaded that this is the right course for them.

On 23 February 2014, when the Speaker of the Verkhovna Rada, Oleksandr Turchynov, assumed the role of President, pro-Russian protesters rallied in the Crimean Autonomous Republic against the new governing bodies in Kyiv. In March 2014, the Russian Federation took control of the Crimean Autonomous Republic. In April 2014, armed groups in the Donbas region of eastern Ukraine – which covers most of Donetsk and Luhansk *oblasts* – began to seize buildings and arms. As a result of ongoing fighting between armed groups and government forces, people have been forced to flee their homes and have become increasingly vulnerable as the conflict intensified and spread. Those remaining in the Donbas region, particularly in areas affected by fighting, face imminent security threats due to military activities by all parties to the conflict that are increasingly concentrated in densely populated urban areas. At the time of writing, the provision of basic services was disrupted, supplies were increasingly limited, and an upsurge in lawlessness had occurred. Ongoing daily hostilities also continued to be reported, despite ceasefires being agreed in September 2014. Indiscriminate shelling and continued insecurity were placing conflict-affected people and humanitarian actors at risk (OCHA, 2015).

Ukrainian membership of the North Atlantic Treaty Organization (NATO) had been discussed but was not being pursued until recent events in the south and east of the country pushed potential membership to the fore. On 23 December 2014, the Verkhovna Rada voted to abandon the country's neutral non-bloc status and set a course for NATO membership. Ukraine is a full member of the United Nations (UN), the World Trade Organization (WTO) since July 2008, the Council of Europe since 1995, the Organization for Security and Co-operation in Europe (OSCE), and was a participant in the Commonwealth of Independent States (CIS) until 2014 but never ratified membership. The country has ratified most major international treaties that have an impact on health, including the Convention on the Rights of the Child and the WHO Framework Convention on Tobacco Control (as of June 2006). The Millennium Development Goals have been adapted to the Ukrainian context and are being pursued in relation to poverty reduction, control of HIV/AIDS, improving child and maternal mortality and other areas. Ukraine scored 26 on the 2014 Corruption Perception Index (CPI) where 100 would be a country with no corruption, which shows no real improvement over the past three years (Transparency International, 2014).

1.4 Health status

Social, economic and political transformations following independence had a strong negative impact on population health in Ukraine, with average life expectancy at birth falling to 66.9 years (61.3 for men and 72.6 for women) in 1995 (Table 1.3). Life expectancy recovered slightly after this, but then stagnated until quite recent improvements since 2008 have seen female life expectancy at birth rise to its highest recorded level (76.2 in 2012) and male life expectancy at birth approaching the relatively high levels achieved in the 1980s, which have been attributed to the anti-alcohol campaign introduced by the then leader of the Soviet Union, Mikhail Gorbachev (Meslé & Vallin, 2012).

Table 1.3
Mortality indicators, selected years

	1985	1990	1995	2000	2005	2010	2011	2012
Life expectancy at birth, total	69.9	70.5	66.9	67.9	67.3	70.3	71.1	71.3
Life expectancy at birth, male	65.2	65.7	61.3	62.3	61.5	65.2	66.0	66.2
Life expectancy at birth, female	74.0	75.0	72.6	73.6	73.4	75.3	76.0	76.2
Total mortality rate per 100 000, male	1639	1555	1980	1875	1968	1619	1526	1509
Total mortality rate per 100 000, female	948	878	1043	981	995	865	811	796

Source: WHO Regional Office for Europe, 2014.

In 2012, the major causes of mortality were: cardiovascular disease (61% of total mortality), followed by cancer (15%) and external causes including accidents and poisonings (8%); these three causes account for 84% of all deaths in Ukraine (Table 1.4). Cardiovascular disease is also the most common cause of morbidity measured as disability-adjusted life years (DALYs). However, HIV/AIDS and TB have increased rapidly as causes of disability and premature mortality in Ukraine (IHME, 2013). Disability-adjusted life expectancy (DALE) was estimated to be 60 years in 2007: 55 years for men and 64 years for women (WHO Regional Office for Europe, 2014).

The prevalence of noncommunicable diseases (NCD) is higher in the west of Ukraine relative to prevalence elsewhere in the country (52.3% of the adult population in the west versus 34.9% in the south, 38.7% in the north/centre and 43.7% in the east); however, the prevalence of health risk factors such as hazardous alcohol use and tobacco consumption is much greater in the east than in the west or south, and the rates of stroke and heart attack are highest in the east (Menon & Frogner, 2010). This geographic variation is reflected in the lower life expectancy in eastern regions of the country (Murphy et al., 2013a).

Although there is a 10-year age gap between male and female life expectancy, the gap narrowed rapidly between 2008 and 2012; at its widest in 2007, women were living on average 12 years longer than men (WHO Regional Office for Europe, 2014). The key risk factors influencing health in Ukraine are tobacco and alcohol consumption, followed by uncontrolled hypertension and obesity. There is a wide gender gap in smoking rates as 44.7% of men reported being daily smokers versus just 5.7% of women (WHO Regional Office for Europe, 2014); however, smoking rates may have been falling for men, as is the trend across the region, although they remain very high in international comparison (Roberts et al., 2012a).

Table 1.4

Main causes of death, selected years

	1985	1990	1995	2000	2005	2010	2011	2012
SDR, diseases of circulatory system, all ages per 100 000	751	589	780	791	827	733	683	667
SDR, ischaemic heart disease, all ages per 100 000	493	317	466	505	544	492	459	450
SDR, cerebrovascular diseases, all ages per 100 000	210	191	229	198	177	159	148	142
SDR, malignant neoplasms, all ages per 100 000	164	184	183	173	164	158	158	163
SDR, trachea/bronchus/lung cancer, all ages per 100 000	34	41	38	33	28	25	26	27
SDR, cancer of the cervix, all ages, per 100 000	8	8	8	8	7	7	7	7
SDR, malignant neoplasm female breast, all ages per 100 000	18	21	24	25	25	24	24	24
SDR, external cause injury and poison, all ages per 100 000	93	107	162	146	141	88	85	83
SDR, suicide and self-inflicted injury, all ages per 100 000	22	21	28	28	21	18	18	18
SDR, transport accidents, all ages per 100 000	15	27	19	14	20	12	12	12
SDR, infectious and parasitic disease, all ages per 100 000	15	12	20	26	36	30	29	29
SDR,bronchitis/emphysema/asthma, all ages per 100 000	43	48	58	46	–	–	–	–
SDR, diseases of the digestive system, all ages per 100 000	32	30	43	42	62	51	48	52
SDR, diabetes, all ages, per 100 000	3	5	8	6	5	4	4	4
SDR, symptoms, signs and ill-defined conditions, all ages per 100 000	36	104	88	50	64	34	28	23
SDR, tuberculosis, all ages per 100 000	10	9	15	22	24	16	14	14

Source: WHO Regional Office for Europe, 2014.
Note: SDR = standardized death rate.

One survey found that one in three Ukrainian adults aged 18–65 years had elevated blood pressure levels and about one fifth of the adult population was obese (Menon & Frogner, 2010). One third of those classified as hypertensive in the survey did not know they had high blood pressure, with twice as many men as women being unaware (Menon & Frogner, 2010). A separate study found that, in 2010, 70% of those identified as having hypertension were not taking medication daily and that the irregular treatment of hypertension was a persistent problem in Ukraine as it had been similarly high in 2001 at 73% (Roberts et al., 2012b).

Although infant mortality rates in Ukraine are relatively high when compared with countries of the EU, they fell rapidly after independence, similar to other countries in the region (Table 1.5). The WHO definition of a live birth is not yet fully implemented across the country, as indicated by the gap between the estimated and officially reported IMR. Observed improvements in IMR have been attributed to better access to technologies such as incubators in the perinatal period since independence (Meslé & Vallin, 2012). The maternal mortality rate (MMR) has almost halved since independence, attributable, at least in part, to improved survival following termination of pregnancy. However, compared with countries of the EU, the MMR in Ukraine was very high at 32 per 100 000 live births in 2010 (Table 1.5). As with the IMR, there is quite a gap between the officially reported rate and WHO estimates due to differences between national and WHO definitions of what constitutes maternal mortality (WHO Regional Office for Europe, 2014). The abortion rate has fallen rapidly as modern contraceptive methods have become more accessible; in 2007, contraceptive use by married women of reproductive age was 66.7%. However, abortion remains the main form of birth control used in Ukraine.

Overall, the major health challenges facing the population relate to NCD, although communicable diseases such as HIV and TB remain of serious concern. There is also a resurgence of vaccine-preventable diseases as immunization rates have fallen across the country (see section 5.1). Addionally, there are conflict-affected populations in the south and east of the country who lack access to basic facilities (including health services, water and food) and 1.2 million displaced people (see section 1.1). At the time of writing, the scale of this humanitarian crisis represented the most pressing health challenge facing the Ukrainian population. In February 2014, WHO set up a field office in the city of Donetsk to assist with coordination of activities and health monitoring.

Table 1.5

Maternal, child and adolescent health indicators, selected years

	1990	1995	2000	2005	2010	2011	2012
Estimated infant mortality per 1000 live births	16.8	17.7	15.9	12.5	10.2	9.2	–
Infant deaths per 1000 live births	13	14.8	12	10	9.2	9	8.4
Neonatal deaths per 1000 live births	6.65	5.71	–	–	–	–	–
Postneonatal deaths per 1000 live births	5.3	4.3	–	–	–	–	–
Perinatal deaths per 1000 births	14.3	11.9	9.6	8.9	8.2	–	–
Probability of dying before age 5 per 1000 live births	16.7	19	15.5	13	11.1	10.7	10.1
Maternal deaths per 100 000 live births	32.4	32.3	24.7	17.6	23.3	16.9	12.7
Estimated maternal mortality per 100 000 live births	49	45	35	25	32	–	–
Abortions per 1000 live births	1551	1288	898	446	224	–	–
% of all live births to mothers aged under 20 years	19.9	15.5	11.9	7.8	7.1	–	–
Incidence of syphilis per 100 000	119	92	42	16	3	–	–
Incidence of gonococcal infection per 100 000	89	53	39	22	7	–	–

Source: WHO Regional Office for Europe, 2014.

2. Organization and governance

In 1991, Ukraine inherited an extensive and highly centralized Semashko system (a hierarchical, nationally controlled system the staff of which were state employees), which it was not possible to maintain through the economic downturn that followed independence. There has been considerable decentralization in the system since independence; however, in most other respects, the system remains largely unreformed. Decentralization has mostly meant deconcentration of functional and managerial powers to regional and subregional levels. Regional and local health authorities are responsible for health care facilities in their territory and are functionally subordinate to the Ministry of Health, but managerially and financially answerable to the regional and local governments. Decentralization through privatization has been largely inhibited by provisions of the Constitution prohibiting the reduction of the existing network of publicly owned health care facilities. The private sector in the Ukrainian health system is small and consists mostly of pharmacies, diagnostic facilities and privately practising physicians.

Approaches to capacity planning in the Ukrainian health care sector have remained almost unchanged since Soviet times and the mechanisms in place neither reflect the health care needs of the population nor take into account regional characteristics of health service provision. There is also little incentive for rational use of resources or cost control over health care facilities. The norms-based approach to planning, characteristic of the Semashko model, along with capacity-based financing, encourages unnecessary hospitalizations and excessive lengths of stay. Changing planning mechanisms in the Ukrainian health system is further complicated by the absence of a unified people-centred health information management system.

The Ministry of Health develops and approves state quality standards and clinical protocols, and is responsible for the organization and implementation of the mandatory accreditation of health care facilities and issuing licences to

legal entities and individuals engaged in the delivery of medical services or the production and sales of pharmaceuticals and medical equipment. However, the regulatory process is more of a formality and has no real impact on the quality of care provided, as there is a lack of suitable enforcement mechanisms. For pharmaceuticals, all distributors are expected to comply with good distributing practices and, since February 2013, it has been illegal to put on sale any pharmaceutical product that has not been manufactured in compliance with EU good manufacturing practices. Most pharmaceuticals are purchased directly by patients, so the scope for influencing prescribing patterns is rather limited and is further hampered by *de facto* liberal pharmacy dispensing procedures and the strong influence pharmaceutical companies have on prescribing practices.

Patient empowerment is not a significant feature of the Ukrainian health system. By law, all citizens have the right to access information about their health and services available to them, but the mechanisms for accessing such information are not transparent, so most rely on personal recommendations and informal networks when making decisions about health services. Most people try to effect choice in the system by paying out of pocket for services, either formally or informally. Patient rights in the Ukrainian health system are not protected systematically and there is no specific legal mechanism for patient complaints procedures within the health system. However, with the most recent attempt at reform of the system, the public became much more active, founding nongovernmental organizations (NGOs) in order to express their opinions about the changes. Most often this was to protest against the reforms, partially in response to the inadequate public communication informing people of the proposed reforms, what they meant and why they were necessary.

2.1 Overview of the health system

The Ukrainian health care system is still based on the integrated Semashko model (see section 2.2). Although no fundamental reform has taken place, some changes in the health sector have been initiated and realized since independence; the most recent package of reforms was introduced from 2010. Three phases of the reforms were to be implemented over a four-year period (2010–2014), and started with changes to health financing to reduce fragmentation and prioritize primary care. Phase two was to pilot the programme in four regions (Donetsk, Dnipropetrovsk, Vinnytsya *oblasts* and Kyiv city). In phase three, the pilot regions were then due to deepen the reforms, but these plans were put on hold in view of the unstable political situation (see section 6.1).

Officially the system is financed by general taxation and declaratively provides universal access to unlimited care that is free at the point of use in publicly owned health care facilities. In practice, however, patients often need to pay out of pocket to access services (see section 3.4).

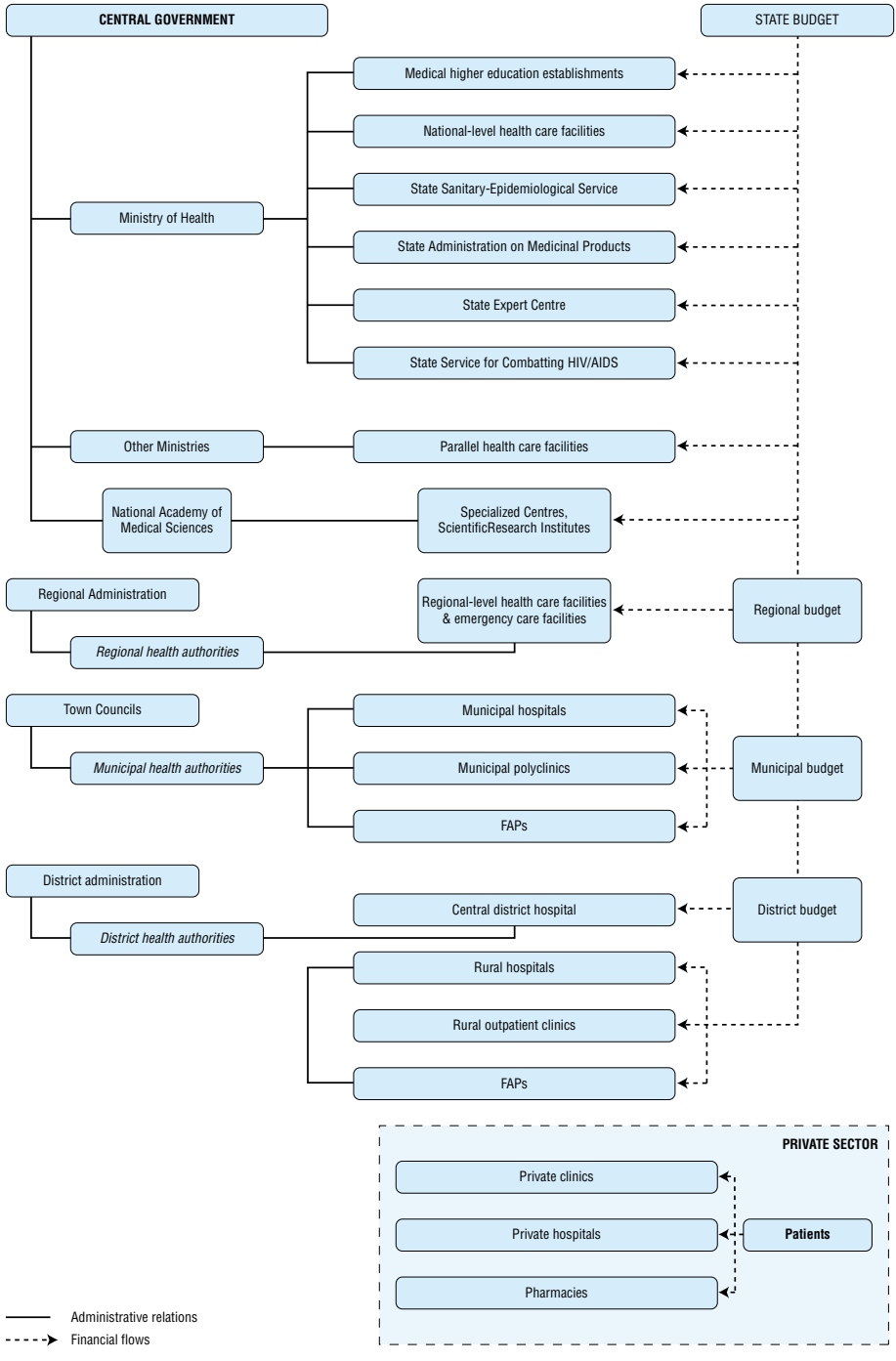
The national Ministry of Health coordinates and governs the core statutory health system. Parallel systems are governed through their respective ministries. At the regional level, the regional health authorities are nominally accountable to the national Ministry of Health for the implementation of national health policies within their territory. They are responsible for the regional health care facilities, which primarily provide specialized and highly specialized services as well as emergency care services (since 2012) (Fig. 2.1). Most medical services are provided to the population in facilities that are under local government at the regional, district or municipal levels (Fig. 2.1). These services are generally financed from the budgetary resources of the relevant tier of government, which receives transfers at the respective government level. However, due to insufficient government financing of the health system, the population is required to pay for outpatient and inpatient pharmaceuticals as well as provide unofficial remuneration to medical personnel.

The private sector in the Ukrainian health system is small and consists mostly of pharmacies, diagnostic facilities (inpatient and outpatient), and privately practising physicians. These are financed mostly through direct payments from the population.

2.2 Historical background

A detailed history of the Soviet Ukrainian health system is available in earlier versions of this report (Lekhan, Rudiy & Nolte, 2004; Lekhan, Rudiy & Richardson, 2010). After 1991, Ukraine underwent a difficult 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, accelerating a worsening of key indicators of population health that had started just before the break-up of the Soviet Union. This increased need for health care took place against the background of reduced ability of the health system to respond adequately. This constituted a significant departure from the past, when costs of material and medical supplies, as well as basic services such as electricity, heating and others, were fixed, thus allowing the state to maintain the extensive network of facilities. Also, the running costs of hospitals were comparatively

Fig. 2.1
Overview of the Ukrainian health system



Note: FAP = *feldsher*-midwife [*akusher*] point

low, as were the costs of pharmaceuticals because the limited range available from production in the Soviet Union and other socialist countries was subsidized. The transition to a market economy has meant rapid increases in the prices of basic supplies, further complicating the already difficult economic situation in the health care sector. Against this background, Ukraine was slow to reform its health system and instead largely maintained the principles of the Semashko-type system with its emphasis on hospital-based care and limited ability to respond adequately to population health needs, resulting ins a highly unequal and low-quality health system (Lekhan, Rudiy & Richardson, 2010).

2.3 Organization

The key players in the Ukrainian health system are the central government, the *Ministry of Finance*, the Ministry of Health and local governments. The *Verkhovna Rada (Parliament)* sets the goals, major objectives, priorities, budget guidelines and regulatory framework for the health sector, and approves the targeted national health programmes. The President is responsible for ensuring that health policy is implemented in accordance with legislation and the Constitution through the system of executive bodies. The Cabinet of Ministers coordinates the development and implementation of national programmes, and creates legal, economic and managerial mechanisms to support the health system.

The *Ministry of Finance* prepares the draft state budget, which is then submitted to the Parliament for approval. This sets out the public resources to be allocated to the health sector in any given year. The *Ministry of Finance* is also the body that establishes the requirements for state institutions (including health care facilities) in formulating and implementing budgets.

The *Ministry of Health* is the leading body within the executive responsible for implementing health policy, including policies on specific state health programmes, including socially significant diseases such as HIV and administering publicly owned health care facilities. The health system is managed by the Ministry of Health through the regional health authorities in the 24 regional administrations and two city states of Sevastopol and Kyiv, where the departments are part of the city state administrations. At the national level, the Ministry of Health is responsible for developing national health policies, and directly managing and funding certain specialized health care institutions which are in state ownership, higher medical educational establishments, research institutes, and publicly owned medico-prophylactic facilities (Fig. 2.1).

The Ministry of Health provides vertical management with basic command-and-control institutions, which provide regulatory functions for social health protection such as sanitary norms (see section 2.8).

The Ministry of Health is also responsible for the organizational management of activities in the state medical emergencies service; manages the undergraduate and postgraduate medical education programmes and the medical research system; and controls a significant proportion of the centralized state purchase of pharmaceuticals, medical devices and equipment for the relevant state programmes.

The *Ministry of Defence, Ministry of Internal Affairs, Security Service* and *Ministry of Transport and Communications* all have their own health care facilities for their employees and their relatives, which operate in parallel to the main statutory system under the Ministry of Health. The State Penal Jurisdiction Department is responsible for the organization of health services within the prison system.

The *Ministry of Labour* and *Social Policy* is responsible, among other things, for overseeing the provision of long-term residential care for elderly people and people with disabilities.

The *National Academy of Medical Sciences* of Ukraine provides highly specialized medical services. Their facilities are financed directly from the state budget through a separate funding stream.

Local authorities include district, city district, town and village councils and state administrations. Until 2011, village councils owned and cofinanced primary care services for their local populations, but financing was moved to the district level as part of the health system reform programme launched in 2010 in order to reduce fragmentation of health system resources. However, the ownership of the facilities remained unchanged and the village councils had to decide whether to transfer ownership to the district authorities. In the four health reform programme pilot regions, most facilities were transferred to joint ownership. The government is currently evaluating this experience in order to see whether it should once again decentralize ownership and financing to the village level, despite the risk of further fragmentation.

Many *NGOs* (professional medical associations and patient groups) are active and becoming more influential. There is no self-governing of the medical profession in Ukraine. There are many *international organizations* working in the Ukrainian health sector, but their activities are focused quite narrowly on specific areas such as sexual health, HIV/AIDS and TB.

2.4 Decentralization and centralization

In Ukraine, a highly centralized model of decision-making in the health system inherited from the Soviet era has gradually been replaced by a system in which authority has been passed to local administrations and self-governing bodies. The health system is a complex, multi-layered, sometimes parallel, system in which responsibilities in the health care sector are fragmented among central government (the Ministry of Health and many other ministries and public authorities), as well as 27 regional administrations and numerous administrative bodies at regional, municipal, district and community levels. Decentralization has meant deconcentration of functional and managerial powers at the regional and subregional levels. Functional deconcentration means that the system is managed through the health authorities of regional administrations, which are financially and managerially independent, while nominally it is functionally subordinate to the national Ministry of Health.

Deconcentration of general managerial powers at the regional and subregional levels means that executive functions in the regions and districts are exercised by the relevant local (regional or district) administrations. The regional administrations have to ensure that decisions by local governments, including those relating to the health of the population, conform to current legislation. They also coordinate the activities of state services. The local executive authorities, in turn, with the approval of the Ministry of Health, appoint the heads of local health authorities and their deputies who participate in decision-making.

Until 2011, the State Sanitary–Epidemiological Service (SES) and the State Pharmaceuticals Quality Control Inspectorate, each with relevant facilities at the different levels of administration, remained fully centralized and vertically subordinated to the Ministry of Health. The SES was renamed in 2011 and given the status of a separate central state organ directly answerable to the Cabinet of Ministers, albeit via the Ministry of Health, in accordance with Presidential Order No. 1085 of 9 December 2010, *On the optimization of central state organs;* it was then effectively disbanded in 2014. Some of its functions were absorbed into other state organs, such as the State Service of Ukraine for Issues of Food Safety and Consumer Protection and the State Service of Ukraine for Labour Issues (see section 5.1).

The *Law on the local self-government of Ukraine* (1997) delegated significant budgetary authority to regional and district councils, which pass on management functions in health care to relevant local executive authorities.

At the community level, these responsibilities are delegated to councils and their executive bodies, which are by law also responsible for managing the local health care 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 resources planning; contracting for the training of specialists; provision of pharmaceuticals and medical devices to certain disadvantaged population groups; accreditation of health care facilities; and proposals for licensing individual entrepreneurial activities in the health care sector. 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. Local authorities are given responsibility for organizing their health services subject to strict central regulation. Decentralization of financing, along with differing health care needs of the population between regions, led to increasing inequalities between wealthier and poorer areas that were previously allocated resources from the centre. Deprived regions were affected by the lack of sustainable sources of income and health care became a heavy burden on local budgets. A number of communities found it increasingly difficult to maintain health services in the public sector. 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 a certain degree, levelled differences in budget capacities among regions and territories.

In addition, the *Budget Code* explicitly defines the types of health care facilities that can be funded by budgets at various administrative levels. However, public health care facilities may not be financed from more than one budget. The most notable changes have taken place in specialized health care facilities. The law has facilitated centralized financing and management of specialized health care facilities at regional level. These provide a range of mental health, TB, dermato-venerological and other services, generally involving low technology but used by a substantial number of patients. On the one hand, the transfer of these facilities to the regional level has created some problems for regional budgets, but on the other, closing some of the smaller facilities was a prerequisite for the optimization of the health facility network. The move to strict legislative regulation of public funding of health care facilities led to some streamlining of resource use but created problems in integrating different levels of service provision.

Decentralization through privatization has been largely inhibited by provisions of the Constitution prohibiting the reduction of the existing network of publicly owned health care facilities.

2.5 Planning

There is no central health planning agency in the Ukrainian health system and approaches to capacity planning have remained almost unchanged since Soviet times, relying on input-based measures. The mechanisms in place neither reflect the health care needs of the population nor take into account regional characteristics of health service provision. There is also little incentive for rational use of resources or cost control over health care facilities. For example, 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, in many regions, this norm is inflated by the considerable quantity of unnecessary hospitalizations and excessive lengths of stay. In 2013, a government order was drafted for the gradual reduction of the norm for hospital bed numbers from 8 per 1000 population to 7.5 in 2014 and 6.5 by 2020, but this order was not passed. On the contrary, early in 2014, a legal moratorium on the closing or reorganization of health care facilities was introduced, which explicitly prohibited the closure of health care facilities and any reduction in the number of hospital beds (*Law on the introduction of a moratorium on the liquidation and reorganization of health care facilities,* No. 772-VII, 23 February 2014).

The defined bed capacity also determines staffing levels for hospitals, which are set according to the number of hospital beds by specialty. Staffing levels for stand-alone outpatient clinics, 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 and adults) and administrative type (village, district, municipal, regional). The number of primary care providers (district internists and paediatricians) is calculated based on 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 preschool 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 number of mid-level staff at the *feldsher*–midwife [*akusher*] points (FAPs) providing basic health care in rural areas.

In summary, current practices of human resources planning and management of the state-run health system do not follow a coherent model. Overall, the current system lacks any coherent approach to ensuring appropriate levels of health care workers. In recent years, this approach to planning has met with sharp criticism, because it is not linked to meeting the needs of the population for different types of care and also helps to preserve the excessive capacity of health care facilities. In 2013, a method for norm-setting the burden on health workers that would take into account the volume and complexity of their work was being developed and trialled. The introduction of such norms should modernize the general approach to health workforce planning (Ministerial Order No. 249, 28 March 2013).

The health sector is closely involved in multisectoral disaster risk management through the State Medical Catastrophe Service, which consists of medical forces, equipment and facilities at the central and regional levels, which are independent of local government and are instead under the Ministry of Health in cooperation with the Ministry of Emergencies, the Ministry of Defence, the Ministry of Internal Affairs, the Ministry of Transport and Communications, and state administrations for the regions.

The Ukrainian health system relies on international development assistance for certain services (such as HIV services) and, more recently, humanitarian assistance (see section 3.6.2). There is no agency in the Ministry of Health for the coordination of international development assistance; instead this is managed by the Ministry's Department of International Affairs and European Integration. In accordance with a Ministerial Order (No. 522, 24 July 2014), in 2014 a strategic consulting group on health system reform was set up as an expert advisory organ under the leadership of the Ministry of Health. This comprises a range of representatives from both state and non-state structures, including the World Bank, WHO Country Office in Ukraine, Soros Fund, and others. One of the key activities for this group has been the coordination of different branches of government and NGOs in an international technical assistance project. The aim of the project is to achieve planning and organizational collaboration in developing a new national health care system for Ukraine. It is yet to be seen what will be its impact on the reform itself and its influence on the active coordination of donor organizations supporting the health sector.

2.6 Intersectorality

Health is not routinely taken into account by other ministries and agencies at any tier of government, and health impact assessments are not a standard part of policy-making in order to ensure Health in All policies.

2.7 Health information management

2.7.1 Information systems

There is a unified electronic health information system for specific reporting from the regional level upwards, but at the municipal and community levels reporting is done on paper using standardized forms. There are other localized information systems, but these are not necessarily compatible and are for the management of individual facilities rather than national-level planning and coordination. It has also been asserted that facilities do not provide wholly accurate or relevant information, including financing, surveillance and programme data to the government in a usable fashion for sufficiently effective monitoring of the health system (Tarantino et al., 2011). Apart from a few ventures, the Ukrainian health system does not have a unified people-centred health information management system.

2.7.2 Health technology assessment

Health technology assessment (HTA) is not yet a feature of the system in Ukraine and there is no institution in the country responsible for HTA; that is, the systematic evaluation of the effectiveness, costs and impact of health care technology with the aim of informing health policy-making.

2.8 Regulation

2.8.1 Regulation and governance of third-party payers

Most health services are provided through government-owned health care facilities, and the relationship between purchasers and providers remains integrated, as it was in the Semashko system (see section 3.3.4). Different levels of government act as agents that ensure the maintenance of health care facilities within the limits of strict line-item budgets (see section 3.7). Health

care facilities therefore do not generally have autonomy in managerial and financial decision-making. Although the *Law on public procurement of goods, works and services* was passed in February 2000 to regulate the purchase of health services with public funds on a contractual basis from both public and private providers, in practice this law has not been fully implemented (Lekhan & Rudiy, 2007). Since 2013, as part of the health reform programme, contractual relations have begun to be introduced in the primary care system in the pilot regions; however, these agreements are still more of a formality than a regulatory instrument as there are inadequate mechanisms for their enforcement (see section 3.3.4). Elsewhere in the country, the health system continues to function on the basis of hierarchical relations between the state (as third-party payer) and directly subordinated local authorities (as state property) and the public providers of health services.

2.8.2 Regulation and governance of providers

The public providers, which provide most of the population's health services, are budgetary institutions financed on the basis of itemized estimates of expenditure agreed by the higher authorities. This conditions the very limited rights of public providers to make independent managerial and financial decisions, as does the compulsory use of strict Ministry of Health normative planning structures. At the same time, the Ministry of Health has been trying to increase the autonomy of providers. The aforementioned pilot regions have trialled reimbursement according to just two codes (ongoing and capital expenditures), since 2013 for primary care, and since 2014 for emergency and secondary care (see section 3.7.1). In one of the pilot reform regions (Kyiv) the providers have been changed from publicly owned health care facilities (providing both primary and secondary/specialist care) to communal non-commercial health enterprises.

State regulation of health care providers is concentrated at the national level, with few regulatory activities under the authority of local government. The Ministry of Health develops and approves state quality standards and clinical protocols, and is responsible for the organization and implementation of the mandatory accreditation of health care facilities and the issuing of licences to legal entities and individuals engaged in the delivery of medical services or the production and sale of pharmaceuticals and medical equipment (Lekhan & Rudiy, 2007). Accreditation was introduced on 15 July 1997 by Cabinet of Ministers Decree No. 765, *On approving the procedure of state accreditation of a health facility,* and is mandatory for all facilities regardless of their form of ownership. Assessment of the first stage of accreditation indicated that it has led to some improvement in material and technical resources, the qualification

of medical staff and the quality of care. At present there are 27 accreditation commissions in Ukraine in the regional administrations (Lekhan & Rudiy, 2007). The accreditation process initiated the creation of preconditions for the realization of patients' rights to medical care of adequate quality. However, the process has gradually become a formality and it has no real impact on the quality of care.

Public and private health care providers (individuals and legal entities) are licensed under the *Law on licensing of specific types of economic activities,* No. 1775-14 (2000) and a joint order of the State Committee of Ukraine for Regulatory Policy and Entrepreneurship and the Ministry of Health as of 16 February 2001, No. 38/63 *On licensing conditions for economic activity relating to medical practice* (Lekhan & Rudiy, 2007). The legislation is designed to ensure that professional staff and providers achieve minimum standards of competence and meet function-specific requirements regarding sanitation and safety, and technical standards of equipment. The licensing of medical practice has not assured the quality of health care. Many health care facilities, especially in rural areas, face severe structural problems; many buildings have become dilapidated, with equipment that is outmoded and in poor condition. Some of the reasons behind this are the lack of modern standards for material and technical support, as well as a very liberal form of licensing for state and community health care facilities, which usually manage to keep their historically established range of services.

In order to deregulate commercial activities, from 2011 the process of getting a licence for enterprises has been gradually simplified by the introduction of a licence to practise medicine, as in other fields. This is reflected in the new licensing conditions for private medical practices. It was assumed that deregulation would be combined with the responsibility for the accuracy of the data being firmly with the licensee, but this mechanism still has problems.

2.8.3 Registration and planning of human resources

The Ministry of Health establishes the requirements for professional staff; for the training and development of health and pharmaceutical workers; uniform qualification standards for people engaged in medical or pharmaceutical activities; the list of medical specializations; and the classification of types of health care facility. Practising doctors are subject to recertification every five years, but there is no system of registration for doctors.

Current practices in human resource planning and management of the state-run health system do not follow a coherent model or correspond to organizational goals. Overall, the current system lacks any coherent approach to ensuring appropriate levels of health care workers. Staffing levels for outpatient care providers are determined according to norms approved by the Ministry of Health (see section 2.5) and the use of rigid standards provides few opportunities for effective management at facility level. At the time of writing, the Ministry of Health was in the process of developing new approaches to norm-setting for the workload of health care workers, which are expected to fundamentally change the approach to norm-setting around both the overall number of healthcare workers required as well as how many are needed for different specialties.

2.8.4 Regulation and governance of pharmaceuticals

The main regulatory functions in pharmaceuticals are currently split between two bodies: the State Expert Centre (until 27 September 2010 called the State Pharmacological Centre) and the State Administration of Ukraine on Medicinal Products (SAUMP), both of which are under the Ministry of Health. The State Expert Centre is a specialized organization which covers: the registration and quality control of pharmaceutical products; preclinical, clinical and postclinical research; monitoring adverse drug reactions (although adverse drug reaction reporting by physicians is very low); developing the list of pharmaceuticals that may be bought over the counter and submitting it for approval to the Ministry of Health; authorizing the import and use of unregistered pharmaceuticals; and advising on the content of the National Drug Formulary. Moreover, the Centre has the task of standardizing medical services, including pharmaceutical services. The State Expert Centre is completely funded through fees and charges for services, with no contribution from the state budget.

According to Article 9 of the *Law on medicines,* drugs are permitted for use in Ukraine after registration by the state (No. 123/96BP, 4 April 1996). To ensure the quality and safety of pharmaceuticals, the registration process requires the presentation of preclinical examinations and clinical trial results. From 2008, the registration process for generics also requires proof of their bioequivalence to their brand-name counterpart. State registration of medicinal products is carried out by the State Expert Centre on the basis of a submitted application, which, since 2014, has included a good manufacturing practice (GMP) certificate along with a plethora of other specific information. Upon registration, the applicant receives a certificate that states the term for which the drug is licensed for use in Ukraine. According to the Ukraine National

Register of Medicines, as of 12 May 2014, there were 12 811 medicines registered, including 3673 domestic (29%) and 9138 foreign (71%) products. In the structure of retail sales by value the market is dominated by imported medicines but by volume domestic medicines predominate (see section 5.6).

Ukrainian law provides for intellectual property protection for the developers of medicines. A state registration applicant must provide a patent copy or a licence and letter indicating that the patentee's rights are not violated by registration. Moreover, the *Law on pharmaceuticals,* which was passed when Ukraine joined the WTO (with several amendments in 2006–2007), prohibits the registration of generics using registration data from another pharmaceutical for a period of five years, regardless of the lifetime of the patent. In linking the registration of generics to the expiration of a patent and giving a five-year exclusive right to the original brand name, Ukraine undertook commitments that are quite stringent in comparison with the WTO and Trade-Related Aspects of Intellectual Property Rights (TRIPS) requirements, and contradictory to the Bolar Provision, which allows manufacturers of generics to submit their products for regulatory approval before the expiry of a patented intervention. Implementation of these commitments may make pharmaceuticals less accessible to the population and create problems for the pharmaceutical industry of Ukraine and therefore for the country (Polyakova, 2006; Sur, 2006).

The SAUMP (previously the State Pharmaceuticals Quality Control Inspectorate) is responsible for quality control once drugs are on the market and it has a network of 27 laboratories across the country to facilitate this; all have completed sector certification and comply with ISO17025. The SAUMP Central Laboratory has completed the WHO Prequalification Programme, is accredited with the European Directorate for the Quality of Medicines (EDQM) and included in the Europe-wide General European OMCL [official medicines control laboratories] Network (GEON). Moreover, since 2013, Ukraine has been party to the European Pharmacopoeia (as per the *Law on the ratification of the Convention on the development of a European Pharmacopoeia as amended by its protocol,* No. 5441-VI, 16 October 2012) and, since 2011, SAUMP has been a member of both the Pharmaceutical Inspection Convention and the Pharmaceutical Inspection Cooperation Scheme (PIC/S). GMP inspection, as well as the inspection of pharmacies and distributors, is also the responsibility of SAUMP and, as of 2009, the licensing of production, distribution and retail sales has also fallen under its remit. There is no difference in the legal provisions for the licensing of public and private pharmacies (WHO, 2013). Wholesalers and distributors are required to comply with good distributing practices. Since 15 February 2013, it has been illegal to put on sale any pharmaceutical product that has not been manufactured in compliance with GMP.

Ukraine's *Law on medicines* was amended on 5 September 2014, adding a category of products subject to simplified marketing authorization procedures. The new procedure applies to medicinal products that are intended to treat TB, HIV/AIDS, cancer and rare (orphan) diseases. It authorizes fast-track registration for medications that have been approved by competent authorities of the United States of America, Swiss Confederation, Japan, Australia, New Zealand, Canada, the EU or Israel (countries with "high regulatory standards").

The advertising of prescription medicines direct to the general public is prohibited, but this ban is frequently violated. There are also guidelines for the promotion and advertising of over-the-counter medicines. People purchase pharmaceuticals over the Internet, which is illegal; however, this is not widespread, because of relatively limited access to the Internet nationwide.

In Ukraine there is a negative list of 3430 medicines that can be sold without a prescription; by default, all other medicines are nominally prescription-only. Around a third of drugs dispensed in Ukraine between 2004 and 2013 were retail prescriptions for privileged categories (people belonging to disadvantaged or vulnerable populations, and people with socially significant or especially serious illnesses). For these beneficiaries, medicines included on the list approved by the government are dispensed free or with a discount. The costs associated with subsidized drug provision account for 3% of the total government expenditure on pharmaceuticals, but in practice beneficiaries often still need to pay out of pocket for medications they are prescribed. As most pharmaceuticals are purchased by either outpatients or inpatients, the scope for influencing prescribing patterns is rather limited and is further hampered by the *de facto* liberal pharmacy dispensing procedures (see section 5.6). A list of prescription-only drugs has been developed by the Ministry of Health, but most of these can nonetheless be bought over the counter. At the same time, pharmacies do maintain strict controls on the supply of psychotropic drugs and hormonal preparations, even though many others, such as antibiotics, can usually be bought without a prescription.

Clinical protocols can have some influence on prescribing patterns as long as they contain a very clear definition of the medical indications for the use of a specific drug. There is no national programme promoting generic drugs. Pharmaceutical companies have a significant influence on prescribing patterns: they operate aggressive marketing policies; actively advertise pharmaceuticals in the mass media; hold free seminars for medical specialists; and reward doctors who prescribe their products (Lekhan, Rudiy & Richardson, 2010). There is a high level of over-prescription among physicians, who often prescribe

expensive brand-name pharmaceuticals instead of less expensive generics and, in certain cases, disregard rational prescribing policies in favour of more tailored approaches (Bazylevych, 2009). In practice, doctors only prescribe generic drugs from the National Essential Drugs List to patients who are exempted from copayments or who pay reduced prices for pharmaceuticals, which the patient then obtains from their local community pharmacy (see section 5.6). Pharmacists also offer their customers substitutes for indicated medications without consulting the prescribing physician and some will reward physicians who advise their patients to choose a particular treatment (Richardson, Sautenkova & Bolokhovets, 2014).

In order to improve pharmaceutical provision, a national programme was developed for 2004–2010, which outlined the selection of safe and efficient pharmaceuticals using pharmaco-economic analysis (Cabinet of Ministers Decree No. 1162, 25 July 2003). The programme also introduced a formulary-based drug procurement system to improve tender procedures for state purchases of medications and to identify state priorities for pharmaceutical purchasing. The formulary-based system was designed to improve the quality of treatment and provide clinicians with access to information on the use of pharmaceuticals registered in Ukraine (their pharmacological properties, contraindications and distribution methods). The first National Drug Formulary of Ukraine for the supply of pharmaceuticals in health care facilities was published in 2009 and the sixth edition was published in 2014 (Ministerial Order No. 252, 8 April 2014). The programme also introduced the state registration of wholesale prices, as well as the introduction of appropriate laboratory, clinical, industrial and distribution practices based on such standards as GMP and good laboratory practice (GLP). A list of essential pharmaceuticals and medical devices was approved in accordance with the programme.

In 2012, the Council for National Security and Defence noted problems with meeting the needs of the population, government and health care facilities for medicines of good quality in the appropriate assortment, and the lack of any effective mechanism to counter the production and circulation of counterfeit drugs in the country (Decision of 25 May 2012, implemented by Presidential Order No. 526/2012 of 30 August 2012). It was therefore decided that it was necessary to make it mandatory for the state to: register the bioequivalence, therapeutic efficacy and cost–effectiveness of generic medicines; coordinate actions to combat fake and substandard medicines; and introduce a modern system of price controls using reference pricing or similar. As a result, a raft of legislative acts aimed at increasing the administrative and criminal penalty for the falsification or supply of fake medicines in the country and strengthening

the capacity for monitoring imports was introduced. On 20 October 2014, with the aim of bringing procedures for the registration of pharmaceuticals into line with EU standards, the government introduced amendments to the *Law on medicines* (No. 1707-VII, 20 October 2014). However, this will not bring legislation into full alignment with EU Directive 2001/83/EC and this could lead to the appearance of substandard medicines on the market in Ukraine.

Price regulation for pharmaceuticals in Ukraine is based on the *Law on prices and price regulation*. The main direct mechanism of state price regulation was delegated to regional authorities by government decree in 1996 and consists of establishing maximum retail surcharges for pharmaceuticals and medical devices. Decentralized regulation, however, resulted in substantial regional differences in retail surcharges, as well as in wholesale and retail prices for pharmaceuticals. Sometimes the prices differ by two to three times, even in the same region (Lekhan, Rudiy & Richardson, 2010). Prior to 2008, the list of medicines subject to state price regulation included 149 international nonproprietary names of medicines from various clinical and pharmacological groups that made up 21% of the Essential Drugs List. The Cabinet of Ministers *Decree on amendments to certain decrees of the Cabinet of Ministers* (No. 1499, 16 November 2001) established a maximum limit of retail surcharges at the national level for these pharmaceuticals: 35% of the manufacturer's wholesale price (customs cost) distributed through the pharmacy network; and 10% for products that are purchased by publicly owned health care facilities with funds allocated from the budget.

Since the beginning of the global financial crisis in 2008, pharmaceutical prices have increased considerably (by 40–70%), largely as a result of currency devaluation. To stabilize the situation in the pharmaceutical market, the government adopted a number of potential solutions to curb rising pharmaceutical prices by significantly expanding the list of pharmaceuticals subject to state price regulation to cover almost the entire Essential Medicines List – 903 generic drugs (or 85% of all registered drugs in Ukraine). The mark-up limits were set at no more than 10% of wholesale prices and 25% of retail price; for drugs purchased through the budget the mark-up limit was set at 10% of wholesale and 10% of retail price, according to Cabinet of Ministers Decree No. 955 of 17 October 2008, *On measures to stabilize the price of medicines*. This approach reduced the range of medicines available in pharmacies, pushed up prices and, as a consequence, increased social tension. These moves were also met with resistance from the pharmaceutical industry, which argued that they faced bankruptcy. The government reacted by softening the price controls by taking currency fluctuations into account in Cabinet of Ministers Decree No.

333 of 25 March 2009, *On the issue of state price controls on medicines*. This was later transformed into a mechanism for controlling the wholesale prices for medicines purchased through the state and local budgets by the Cabinet of Ministers Decree No. 1012 of 1 November 2010, *On the wholesale and retail prices for medicines bought through national and local state budgets*.

Since 2012, a pilot project which introduced state price regulation for essential antihypertensive medications, using reference pricing mechanisms and reimbursement, has been running in accordance with a Cabinet of Ministers Decree (No. 340, 25 April 2012). All pharmaceuticals registered as antihypertensives are divided into three groups: those reimbursed at 90% of the reference price; those reimbursed at up to 90%; and those that are not reimbursed. The medicines covered in this pilot project are all generics manufactured in compliance with GMP and are priced at or below the maximum wholesale price level. Under this pilot project, prescribed antihypertensive medicines are dispensed by health care facilities and pharmacies listed by the regional health authorities. The patient then pays the difference between the actual retail price and the reference price as approved by the Ministry of Health. The pharmacy sends the record of subsidized drugs dispensed in one month under the scheme and they are reimbursed from a subvention from the state budget, which is held in the local budget. However, these measures did not control retail prices, which have increased above the rate of inflation. In 2012, the antihypertensives budget was US$ 5 million and in 2013 it was US$ 24 million. The scheme did reduce the price of antihypertensive drugs on the market by 9.3% and increased consumption by 24%, primarily because it was the cheaper generics produced locally that were reimbursed. However, locally produced generics account for only 31% of those antihypertensives dispensed, which is much lower than in other European countries. The Parliamentary Committee on Health Care was highly critical of the pilot project as it did not reimburse the full cost of the drugs (Decision No. 04-26/4-31.3/1, *On the realization of a pilot project to introduce state regulation of pharmaceutical prices for people with hypertension*.

Prices in the pharmaceuticals market have stabilized somewhat, but the government system for price controls remains an inefficient aspect of the pharmaceuticals supply chain. There are four price control lists: the National List (Government Resolution of 25 March 2009, No. 333); the list of drugs that can be purchased through local or state budgets (Government Resolution of 5 September 1996, No. 1071); the mandatory minimum range of socially important pharmaceuticals and medical products (Order of Ministry of Health No. 1000 of 29 December 2011); and the list of drugs covered by the pilot project on hypertension (Government Resolution of 25 April 2012, No. 340). Just the

administration of so many lists, given that there is a significant amount of duplication, leads to additional resource costs to the state regulatory bodies and suppliers, which are then passed on through higher prices. Also, the declared price system (Government Resolution of 13 August 2012, No. 794), provides formal declaration procedures for the manufacturers/importers, but at the same time accurate and objective information on the prices declared by the state are not checked. The state control of compliance with the mandated mark-up levels are ineffective where as much as 76% of the cost of a medicine goes directly to the manufacturer/importer.

A more indirect method of price regulation was the introduction of certain tax privileges. For example, sales of pharmaceuticals and medical devices registered in Ukraine used to be exempt from value added tax (VAT). However, in 2014, in connection with the worsening economic situation in Ukraine, emergency measures introducing 7% VAT on pharmaceuticals and medical products were brought in (*Law on preventing financial catastrophe and preparing the foundations for economic growth in Ukraine,* No. 1166-VII, 27 March 2014). This once again led to price increases and reduced access to pharmaceuticals (see section 5.6).

2.8.5 Regulation of medical devices and aids

There is no licensing system for medical equipment in Ukraine, but according to the Cabinet of Ministers Decree No. 1497, issued 9 November 2004, *On approving the order of state registration of medical equipment and devices,* as amended by Cabinet of Ministers Decree (No. 548, issued 20 June 2012), all domestic and imported medical equipment and devices are subject to mandatory state registration by SAUMP. Registration is based on a review of the appropriate set of documents presented by an applicant – an individual or a legal entity responsible for the production, safety and effectiveness of medical devices. The applicant takes part in choosing the appropriate agencies to review the documents. Based on the outcome of this review, the State Expert Centre may require the medical equipment to be tested before registration.

2.8.6 Regulation of capital investment

There is only minimal budgetary financing of capital costs in the state health system and there is a consequent lack of planning in prospective development (construction, renovation) of publicly owned health care facilities. Both central and regional authorities are responsible for capital investment decisions, but these decisions are made in the light of available resources, which are generally very limited. From 2010, there was some small-scale, relatively centralized

planning of capital investment in some priority areas under the health reform programme. Most often these investments were for the development of emergency, primary and perinatal care – allocations were made for the creation of a centralized emergency call centre, a network of perinatal centres and the reequipping of primary care facilities in the pilot regions. However, overall strategic planning of capital investment is not sufficiently developed.

Strategic development planning and investment in the private medical sector depend on several factors. The main factor is the profitability of potential investments as well as identifying problem areas in the state health system. Consequently, most investments are made in the capital and other large cities. Diagnostic services, dentistry, gynaecology and a few other fields attract the most investment. Another important factor in private investment planning is the focus of high public officials on certain areas of the health system. However, private medical providers remain a very small proportion of all health providers in Ukraine (see section 4.1).

2.9 Patient empowerment

2.9.1 Patient information

By law all citizens have the right to access information about their health and the services available to them, but the mechanisms for accessing such information are not transparent. Most patients rely on personal recommendations and informal networks when making decisions about accessing health services (Tymczuk, 2006; Stepurko et al., 2013).

2.9.2 Patient choice

Patients officially have a choice of doctor and facility, but this is difficult to realize due to the way in which the system is financed (see Chapter 3). Patients who have access to parallel services have greater choice as they are able to access services from the main statutory system and their occupational system. However, most patients effect choice by paying out of pocket for services (see section 3.4). The health system reform programme begun in 2010 proposed the gradual reorientation of the system towards the real health needs of patients. In 2011, for the first time, patients were given the right to freely choose the primary care doctor who should decide the clinical pathway for the patient (*Law on amendments to the basic laws of Ukraine regarding the improvement*

of health care, No. 3611-VI, 7 July 2011). The realization of this mechanism began in the four pilot regions (see section 5.3), but it was still in the early stages of development when the crisis started so has not been fully implemented.

2.9.3 Patient rights

The necessity of protecting patient rights is noted in many normative acts; for example, in basic legislation about health care and criteria for the accreditation of health care facilities. However, patient rights in the Ukrainian health system are not protected systematically. Another draft law about patient rights has been under consideration in Parliament (No. 2438 from 1 March 2013) (the previous one was registered in 2007; see Lekhan, Rudiy & Richardson, 2010), but the prospects for its ratification remain similarly unclear.

2.9.4 Complaints procedures (mediation, claims)

There is no specific legal mechanism for patient complaints procedures within the health system. It is dealt with in general legislation regarding complaints (*Law on citizens' appeals* 1996) and thereafter by the human rights ombudsman under the Parliament of Ukraine. Most patient complaints are made in the form of letters; the Ministry of Health alone receives around 2500 letters of complaint every year. This is only a small fraction of the total volume of complaints, as the majority are sent to and dealt with at a lower level of the health system. The main source of dissatisfaction in patient complaints is the quality of medical care.

2.9.5 Public participation

Although there are a number of legal provisions for public participation in the health sector and various patient groups, they have not yet played an active role in influencing purchasing decisions or health policies more broadly. Community advisory boards in health care were created under the local health authorities, health care facilities and independent social organizations, but their influence on the activities of the health sector initially proved minimal (Angelov, 2007). However, with the health system reform programme from 2010, the public became much more active, founding NGOs in order to express their opinions about the changes. Most often this was to protest against the reforms, which was partially a reflection of the health workers' own resistance to changing their well-established ways of working but also a response to the inadequate information campaign preceding the reforms, which should have informed people of the proposed reforms and what they meant. A considerable proportion of the proposals put forward were, however, constructive and had a real impact on the development of subsequent stages of the reform programme.

3. Financing

Health expenditure as a proportion of GDP in Ukraine was 7.6% in 2012; this is middling in international comparison, but relatively high in comparison with Ukraine's neighbours. Of total health expenditure (THE) in Ukraine, 54.9% was from prepaid government sources in 2012, which is low in international comparison. This has significant implications for equity in health system financing as private spending on health (45.1% of THE in 2012) is dominated by out-of-pocket payments.

The bulk of government expenditure (52% in 2012) pays for inpatient medical services, with only a relatively small proportion going to outpatient services and public health. Private expenditure primarily consists of out-of-pocket payments, which are high on account of the high cost of pharmaceuticals, which are generally purchased at full cost price by patients. Officially, Ukraine has a comprehensive guaranteed package of health care services, provided free of charge at the point of use as a constitutional right; nevertheless, so-called charitable donations are widely levied. Government attempts to define a more limited benefits package have left it to the individual facilities to determine which services are covered by the budget and which are subject to user charges. This has led to a lack of transparency in the system, which has contributed to the expansion of informality.

Most health financing comes from general government revenues raised through taxation (VAT, business income taxes, international trade and excise taxes). Personal income tax is not a significant contributor to total revenues. Out-of-pocket payments account for most other health expenditure, although there are some limited voluntary health insurance (VHI) schemes. Budgetary funds are pooled at the national and local levels, as local governments retain a proportion of the taxes raised in their territory. There are also interbudgetary transfers to boost the coffers of poorer local authorities which cannot raise as much revenue. With the exception of the pilot projects in four administrative

regions, which moved towards contracting mechanisms for primary care, allocations and payments are made according to strict line-item budgeting procedures as under the Semashko system. This means payments are related to the capacity and staffing levels of individual facilities rather than to the volume or quality of services provided.

3.1 Health expenditure

Since 2003, health expenditure data in Ukraine have been collected according to the global standard National Health Accounts (NHA) methodology. This has limited the differences between national and international data sources. Although this is challenging, NHA data seek to include informal payments in total health care expenditure; however, the rate of GDP for Ukraine is calculated based on official data only without the contribution from the informal sector, which is substantial in Ukraine, so this may underestimate the level of THE as a proportion of GDP (Table 3.1).

Table 3.1

Trends in health expenditure in Ukraine, selected years

	1995	2000	2005	2010	2011	2012
Total health expenditure, PPP$ per capita (WHO estimates)	247	184	358	520	528	562
Total health expenditure as % of GDP (WHO estimates)	7.7	5.6	6.4	7.8	7.3	7.6
Mean annual real growth rate in total health expenditure*	100	99.4	113.5	110.1	–	–
Mean annual growth rate in GDP*	100	96.1	108.4	102.1	–	–
Public sector health expenditure as % of total health expenditure (WHO estimates)	65.9	51.8	59.5	56.6	55.7	54.9
Private sector expenditure on health as % of total health expenditure (WHO estimates)	34.1	48.2	40.5	43.4	44.3	45.1
Public sector expenditure on health as % of total government expenditure (WHO estimates)	11.4	10.2	11.9	12.6	11.8	11.5
Public sector expenditure on health as % of GDP (WHO estimates)	5.1	2.9	3.8	4.4	4.1	4.2
Private households' out-of-pocket payment on health as % of total health expenditure	31.4	44.1	37.5	40.5	41.5	42.3
Private households' out-of-pocket payment on health as % of private sector health expenditure	92.2	91.4	92.5	93.4	93.6	93.8
VHI as % of total expenditure on health	0	0.5	0.7	0.9	0.9	0.9
VHI as % of private expenditure on health	0	1.1	1.7	2	2.1	2.1

Sources: WHO, 2015; *State Statistics Service of Ukraine, 2014c.

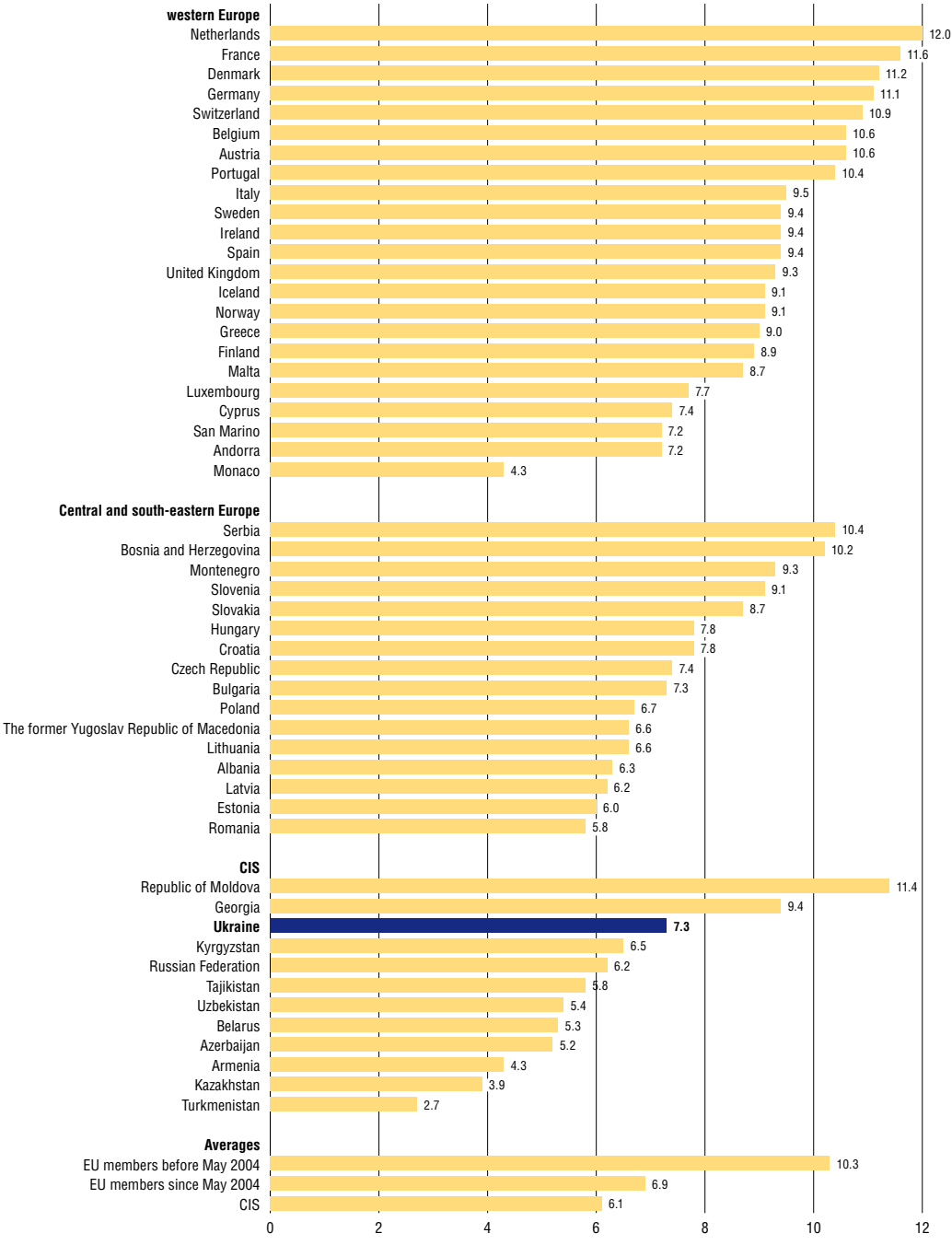
Health expenditure as a proportion of GDP in Ukraine was 7.6% in 2012; this is middling in international comparison (Fig. 3.1), but relatively high in comparison with Ukraine's neighbours (Fig. 3.2). Health care spending increased rapidly in 2000 after the prolonged economic crises of the 1990s (see Table 3.1 and section 1.2). This occurred partly as the Ukrainian economy grew, but also as a result of government policy to increase health spending. The average increase in THE as a proportion of GDP since 2000 has been higher than the average increase in GDP (113.5–110.1% compared with 108.4–102.1%). The global financial crisis did not have an immediate impact on THE, but this was not the result of government policy to protect health spending but instead due to the impact of currency devaluation, which led to pharmaceutical price increases of 40–70% (Mladovsky et al., 2012). Health expenditure in US$ PPP (purchasing power parity) per capita follows the same trends as THE as a proportion of GDP, fluctuating as the economy grows and contracts, but overall expenditure in US$ PPP remains low in international comparison (Fig. 3.3).

Of THE in Ukraine, in 2012, 54.9% was from prepaid government sources, which is low in international comparison (Fig. 3.4). This has significant implications for equity in health system financing, as private spending on health (45.1% of THE in 2012) is dominated by out-of-pocket payments (see section 3.4). The share from voluntary or private health insurance (including sickness funds) is negligible (Table 3.1).

Most public health care expenditure goes towards providing medical services, especially inpatient care (52% in 2012) (Table 3.2). At less than 1% in 2012, the share of public spending on medicines and medicinal devices is very low and has decreased over time, as the brunt of pharmaceutical costs for both outpatients and inpatients is born by patients. Capital expenditure and administrative expenses are funded primarily from public sources.

Fig. 3.1

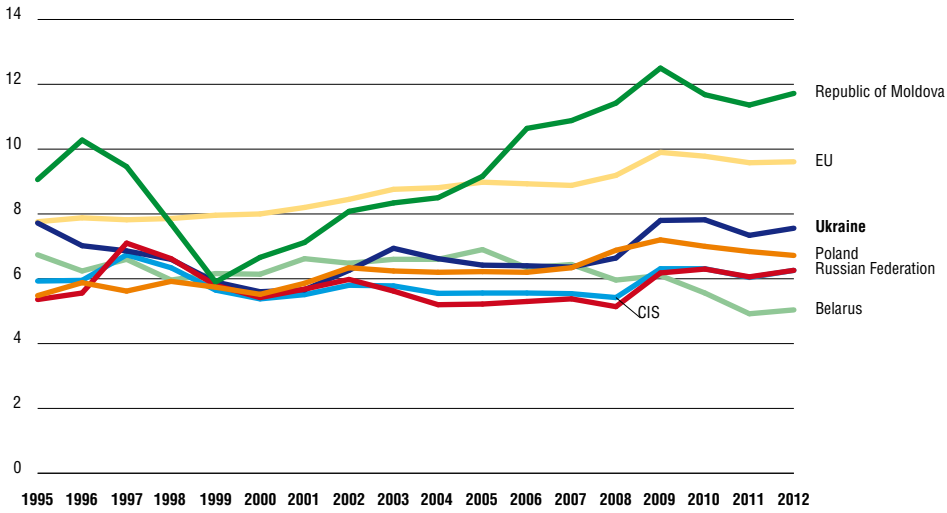
Health expenditure as % of GDP in the WHO European region, 2012



Source: WHO Regional Office for Europe, 2014.

Fig. 3.2

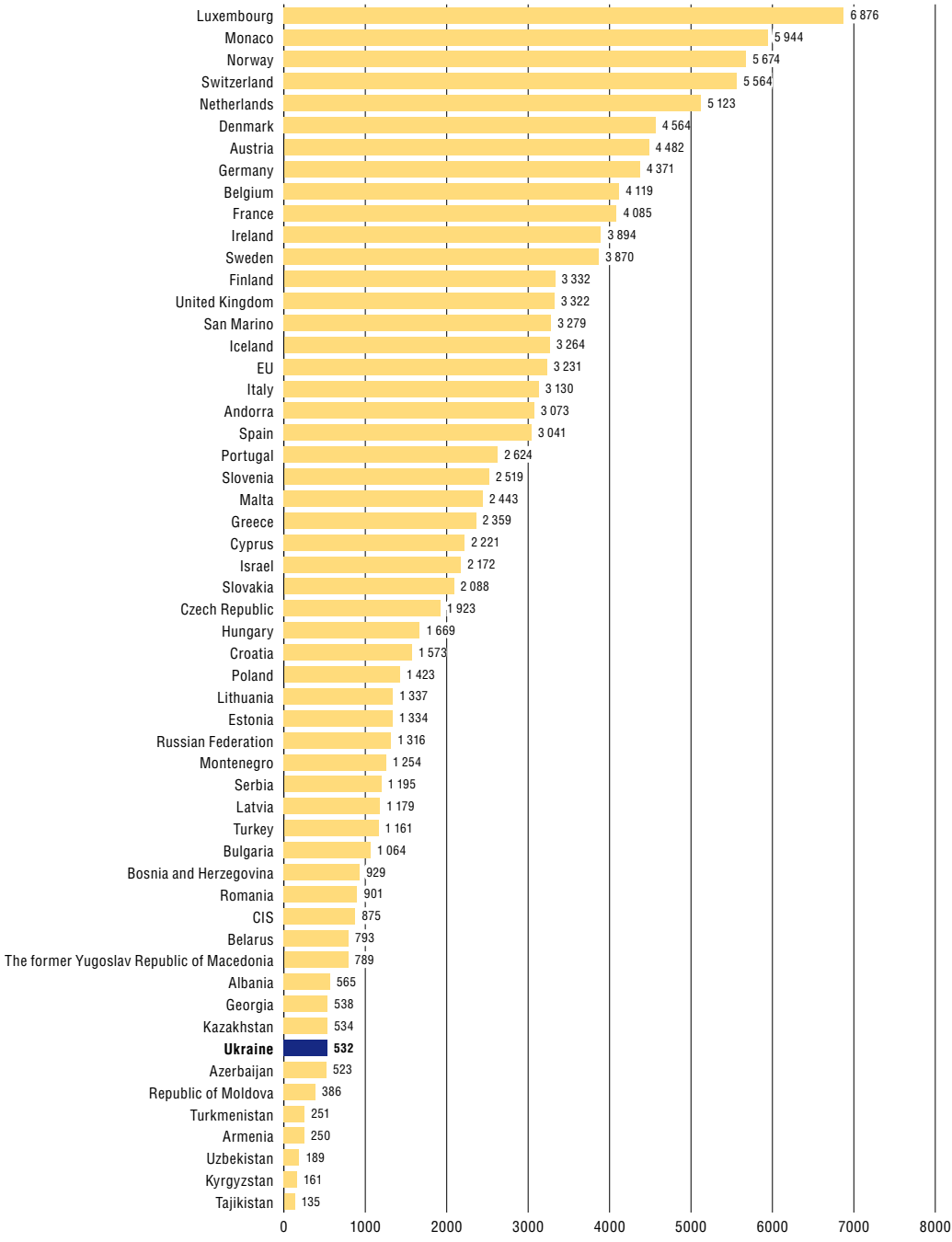
Trends in health expenditure as % of GDP in selected countries, 1995–2012



Source: WHO Regional Office for Europe, 2014.

Fig. 3.3

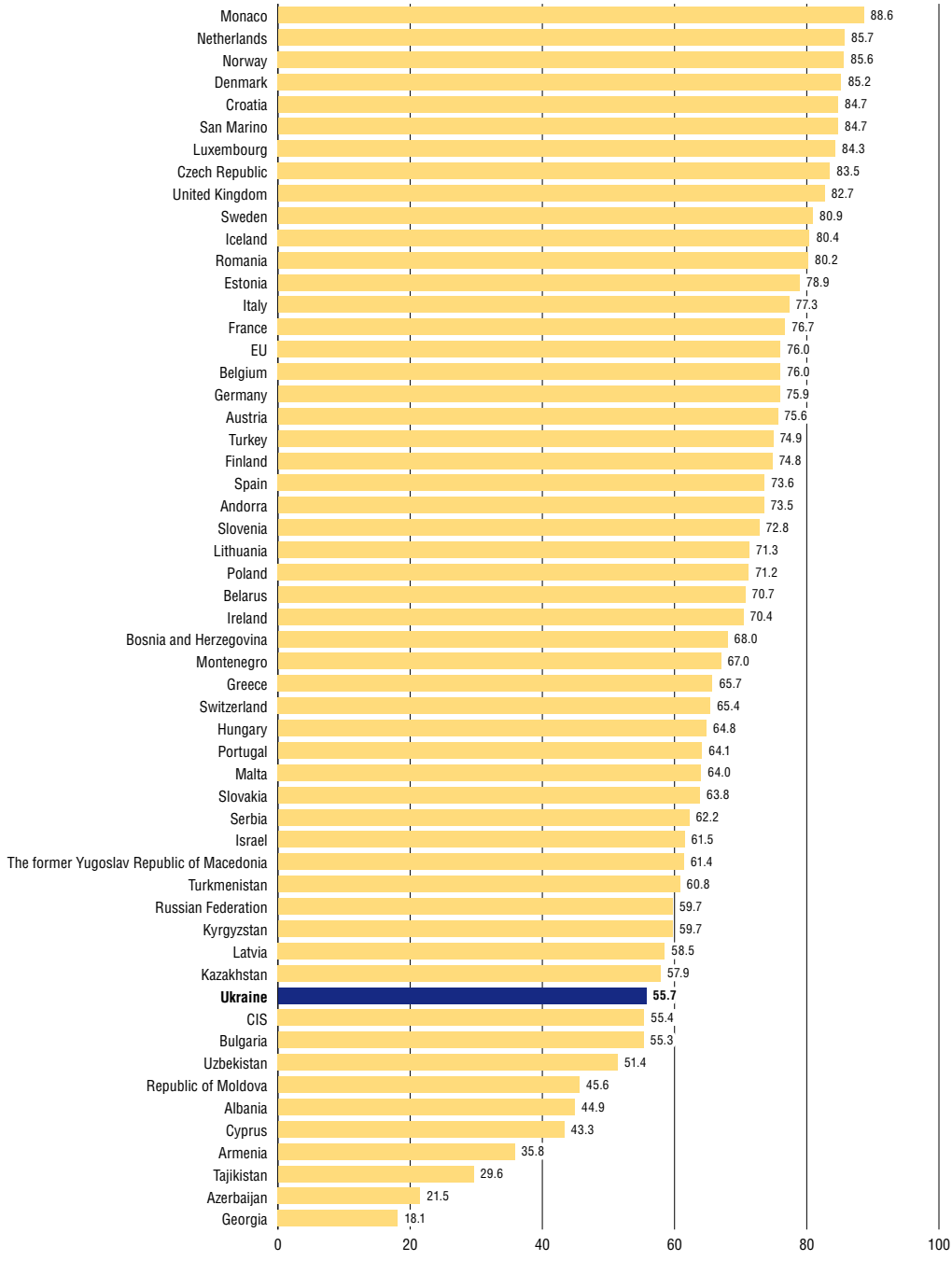
Health expenditure in US$ PPP per capita in the WHO European region, 2012



Source: WHO Regional Office for Europe, 2014.

Fig. 3.4

Public sector expenditure as % of THE in the WHO European region, 2012



Source: WHO Regional Office for Europe, 2014.

Table 3.2
Public health expenditure on health by service programme, 2007–2012
(% of public and total expenditure on health)

Type of expenditure	% of public expenditure on health						% of total expenditure on health					
	2007	2008	2009	2010	2011	2012	2007	2008	2009	2010	2011	2012
Health administration and insurance	4.9	4.8	5.9	4.3	5.7	10.4	3.3	2.8	3.2	2.4	3.2	6.0
Public health and prevention	5.5	5.7	5.4	5.4	4.9	4.3	3.6	3.3	3.0	3.1	2.7	2.4
Medical services	72.9	75.8	77.6	78.8	76.5	78.4	48.2	43.6	42.6	44.5	42.5	42.8
– inpatient care	47.7	50.1	47.6	52.1	47	46.1	31.5	28.8	26.1	29.5	26.1	26.4
– outpatient/ambulatory physician services	21.0	21.1	21.5	22.1	19.8	20.3	13.9	12.1	11.8	12.5	11.0	12.4
– outpatient/ambulatory dental services	1.5	1.5	1.5	1.5	1.5	1.4	1.0	0.9	0.9	0.9	0.8	0.8
– ancillary services	1.8	2.0	2.1	2.0	2.0	2.6	1.2	1.2	1.2	1.1	1.1	1.5
Medicines and medical devices	1.2	0.9	0.9	0.8	0.8	0.2	0.8	0.5	0.5	0.4	0.5	0.1
Total current health expenditure	89.2	90.5	92.3	91.9	91.8	93.3	58.9	52.1	50.7	51.9	51	53.4
Capital expenditure	10.8	9.5	7.7	8.1	8.2	6.9	7.2	5.4	4.2	4.6	4.5	3.9
Total	**100**	**100**	**100**	**100**	**100**	**100**	**66.1**	**57.5**	**54.9**	**56.5**	**55.5**	**57.2**

Source: State Statistics Service of Ukraine, 2014c.

3.2 Sources of revenue and financial flows

According to national data sources, general government expenditure on health as a proportion of THE was 57.6% in 2012, while out-of-pocket spending was 39.6% (Table 3.3). Nominally, the population has universal access to unlimited health care services, free at the point of use, as a constitutional right (see section 3.3.1). There are no official copayments, but health care providers can charge for supplementary services, which can include diagnostic procedures and not just more luxurious accommodation (see section 3.4.1). Government attempts to define a more limited benefits package have left it to the individual facilities to determine which services are covered by the budget and which are subject to user charges. This has led to a lack of transparency in the system, which has contributed to an increase in informal payments. The role of VHI has been growing, but still accounts for under 1% of THE (see section 3.5). Private expenditure primarily consists of out-of-pocket payments, which are high due to the high cost of pharmaceuticals that are generally purchased at full cost price by patients. Significant informal payments are also levied in the system

and there is increasing utilization of private medical services (see section 3.4). Expenditure by private companies (Fig. 3.5) is for the maintenance of their own health care facilities and the care of their employees.

Table 3.3

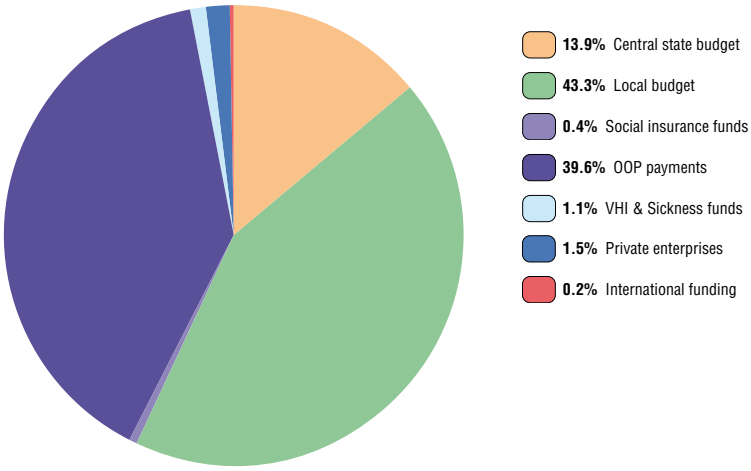
Percentage of THE according to source of revenue, selected years

	1995*	2000*	2005	2007	2008	2009	2010	2011	2012
General government expenditure	61.2	51.8	59.3	61.7	57.5	54.9	56.5	55.5	57.6
Government spending, of which	59.0	61.4	57.0	54.6	56.2	55.2	57.6	–	–
– central budget	17.5	18.6	15.6	14.0	13.8	14.8	13.9	–	–
– local budgets*	41.5	42.8	41.4	40.6	42.4	40.4	43.3	–	–
Social insurance funds*	0.0	0.0	0.3	0.3	0.5	0.3	0.3	0.3	0.4
Private expenditure	38.8	48.2	40.4	38.1	42.2	44.9	43.3	44.2	42.2
Out-of-pocket payments	35.7	44.1	37.4	34.6	39.3*	41.9*	40.4*	41.4*	39.6*
VHI	0.0	0.5	0.68	0.84	0.84	0.91	0.87	0.92	1.0
Sickness funds	0.14	0.12	0.1	0.11	0.1	0.09	0.1	–	–
Private enterprises	2.2	2.5	1.9	2.0	1.9	1.8	15.0	–	–
Non-governmental organizations (NGO's)	0.01	0.02	0.02	0.02	0.02	0.02	0.00	–	–
External sources	0.2	0.5	0.3	0.3	0.3	0.2	0.3	0.3	0.2

Sources: State Statistics Service of Ukraine, 2014c; *WHO, 2015.

Most health financing comes from general government revenues raised through taxation (VAT, business income taxes, international trade and excise taxes). Personal income tax is not a significant contributor to total revenues. Funds are pooled at the national and local levels, as local authorities retain a proportion of the taxes raised in their territory. There are also interbudgetary transfers to boost the coffers of poorer local authorities that cannot raise as much revenue. With the exception of the four pilot regions included in the health system reform programme 2010–2014, allocations and payments are made according to strict line-item budgeting procedures as they were under the Semashko system. This means that payments are related to the capacity and staffing levels of individual facilities rather than to the volume or quality of services provided. In the four pilot regions (Donetsk, Dnipropetrovsk, Vinnytsya *oblasts* and Kyiv city) the aim was to reduce fragmentation of pooling and introduce new allocation and payment mechanisms, but this health reform programme has been put on hold in view of the unstable political situation.

Fig. 3.5
Percentage of THE according to source of revenue, 2012



Source: State Statistics Service of Ukraine, 2014c.

3.3 Overview of the statutory financing system

3.3.1 Coverage

Under Article 49 of the Constitution of Ukraine of 1996, Ukrainian citizens are entitled to a comprehensive guaranteed package of health care services, provided free of charge at the point of use, as a constitutional right. Under basic health legislation, foreign citizens, refugees and stateless persons permanently residing in the territory of Ukraine enjoy the same rights to health care as Ukrainian citizens. The rights and responsibilities of foreign citizens and stateless persons temporarily residing in Ukraine are determined by law and relevant international agreements.

However, this broad commitment to universal coverage free at the point of use for all citizens has not been backed by sufficient financing. The volume of government health care financing dropped significantly due to the economic downturn throughout the 1990s and this contradiction became particularly acute. The government has made several attempts to limit the guaranteed package of free health care and to balance it with the country's real economic and fiscal capacity, which has led to the erosion of the principle of universal coverage and expanded user charges in the system. In response to citizen discontent with the limiting of the benefits package, the Constitutional Court examined whether

charging patients for services was unconstitutional and, in 2002, determined that in state-funded facilities care should be available to all citizens regardless of volume or length of stay without charges before, during or after treatment (Constitutional Court Decision on case No. 1-13/2002 and No. 10-rp/2002 of 29 May 2002). At the same time, it stipulated that state health care facilities could mobilize additional resources using VHI mechanisms such as private health insurance, sickness funds and credit unions. The list of medical services provided for a fee was established by law as part of the Constitutional Court's decision and, although this law has not been adopted to date, the government approved a new list of services that state health care facilities could provide for a fee, to be paid in full by the patient or third party (Resolution of the Cabinet of Ministers of Ukraine of 11 July 2002, No. 989, *On Amendments to the Resolution of the Cabinet of Ministers of Ukraine dated 17* September *1996,* No. 1138). Criteria for determining which services should be provided for a fee were not made explicit but it would seem that the treatments included are those that are elective and not life-threatening.

User fees are levied for the following services: infertility treatment; cosmetic services; anonymous examinations and treatment for addictions or STIs; termination of pregnancy (unless medically indicated); prosthetics (including dental, hearing, ophthalmic and other appliances); vision correction with spectacles or contact lenses; dental care provided in state practices; spa treatments; medical examinations for job applications, driver's licences, the right to carry weapons and relevant periodic medical exams; speech therapy; treatment of speech impediments in adults; home care and treatments when feasible in an outpatient setting; diagnostic examinations and patient appointments without referral from a physician; parental stay at a hospital with children over 6 years (unless required by the child's condition); medical services for sports competitions, public and cultural events; medical services to foreigners; and others.

Certain categories of people are entitled to benefits to pay for outpatient medicines. These are people belonging to so-called vulnerable groups and patients with socially significant or very serious diseases. In particular, beneficiaries include: war and labour veterans; some people with disabilities (subdivided into three disability categories according to severity, with Group I the most severe and Group III the least limiting); people disabled since childhood (Groups I & II); disabled children (up to age 16); pensioners receiving the minimum pension; children under 6 years of age; women with contraindications

for pregnancy (free contraception provided); victims of the Chernobyl disaster in 1986; children with alopecia due to toxic illness in Chernivtsi in 1988; retired and disabled victims of political repression; and recipients of state decorations.

In 2002, the government approved the Programme for Providing the Citizens of Ukraine with Free Health Care Guaranteed by the State (Cabinet of Ministers Resolution No. 955 of 11 July 2002). It gives a defined list of health care services to be provided by publicly owned health care facilities for free, as well as standard volumes of care. The Programme includes:

- emergency care
- outpatient polyclinic care
- inpatient care for acute conditions and emergencies requiring intensive treatment; 24-hour medical surveillance and hospitalization
- emergency dental care (and comprehensive care for children, disabled people, students, pregnant women and women with children under 3 years of age)
- first aid for the rural population
- specialized sanatoria for disabled people and children
- medical care for children in orphanages.

The Programme introduced a principle of accountability by tying state commitments to the expected health budget. Thus, the norm for providing outpatient polyclinic care was based on the number of visits per 1000 people; the norm for inpatient care was based on the number of hospitalizations per 1000 people, the number of beds per 1000 people, and average length of hospital stay; and the norm for emergency care was based on the number of calls per 1000 people. However, the costings for providing care free of charge according to these norms were not determined (Lekhan, Rudiy & Richardson, 2010). This means that while the official list of guaranteed health care services that are free of charge is quite comprehensive, this is not backed by meaningful funding; in fact, it is left up to the health care providers to decide which services will be provided free of charge and which ones require payment.

In March 2014, the Crimean Autonomous Republic and Sevastopol city came under the *de facto* control of the Russian Federation, and in response to these developments, the Verkhovna Rada issued the *Law on ensuring the rights and freedoms of citizens and the legal regime of the temporarily occupied territory of Ukraine* (Law No. 1207-VII, 15 April 2014) to guarantee the rights of people from these administrative regions under the Ukrainian

Constitution (1996), which includes the right to access health services free of charge. The related costs are covered from the state budget of Ukraine in accordance with a procedure established by the Cabinet of Ministers of Ukraine. A similar situation exists in the conflict-affected areas of Donetsk and Lugansk regions, where central and regional governments cannot effectively manage the health system and provide funding for the proper functioning of health care facilities. In particular, the delivery of TB care has proved most challenging in the face of mass population movements. The delivery of material supplies for timely diagnosis (TB, HIV, etc.) is also hampered and most of the medical staff has fled.

Due to the challenging political and economic environment in 2014, and in response to IMF loan conditions, the government decided to cut the social benefits package explicitly. In particular: the retirement age was increased by two years for men and three years for women; changes were introduced to the way pension benefits for government employees are calculated (reducing the limit from 80% to 70% of their final salary); gas prices were raised (by 40% from 1 May 2015 and by 20% annually in 2016–17) as well as increases to the cost of other utilities.

3.3.2 Collection

The major official source for health care financing in Ukraine is taxation revenue, derived from national and local taxes and duties, and accounting for 80.9% of the total budget in 2012, followed by non-taxation revenues (derived from property and enterprises, administrative fees and charges, financial sanctions and other income not related to mandatory taxes, duties or charges); the latter accounted for 18.2% of the total budget in 2012 (see Figure 3.6). Revenues from other sources such as capital transactions is negligible (Zubenko et al., 2013). Overall, indirect taxes account for a greater proportion of total budgetary revenues than direct taxes – 52.8% versus 44.4% in 2010. The share of revenues from direct taxes has fallen over time, because the lower standard of living restricts the potential contribution of direct taxes (Rusnauka, 2012). VAT revenues account for the greatest share from indirect taxes (fixed rate of 17% since January 2013, 20% previously) and excise duties. VAT accounted for 31.2% of indirect taxation revenues and 8.6% of total budgetary revenues in 2012. Most direct taxation revenues come from personal income tax (on average 15% of salary) and corporate taxes (a fixed rate of 16% from January 2014, down from 19% in 2013, 21% in 2012 and 23% previously). Corporate taxes accounted for 12.5% of total budgetary revenues in 2012. There are no taxes specifically earmarked for health financing and there is no system of tax relief

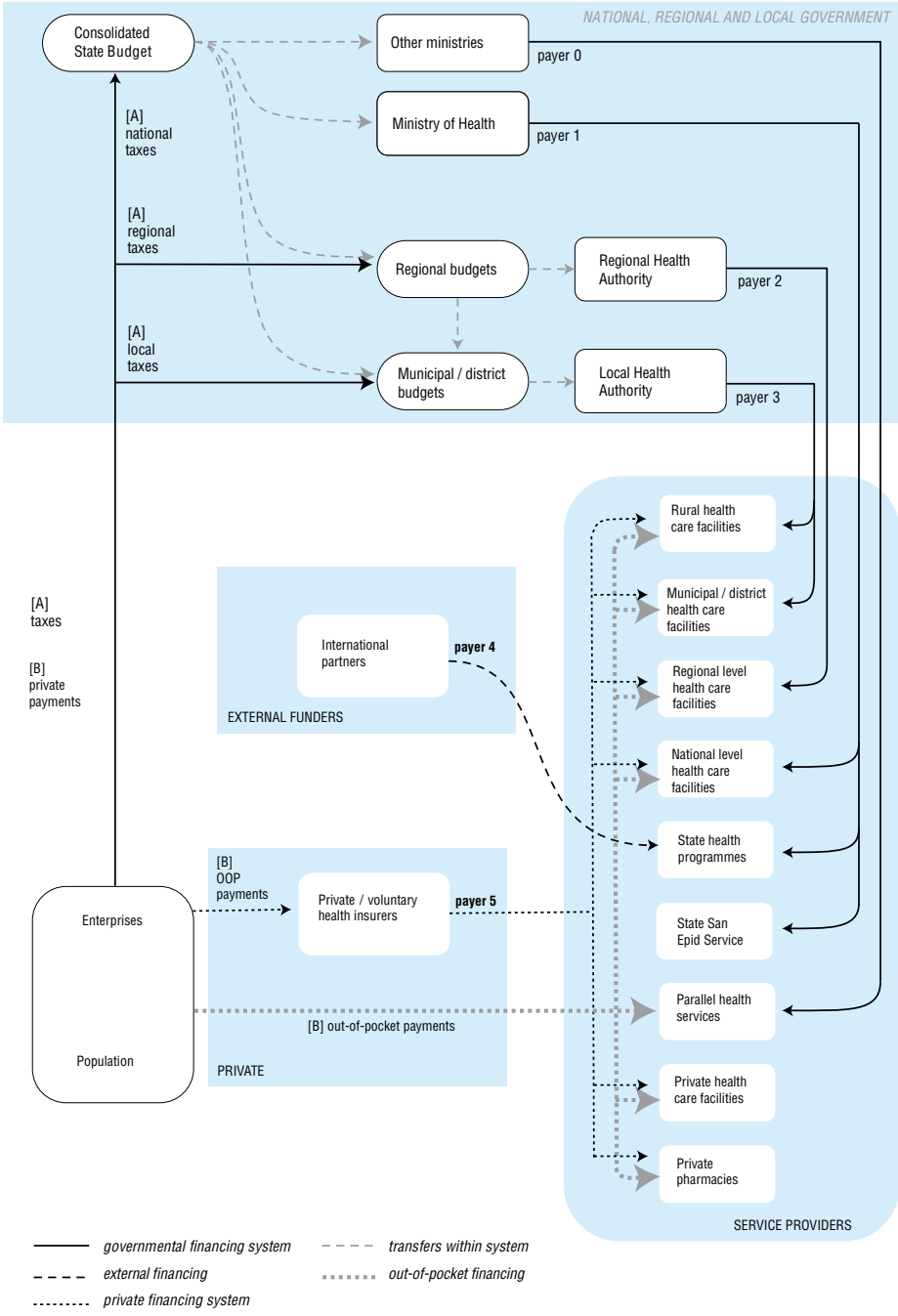
for the purchase of health cover. National tax rates are set in accordance with taxation laws as determined by the Verkhovna Rada. Local administrations set the rates for local taxes and dues.

The collection and administration of tax revenue takes place at different levels depending on the source. Revenues for the national budget include: 50% of personal income tax revenues; corporate income tax; VAT; excise taxes and a number of other state taxes and fees, import and export duties; and a share of the net profits of state unitary enterprises and dividends accrued on company shares which are owned by the state. Other revenues are split equally between national and local budgets including: the fee for special use of forest resources; the fee for the special use of water; royalties from mining of national importance, etc. Of revenues from the sale of non-agricultural land (or the rights to such) 10% go to the national level and 90% remain at the regional level. Funds are transferred to the national budget from the local level. Revenues retained at the local level are taken into account when the level of intergovernmental transfers is determined. However, some locally generated revenues are not considered in this process, including: land tax; tax on corporate income and communally owned financial institutions; royalties for mining of local importance; local small business taxes, etc.

The State Tax Administration of Ukraine, together with the regional and municipal tax authorities, are responsible for enforcing the tax laws, ensuring the correct amounts are collected in a timely manner. The Tax Administration coordinates its activities with fiscal authorities and the State Treasury. It reports all taxes received, as well as other charges and fees.

In Ukraine, the financing of social spending, including health care, is a national function and it is implemented via the state budget, although its implementation is mostly delegated to the regional and municipal/district levels. Therefore, most of the local health budget comes from national budget funds, which are transferred to the local regional/district/municipal levels on the basis of subsidiarity to perform delegated national powers. Local councils, which, on behalf of local communities, manage the health care facilities in their territory, are also able to increase the local health budget using additional resources collected at the local level, forming a second basket of local revenues. However, this additional financing is not mandatory, fully depends on the political will of local councils and usually only happens in relatively wealthy areas.

Fig. 3.6
Financial flows in the Ukrainian health system



As financial resources are collected through a system of general taxation, this should mean health care funding is relatively progressive (Mossialos & Dixon, 2002). However, the progressivity of the taxation system in Ukraine is undermined by the scale of the shadow economy (up to 40% of GDP). This reduces funds available to finance health care for the population, but particularly challenges progressivity as the wealthier citizens are also the ones best able to evade taxes so pay proportionately less (Tishchuk, Kharazishvili & Ivanov, 2011).

3.3.3 Pooling of funds

Pooling of funds for health care is part of the budgetary process defined by the *Budget Code* of Ukraine. The *Budget Code* (2001) authorizes the financing of the health system assigned to different levels of the budget system. The historical incrementalism approach remains the primary strategy for determining health care budgets for different levels. A targeted programme approach is used to address acute health problems. The national government and local governments at all levels are responsible for pooling funds: the Ministry of Health and other ministries, regional and municipal health authorities, and rural local governments.

As noted above, finances for social spending from the state budget transfers are allocated to regional budgets, which then pass a portion of this money to the local authorities to fund health care at that level. Interbudgetary transfers are designed to finance all duties of the state, including public administration and social needs. Within the total volume of transfers, there are no specifications for resource allocation for separate state commitments such as health care, so health care spending is not ring-fenced. Regional administrations and local governments have the right to determine the structure of their expenditure and therefore decide independently how to use the transferred resources. A particular local authority might decide to allocate more resources to the education system, for example, and cut financing for the health system. The rights of local authorities are limited by decisions passed at the national level, for example, to raise the salaries of budget system workers, as well as obligations imposed by the *Budget Code* to pass down part of the transfer. In practice, the planned expenditure does not always match the figures calculated during the transfer of subnational budgets.

Estimates of the volume of health care spending in regional and local budgets are determined using special formulae approved by the Cabinet of Ministers which take into account, among other things, the population structure

in terms of age and gender (Resolution No. 1195 of 5 September 2001, amended 14 September 2005). In recent years, as part of a health reform programme launched in 2010, there have been some changes which have seen a consolidation of funding at the regional level for emergency care (nationwide) and secondary care (in four pilot regions only) (see section 6.1). Until 2010, the budget system was divided into four levels: (1) state/national budget; (2) regional budgets; (3) district and municipal budgets; (4) small settlement/village budgets. With the introduction of a new *Budget Code* in 2010, fragmentation has been somewhat reduced as the four-tier system has given way to a three-tier system as the small settlement/village level has been removed and resources for health care provision in rural areas are now concentrated at the district level.

The extensive parallel health systems are another remaining source of fragmentation in the pooling of funds for health care (see section 3.6.1). Of the total central budget allocation to health, in accordance with the *Law on State Budget,* the Ministry of Health receives only a share, with the remainder allocated to other ministries who oversee their own health care facilities for employees and their relatives, which operate in parallel to the statutory system for the general population (see section 3.6.1). In 2010, the Ministry of Health received 60.1% of the central budget allocation to health and 58.4% in 2011. This fragmentation of the health system challenges equitable financing (see section 7.2).

The 27 regional health administrations finance the health care facilities under their jurisdiction. Local health authorities or local administrations (if they have no separate health authorities in their structure) finance health care facilities under their jurisdiction from the relevant municipal and district health budgets. Under the new *Budget Code* (2010), there is very limited possibility for the transfer of funds between budgets at different levels of the system, leading to a fragmented system of service delivery at different administrative tiers, as well as duplication of services within a given level while creating barriers to the optimal use of hospital infrastructure. This approach also undermines the patient's formal right to choose a doctor and health care facility. In addition, the funding pools at different levels, which are used to maintain the network of health care facilities at each level, partially overlap. Fragmented pooling is one of the main sources of inefficiency in the Ukrainian health system.

The health reform programme starting in 2010 sought to address these shortcomings through the creation in the four pilot regions (Dnipropetrovsk, Donetsk, Vinnytsya *oblasts* and Kyiv city) of a new fund pooling mechanism from 2012, which combined the financial flows for primary care at the

municipal/district level and secondary, tertiary and emergency care at the regional level. From 2013, with the adoption of the *Law on emergency medical care,* funding for these services has been consolidated at the regional level across the country. The preliminary findings obtained in the Dnipropetrovsk region indicated that the pooling of funds for the provision of secondary care at the regional level improved access to these services because it permitted residents outside the catchment area to access services and because it reduced the amount inpatients had to pay out of pocket for medications and food when receiving care (Dnipropetrovsk Regional State Administration, 2014).

These reforms to consolidate pooling also necessitated the transfer of ownership from the local to the regional level of all secondary, tertiary and emergency care facilities, as all funds – for both capital and ongoing expenditure had to flow through regional budgets. This caused strong resistance in local governments, which did not want to lose control of these financial flows. A number of draft laws were subsequently registered in the Parliament, which proposed this change be cancelled. It is not yet clear whether changes to pooling arrangements will be made as part of broader reforms of health care financing (see section 6.2).

3.3.4 Purchasing and purchaser–provider relations

The organizational relationship between purchasers and providers is based on an integrated model as health care facilities (the providers) in the statutory system are under the administrative jurisdiction of their owners – the corresponding level of government (the purchasers).

In financing health care from the budget, payments are made by the state authorities, which are also established in the *Budget Code* as the chief administrators of budgetary resources. The chief health administrators of budgetary resources are the Ministry of Health and the National Academy of Medical Sciences of Ukraine, as well as a number of other ministries and departments. Each of these authorities finances the health care facilities and programmes under its jurisdiction (see section 3.6.1).

The Ministry of Health finances: higher medical education institutions; the State Agency for Medicinal Products and related local inspections; approximately 50 national-level medical agencies under its control that provide everything from primary to tertiary care; 38 rehabilitation facilities; 20 research institute clinics; and a range of state, interagency, and integrated programmes and measures related to health that are financed from the state budget. There

are also certain centralized procedures through which the Ministry of Health purchases pharmaceuticals, medical devices, immunobiological medicines, expensive medical equipment, and hospital vehicles.

At the regional level, the chief administrators of budgetary resources for health are the regional health authorities, which finance health care facilities under their control. Regional health budgets finance facilities at the regional level and regional health programmes as well as any highly specialized 'monoprofile' tertiary care facilities, which serve the population of an administrative region. At the municipal level, the chief administrators of budgetary resources are the health authorities within the municipal government. The district authorities fulfil the role of the chief administrator of budgetary resources at the district and now also community level.

The *Ministry of Finance* and local fiscal authorities give the Ministry of Health, local health authorities and local governments the maximum health expenditure from the draft budget for the following year. The Ministry of Health, local health authorities and local governments then determine the maximum expenditure for the health care facilities funded by them, and the facilities produce cost estimates for the next fiscal year. The Ministry of Health, local health authorities and local governments then examine these estimates to ensure they include accurate projected income and expenses figures, justification for planned expenditure, and that they comply with established wages, norms, prices, limits and other indicators in accordance with the law. They then create the draft budgets. Based on the draft estimates, the Ministry of Health, local health authorities and local governments draft budget requests and submit them to the financial authorities to be included into the appropriate draft budget. Once the draft budgets are drawn up, the Ministry of Health, local health authorities and local governments make any necessary corrections to the volume of budget funding to the facilities, before approving the drafts.

The primary and mandatory responsibility of government-financed facilities is to provide budget resources for salaries, pharmaceuticals, food and the maintenance of facilities. Thus, the purchase of equipment, renovations and other expenditure not considered to be a priority can receive financing only if the primary requirements are covered and there are no other debts. Salary expenditure accounts for more than two thirds (70.8% in 2008) of territorial health care expenditure, followed by pharmaceutical expenditure and catering (19.8%), utilities (8.3%) and other expenditure (1.1%) (Lekhan, Rudiy & Richardson, 2010). The allocation of budgetary 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 staff, salaries, pharmaceuticals, catering and so on. The majority of these norms depend on the capacity of a health facility (number of beds in hospitals or number of visits in polyclinics). Many of these norms do not reflect real expenditure, for example, on pharmaceuticals or hospital food. Facilities must spend resources exactly as allocated. They are not permitted to reallocate resources from one line item to another. Any changes in the facility's income and expense estimates must be approved by the chief administrators of budgetary resources and by the appropriate fiscal authorities if the changes involve adjustments to the consolidated level of budgetary expenditure. If there are any unspent funds at the end of the year, the fiscal authorities will cut the facility's budget estimates for the next year by the same amount.

There are a number of vertical targeted state health programmes and centralized health activities covering a wide range of health problems in Ukraine, including: immunization, TB prevention and treatment, HIV prevention and treatment, reproductive health, prevention and treatment of cardiovascular and cerebrovascular diseases, prevention and treatment of cancer, etc. These programmes are usually approved by law. The Ministry of Health is the purchaser, manager and coordinator of these programmes. As well as these state programmes, the Ministry of Health is also responsible for centralized purchasing of some pharmaceuticals. When approving these programmes and centralized purchasing, the government instructs the *Ministry of Finance* and the Ministry of Economic Development and Trade to make provisions for their implementation in the state budget and the State Programme of Economic and Social Development of Ukraine for the given period. At the same time, the regional executive authorities give recommendations for the development and approval of the relevant regional programmes, which should take into account the direction and activities identified in the corresponding national-level programme. The regional authorities also give recommendations for attracting the resources for the implementation of these regional programmes from the local budget or other legal means.

During the financial crisis in 2009–2010, spending through state programmes and centralized purchasing fell by 31%, and only recovered in 2011, increasing through to 2013. The increase in spending has been driven by greater spending on high-cost pharmaceuticals and equipment for the treatment of children with cancer, for paediatric dialysis, and for the treatment of Gaucher's disease. Funds were also allocated in new directions for state support, such as the treatment of mucopolysaccharidosis, juvenile rheumatoid arthritis, viral hepatitis and others.

Laws were adopted for the implementation of the economic reform programme for 2010–2014 that allowed for the transition to contract-based relations between purchasers and providers of medical services. In 2013, contracting was put in place in the pilot regions (Donetsk, Dnipropetrovsk, Vinnytsya *oblasts* and Kyiv city) between the chief managers of budgetary funds in the local authorities and primary care providers. However, while these agreements had a formal character, they were highly prescriptive, detailing the obligations of both parties. At the same time, preparatory work in the pilot regions was initiated to introduce the programme-target method of funding for contracts (as regulated by the 2010 *Budget Code*), based on the demand for certain types of medical service. The essence of the programme-target method was that a direct link between the provision of resources and the performance of health care facilities should be created. The focus was therefore not on developing or maintaining the existing network and content of state facilities but on programme performance. A set of indicators was developed by which to assess the use of funds in order to determine the effectiveness of programmes. The main component of the programme-target method in health care was budget programmes for the provision of different kinds of medical care: primary, secondary, tertiary, emergency, etc. The outcome indicators for budget programmes included both quantitative and qualitative indicators which should be confirmed by official state statistical, financial or other reporting and should show: the degree to which the target was met; whether the budget programme was completed; and how this was achieved. The basic list of output indicators was set at the state level, while their values and, where necessary, additional indicators were set at the regional level by the chief managers of financial assets.

The procedure for executing the budget programme in these pilot regions should have been that the purchasers defined who was responsible for implementing the budget programme (i.e. the provider) by the level/type of medical care and then entered into a contract with them for the fiscal year. Financing for the budget programme should have been carried out in accordance with the procedures for treasury services of local budgets on the basis of agreements on the implementation of the budget programme and its budget programme passport, as well as estimates (for state facilities) or plans (for communal non-profit enterprises) for the use of budget funds. The resources would have been received by providers as agreed and could only be used in the provision of medical services. If savings were made, financing from the budget programme would not be reduced, but the savings could only have been used for the development of health care facilities. Under the

budget programme for the provision of primary care, the purchasers of health services were the district administrations and the municipal health authorities; under the budget programme for the provision of secondary, tertiary and emergency care, the purchasers were regional health authorities. The health care facilities or individuals (usually private contractors) were responsible for the implementation of budget programmes.

The use of the programme-target method for financing health care should have provided greater transparency in budget spending, as it should make it possible to trace the appropriateness of spending, allocative efficiency and the quality of services (Shcherbina, 2007; Slabkii, Shevchenko & Zaglada, 2011; Shevchenko et al., 2012; Zubenko et al., 2013). The legal basis for testing the programme-target method in the pilot regions was being developed early in 2014. A joint order from the Ministry of Health and the Ministry of Finance approved the list of budget programmes, four groups of results indicators (cost, productivity, efficiency and quality) and the methods for comparative analysis of the efficiency of different budget programmes had been developed. However, the pilot scheme was overtaken by wider political, social and economic events.

3.4 Out-of-pocket payments

Out-of-pocket payments grew through the 1990s against a background of chronic underfunding of health services (see section 3.3.1). Out-of-pocket payments constitute a considerable proportion of THE in Ukraine, reaching 42.3% in 2012 (Table 3.1). From 2003–2012, out-of-pocket payments increased 5.5 times, although the proportion of THE has fluctuated between 35.1% and 42.4%, with a slight upward trend. Out-of-pocket payments are increasing in all main forms of spending: official service charges, medicines and medical product purchases, and informal payments. The highest level so far was in 2000 when 44.1% of THE was out of pocket (Table 3.1). However, direct payments for medicines dominate out-of-pocket spending in Ukraine; in 2011, 30% of THE was in the form of out-of-pocket payments for pharmaceuticals. This constitutes one of the main challenges to equity in the Ukrainian health system (Murphy et al., 2013b; Footman et al., 2014) (see section 7.2).

The share of informal payments in THE can be estimated only from 2003, when NHA began to be used; from 2003 to 2005 informal payments accounted for 8–10% of THE (Lekhan, Rudiy & Richardson, 2010). User charges constituted a relatively small proportion (7.3–8.6%) of THE, or 19.7–22.5% of

out-of-pocket payments for health care. Fees-for-service in public and private health care facilities account for only 2.9–3.1% of THE (Lekhan, Rudiy & Richardson, 2010).

3.4.1 Cost sharing (user charges)

The government has attempted to regulate payments for health care services. The Cabinet of Ministers Resolution of 1996 introduced official user charges for health services and allowed local and regional governments to establish their own fees for health services provided at state and community facilities. The Resolution applies to those paid services that health care facilities provide in accordance with the approved services list and does not apply to those services that are required to be provided to the population for free. In reality, however, there is no clear line between free and paid medical services. As a result, the government does not regulate prices for those services that are provided for a fee in real life, but which are not yet included in the official list of paid services approved by the Cabinet of Ministers. Additionally, there is no official method of determining the full costs of medical services. Many of the user charges are levied in the form of charitable donations, which are formally allowed and a receipt is given (Stepurko et al., 2013). Cost sharing is less formally implemented through the expectation that inpatients will bring many of the medicines, dressings and other disposables with them on admission. A survey conducted in 2011 found that 78% of health service users in the past 30 months were required to purchase essential medicines and 58% brought hospital supplies for their own treatment, around half of whom did so on their own initiative (Stepurko, 2013).

3.4.2 Direct payments

Direct payments are mainly for the purchase of medicines and medical supplies (19.7–21.8% of THE and 55.4–58.4% of the total volume of out-of-pocket payments between 2003 and 2005) (Gotsadze et al., 2006). Out-of-pocket payments on pharmaceuticals and medical supplies at pharmacies accounted for 1.3–1.4% of GDP in 2006, but 2.1–2.2% in 2008, a significant increase from 0.8% of GDP in 1996 (State Statistics Service of Ukraine, 2010). According to household surveys performed by the State Statistics Service of Ukraine in 2008–2009, 89.0–90.4% of inpatients had to pay for their pharmaceuticals themselves, and in 2012, this figure was 90.7%. The share of direct private expenditure on dental care is also quite large (32.9%), as is rehabilitation care (19.3% of total expenditure on these types of services), but the greatest expenditure remains pharmaceuticals (Lekhan, Rudiy & Richardson, 2010).

Out-of-pocket spending on outpatient pharmaceuticals imposes a particularly high burden on those with long-term conditions and, in Ukraine, it has resulted in catastrophic spending by households (Murphy et al., 2013b). In June 2012, the government initiated a pilot project to control the price of antihypertensive medications through reference pricing mechanisms alongside partial reimbursement from local and national budgets (see section 3.7.1).

3.4.3 Informal payments

According to NHA data, the volume of informal payments is almost equal to the volume of formal payments for services, that is, 8–10% of THE and 22% of household expenditure. But it is likely that the amount of informal payments is underestimated (Gotsadze et al., 2006). Informal payments existed in Soviet times, but their presence was on a very small scale. Most informal payments were in the form of gratuities for a service received (such as produce in rural areas, for example, or cognac and chocolates elsewhere). As a result of the economic downturn in the 1990s with the constant problem of wage arrears, personnel in health care facilities have levied informal payments in order to provide an acceptable wage for themselves that is in keeping with their professional standing (Bazylevych, 2009). These payments are mostly monetary and are made before the service is provided. Often, the necessity of such payments is indirectly initiated by medical staff with patients telling each other about their necessity and the amounts required. For additional payment, doctors offer different drugs and services, which they claim are more modern and efficient (or faster access to both). Payments in kind (gifts, produce) are still present in rural areas. Where informal payments have become an established part of the care package, such as in obstetric care, informal payments are expected by both patients and doctors, and lump sum payments are shared among the whole care team (Stepurko et al., 2013).

It is extremely difficult to gauge the true extent of informal payments in the total income of medical staff. According to the limited NHA data available, informal payments account for roughly 20% of the total salary funds. Their distribution is highly uneven as well, depending on location (rates are higher in the city than in the country); type of care (inpatient care is much more expensive than outpatient); the doctor's qualifications (specialists receive higher payments than family doctors/general practitioners (GPs) and gynaecologists receive more than neurologists, for example); case complexity; and so on (Stepurko, 2013). Patients make informal payments as a way of trying to ensure better quality or more attentive care, which is why they are willing to pay out of pocket for services that should be free of charge (Tymczuk, 2006; Danyliv et al., 2013).

Survey data from 2011 found that 57% of outpatients and 70% of inpatients had paid out of pocket when accessing care, and a significant proportion had paid twice – informally directly to doctors and formally through charitable donations to the hospital (Stepurko, 2013).

Informal payments persist for several reasons, including low pay for medical staff and the weak regulation in facilities, especially doctors and professionals involved in decision-making. Further, the government is not ready to admit that it does not provide universal free health care, which breeds tolerance towards informal payments, despite regular loud campaigns against corruption. Given their share of THE, it is likely that informal payments do impact on equity in the system, but it is important to note that there is little evidence of patients actually being denied treatment if they cannot pay informally (Bazylevych, 2009); rather, informal payments give patients a sense of greater choice within the system (Danyliv et al., 2013), and it would seem that patients are prepared to delay treatment or go into debt to exercise such choice (Tambor et al., 2013). This perceived need to pay, whether or not it is entirely accurate, acts as a significant barrier to care. A household survey conducted in 2009–2010 found that: 59% of respondents believed that people are only able to get good health care through bribes and connections; 55% felt that payments to doctors prevented them from using health care facilities; and 28% would use state health care facilities more often if there were no need to pay informally (Luck et al., 2014). At the same time, 36% of respondents said they never offered an informal gift, while 48.1% offered one sometimes or rarely and only 14.3% did so often or always (Luck et al., 2014). Among respondents who had visited a state facility in the past 30 days, 26% reported giving a gift (average value = US$ 8.24) to the physician (8% to other staff) and most (78%) were not requested by the physician (Luck et al., 2014).

3.5 Voluntary health insurance

3.5.1 Market role and size

VHI does not play a significant role and in recent years its share of THE has remained at about 0.9%, with sickness funds providing health insurance accounting for around 1% of THE (Lekhan, 2015), and 2% of private health expenditure (WHO, 2015). The proportion of the population covered by VHI varies from zero in some regions to 15.6% of the population in Zhitomir *oblast*, but overall between 2.4% and 3.3% of the population were covered under VHI in

2013 (Lekhan, 2014). Employers buy VHI policies on behalf of their employees as part of the social benefits package, in order to promote loyalty and the health of personnel. Individual VHI policies are usually bought by people who have existing health problems in order to reduce the cost of treatment relative to direct payments for medical services; to get a higher level of comfort when being treated; or to avoid waiting lists for services where demand outstrips supply. Sickness funds also provide a form of VHI, seeking to reduce out-of-pocket spending on pharmaceuticals for their members, but in 2013 sickness funds provided cover to just 1.4% of the population.

VHI plays two roles in Ukraine. On the one hand, VHI is *complementary* in as much as it covers payments for pharmaceuticals and access to different services, which are *de facto* (due to inadequate public financing) not financed by the state health system. However, formally these services are not excluded from the package of state guarantees. On the other hand, VHI is *supplementary* in as much as it provides greater choice of provider; insured patients have the right to treatment in the most exclusive facilities (publicly owned and private) and traditionally they are guaranteed a higher level of comfort and quicker access to diagnostic and curative services. However, while facilities are keen to attract the extra revenues that come from treating patients under VHI, the medical staff are less incentivized as they are not assured a share of this extra revenue and VHI patients seem less inclined to pay informally.

3.5.2 Market structure

More than 90% of people with VHI are corporate clients – enterprises and organizations that include VHI cover for their employees or separate professional groups, or sometimes their pensioners. In financial terms, their holding accounts for up to 80% of VHI premiums (Lekhan, 2014). The proportion of individuals that have corporate VHI policies is small and no greater than 10% of all people with VHI. Among individual clients, citizens with higher incomes are usually those who use medical insurance. Insurers providing VHI are private for-profit insurance companies and none are specialized medical insurance providers, but all are licensed to provide this type of financial service.

The major player in the VHI market, covering almost 40% of the client base, is the multiprofile insurance company Naftagazstrakh; its main corporate client is the State Administration of Ukrainian Railways (Ukrzaliznitsya), which covers the six state railways in Ukraine. In Ukrzaliznitsya, 270 000 railway workers (82% of their total workforce) and 180 000 pensioners who used to work in the sector are covered by VHI. Insurance premiums in this company

are among the lowest at 600 hryvnya or US$ 75 per year in 2011. Moreover, due to the large number of people insured, the annual insured sum guaranteed is 20 000 hryvnya (US$ 2500) per year. The insurance contribution is taken directly from the railway workers' wages for their cover, but half the sum is paid by the administration of Ukrzaliznitsya in order to help meet the cost of health insurance cover. For those with insurance, the programme covers expenditure for outpatient and inpatient care in general and specialized facilities, with no limit on the number of cases.

Sickness funds, which are registered as charitable noncommercial organizations and managed in the general interests of providing medical services to their members, functionally provide VHI on a noncommercial basis. There were 196 sickness funds in Ukraine in 2013. Voluntary contributions to sickness funds are usually made by individual citizens and, to a lesser extent (around 2% of the total receipts), by work collectives, enterprises, facilities and organizations paying contributions for their workers. Among sickness funds, the biggest is the Zhitomir *oblast* Sickness Fund, which was registered in 2000. At the beginning of 2013, it had around 200 000 members (15.6% of the *oblast*'s total population). Monthly contributions from members were 25 hryvnya ($3.1 or $37 per year). Fund members were guaranteed unlimited cover for medicines (irrespective of price or the number of prescriptions) on the Essential Medicines List and full or partial cover for necessary laboratory or instrumental diagnostic tests as envisaged by local clinical protocols. In 2012, sickness fund revenues reached 38.7 million hryvnya ($4.7 million).

3.5.3 Market conduct

Eligibility criteria and the level of premiums are developed by the private insurance companies themselves and generally those aged over 60–70 years are excluded, as are those registered as severely disabled or those defined as high risk due to a pre-existing condition such as cancer, TB, diabetes, those with chronic kidney failure in need of dialysis, mental health issues, alcoholism, drug addiction, people living with HIV (PLHIV) and others. Insurers usually differentiate the purchase of insurance policies by category of employee – top managers get the most expensive VIP-level policies (Lux), middle managers get the slightly cheaper Elite cover, and regular workers have the standard, basic package at the Classic or Standard level, or a more limited package of benefits.

Usually, private insurers are not integrated with providers. To provide VHI, the insurers should have agreements with health care facilities (either private or publicly owned), which have successfully gone through state registration

and accreditation. Separate insurers set up their own health care facilities to serve their own clients. Insurance tariffs are based on agreements between insurance companies and health care facilities. Benefits are thereby provided in kind rather than in cash.

Sickness funds determine their packages of benefits independently, but most often packages for the working population differ from those offered to the non-working population. Different sickness funds enter into agreements with health care facilities, which determine the drug regime for sickness fund members and the quality control systems for the diagnostic and treatment processes. Some sickness funds pay pharmacies directly for the supply of medications as requested by the health care facility; others buy the medications directly from the pharmacy for their members without any agreements with health care providers. According to the Ministry of Health, most sickness funds have no effective mechanisms in place for monitoring the use of funds to purchase medicines, so these resources are open to abuse by sickness fund leaders.

3.5.4 Public policy

There is no specific public policy around VHI in Ukraine, and VHI is regulated under the *Law on insurance* (1996), which covers only the general conditions for insurance such as insurance risks, exclusions to insurance claims, the limitations on insurance, etc. Specific conditions for insurance, particularly insurance premiums, the term and conditions for reimbursement, are agreed in the individual insurance contract. Other issues for VHI are regulated through other general purpose normative acts. In particular, the *Law on financial services and state regulation of the financial services market* (2001) is the general legal basis for providing financial services (including insurance) and defines the regulatory and monitoring functions for the provision of financial services; the State Commission for the Regulation of the Financial Services Market in Ukraine issues the licences for insurance activities.

With the preparation of a new Tax Code, adopted in 2010, a package of amendments was proposed which would look at a range of tax incentives designed to increase demand for VHI, in particular, giving enterprises the right to reduce the level of social tax they paid on the payroll if they provided all their employees with VHI cover. However, these amendments were not included in the final version of the law. The insurance industry has been pushing hard for tax breaks for VHI premiums to be brought into law.

The field of activities under VHI is not clearly defined. VHI in the Ukrainian health system is encroaching on the statutory health system; it significantly duplicates the state benefits package, so that the border between free and charged care has become blurred. Those insured under VHI are paying money for cover that is already in law guaranteed by the state, and in addition for the right to be treated in the most exclusive facilities.

The introduction of mandatory social health insurance has been widely discussed since the 1990s. Politicians and the general public understand that this would require a clearly defined package of benefits and an increase in the volume of budgetary funding for health and the private insurers expect a clearly defined role for VHI in the health system. However, although several draft laws on social health insurance have been put before Parliament, consensus on this issue has not been achieved and a decision has not been made (see Chapter 6). The government in power since 2014 stated that it wanted to accelerate the development of VHI in Ukraine, but the realism of such plans in a deep political and economic crisis is questionable.

3.6 Other financing

3.6.1 Parallel health systems

Many ministries and other government bodies have separate parallel health systems for their workers. Some of the largest of these are in the Ministry of Infrastructure, Ministry of Internal Affairs, Ministry of Defence, Ministry of Labour and Social Policy, Ministry of Education and Science, and the State Administration. These parallel systems are funded from the national budget; almost 42% of health expenditure from the national budget is spent on parallel health care facilities and more than 11% of total public health expenditure. In 2012, 32 600 beds, or 8.8% of the total bed stock, were in parallel health systems. The National Academy of Medical Sciences also has its own funding stream for its network of clinical research institutes, which provide highly specialized tertiary care, although the volume and structure of its activities are planned in isolation from the main health system. The biggest parallel system is under the Ministry of Infrastructure (previously Transport), which has over 90 health care facilities, but the National Academy of Medical Sciences has more than 30 clinical research institutes. State budget resources are allocated to health care in accordance with the *Law on the state budget* and approved by Parliament. Each of these agencies is responsible for financing the health care

facilities and programmes allocated to them. As a result, the Ministry of Health is only responsible for just over half of the resources allocated to health from the state budget (see section 3.3.3).

This fragmentation is inequitable because when determining the size of intergovernmental transfers, the local budget is determined by the total resident population minus those that can access parallel health structures. However, the majority of parallel networks do not provide a full health care package to their workers. Workers in these ministries and other bodies also have the right to seek care in their local statutory health care facilities. Therefore, funding designed to finance parallel networks partially intersects with the regional financing pool. Citizens benefiting from access to parallel networks as well as mainstream health care facilities use a portion of the finances allocated to provide care to other people in the same region.

The *Budget Code* adopted in 2010, applies to the whole country and this required the transfer of all parallel health care facilities to the main health system for the creation of hospital districts in order to avoid the duplication of financial flows, but this has not yet been realized.

3.6.2 External sources of funds

It is difficult to estimate the impact of external sources of financing in Ukraine. Overall donor activity has contributed very little to financing of the health sector; according to NHA, their contribution accounts for less than 1% of THE (0.2–0.3% in 2005–2011). Donors to the health sector include international organizations (United Nations agencies, the EU, European Bank for Reconstruction and Development (EBRD), World Bank, the Global Fund) as well as governments of individual countries (Canada, Germany, Switzerland, United States and others). Donations are used mostly to provide technical assistance.

The most significant role external funding has played is in fighting infectious diseases such as TB and HIV, and supporting maternal and infant health programmes (see section 5.3). In 2006, Ukraine managed to secure a US$ 151 million grant from the Global Fund to fund the HIV-AIDS Prevention, Treatment, and Care for the Most Vulnerable Populations in Ukraine, 2007–2011 programme. The resources were granted directly to the Ukrainian government, but this was followed by a scandal over an increase in the price of medication. As a result, the Global Fund had to suspend financing, citing concerns over slow progress and management problems. A statement issued by the Global Fund said it had taken the decision because of implementation bottlenecks, and

management and governance issues. Financing resumed after the International HIV/AIDS Alliance, an NGO, was put in charge of the project. In 2012, a further grant of US$ 305 million was awarded to run from 2012–2016 to build a sustainable system of comprehensive services for HIV prevention, treatment and care for the most at-risk populations and PLHIV.

Ukraine applied three times to the Global Fund from 2006 for help with TB control, but was refused, citing opaque procedures and a general distrust in the country of both directly observed treatment, short-course (DOTS) and grants from external sources. A US$ 94.9 million grant was finally awarded in 2010, to run from 2011–2015 working in four areas: improving diagnosis by upgrading laboratory facilities in the health system and in the prison system; improving access to quality services for marginalized groups; health system strengthening through improved management (governance, monitoring and evaluation; human resources development); and improving access to quality services by raising awareness, and reducing stigma and discrimination.

3.6.3 Other sources of financing

The Ukrainian government mandates that it is the responsibility of the owners and administrators of enterprises, agencies and institutions to protect the health of their workers. Employers must therefore provide their own resources to fund compliance with safety techniques, sanitation in the workplace, recruitment and periodic medical exams for certain categories of workers in labour-intensive, unhealthy or dangerous jobs. They are likewise responsible for providing thorough medical examinations and rehabilitation for workers with potential professional or occupational diseases, and prophylactic medical examinations for groups of workers at risk of developing occupational diseases. In accordance with the *Law on mandatory social insurance covering temporary disability, occupational accidents and occupational diseases,* the Social Insurance Fund against Occupational Accidents and Occupational Diseases uses its own resources to take measures against occupational accidents, to remove work-related threats to workers' health and so on. In 2013, the fund treated 28 193 occupational health patients and provided medicines and supplies to 27 435; spa treatment to 13 933 patients disabled in workplace incidents; 5969 prostheses; mobility aids to 592; and special medical care to 1074 people disabled in workplace incidents or through occupational diseases (Social Insurance Fund, 2014).

The Ukrainian Red Cross Society plays an important role in providing health and social care services to vulnerable groups and has been working across Ukraine since 1961. It has 100 sociomedical centres, 359 rooms, 4 hospitals, 3 hospices, 15 day care wards and 294 inpatient wards, and there are 838 Red Cross first aid centres in remote rural areas. It has 3200 volunteers and workers, who provide both moral and material support to 340 000 vulnerable people in their care. Material support is given to 1.1 million people by Red Cross Ukraine annually, and the Red Cross mobilized 43.5 million hryvnya in 2010.

Other charitable and philanthropic organizations are also highly active in the health system and their impact is becoming more visible. The most high profile include the Rinat Akhmetov charity, Development of Ukraine (established 2005), the Olena Pinchuk Foundation (established in 2003, and partnered with the Elton John AIDS Foundation and the William J. Clinton Foundation) and the International Renaissance Foundation (an Open Society Foundation). The main initiatives of these organizations are media campaigns to attract the best international experience to fight HIV in Ukraine, and direct assistance, including advocacy, for PLHIV.

3.7 Payment mechanisms

3.7.1 Paying for health services

Payment mechanisms in the Ukrainian health system are prospective. The overwhelming majority of public health care facilities are officially financed by the government from the national or relevant local budget. There is strict allocation of resources between the budgets and any given facility can receive financing from one budget only. The real level of resource allocations to government-financed facilities is based on historical line-item budgeting, adjusted for inflation and any budgetary increases, but the amount of funding is not directly related to the intensity or complexity of the work performed. Budget allocations do not cover all health care expenditure in publicly owned health care facilities as the line items in the budget do not reflect the real cost of these inputs. Some items listed are protected so need to be paid first, such as salaries, medicines and food. The cost of purchasing equipment or renovating buildings is not considered a high priority, so can be paid for only once the protected items have been covered. Facilities must spend the funds strictly for their intended use and have no independent right to reallocate them among different categories of expenditure (see section 3.3.3). In reality, there are many payment methods, both

formal and informal (see section 3.4). Direct payments (charitable contributions) are funnelled into special accounts (so-called commission accounts) and can be used to supplement allocations according to line-item budgets as specified; informal payments go directly to the medical staff involved.

Line-item budgeting is very straightforward for the fiscal authorities in planning expenditures and controlling the targeted usage of allocated resources. However, this approach has a number of drawbacks: (1) input-based financing encourages health care facilities to maintain excess capacity; (2) allocating resources for the maintenance of health care facilities, rather than the volume of work, does not provide incentives to improve productivity – instead it incentivizes increased infrastructure; (3) line-item budgeting limits the authority and responsibility of the management in health care facilities and does not provide incentives to look for more efficient ways to use resources, for example, any savings in a particular area would lead to funding cuts in the budget for the following year. Therefore, resource allocations based on expenditure estimates are not linked to the workload of those who receive the resources. There are no incentives for health care facilities to use their resources more rationally, and this creates a cost-based type of management. Consequently, even a significant increase in resource allocations to health care facilities does not guarantee greater fulfilment of the government's social commitments.

Centralized purchasing is done by the chief administrators of budgetary funds for facilities under their jurisdiction. Centralized purchasing includes items such as: vaccines; pharmaceuticals to fight TB, for the prevention and treatment of HIV/AIDS, and for treating cancer; pacemakers; implants and other medical devices; expensive medical equipment; ambulances for rural health care facilities; and other items for fulfilling the measures outlined in state programmes. Centralized purchasing is conducted through tendering procedures by enterprises under the jurisdiction of the Ministry of Health (Ukrvaccine, Politechmed, Ukrmedsnab). The purchased pharmaceuticals and equipment are then distributed to the regions. The quantity, quality and assortment of purchased pharmaceuticals and medical devices often fail to meet the needs of health care facilities.

There have been several experiments in Ukraine involving the introduction of new financing mechanisms, such as a global budgeting and payments on a per capita basis. These experiments are typically the result of local initiatives and supported by technical assistance projects run by international donor organizations (Lekhan, Rudiy & Richardson, 2010). The 2010–2014 reform programme was similarly a pilot project, which sought to introduce new

payment mechanisms and thereby encourage more flexibility in the health system using a combination of weighted capitation for primary care, a mix of diagnosis related-groups (DRGs) and global budgets for secondary/tertiary care, and global budgets for emergency care (see section 6.1).

3.7.2 Paying health workers

Workers in government-financed agencies and institutions (including health care facilities) are paid according to the laws and regulations of Ukraine, and according to general, departmental and regional agreements, and collective contracts between proprietors and work unions, within the limits of budget allocations and non-budgetary income. Since 2002, the remuneration of workers in publicly owned facilities has been based on unified tariff categories with wage coefficients, as per Cabinet of Ministers Resolution No. 1298 of 30 August 2002. Official salaries/wage rates are determined by multiplying the employee's salary for their tariff level by the corresponding coefficient. Terms of payment for workers in publicly owned facilities are drawn up by the Ministry of Health and the Ministry of Labour and Social Policy. Professional salaries for the majority of medical personnel (medical doctors, mid-level health staff, pharmacists) are set in accordance with their qualifications and reflect the worker's professional level (no category, first category, second category and highest category). Professional salaries (tariff rates) are the government's guaranteed minimum wage to certain groups of health workers with professional qualifications. Managers at publicly owned health care facilities have the right to raise salaries within the salary fund provided by the line-item budgets.

In an attempt to reduce turnover in emergency care and outpatient care, doctors and mid-level medical personnel in these sectors are paid bonuses for length of service. The largest bonuses for continuity of service are provided for emergency care doctors (up to 60%) and doctors practising in rural areas (up to 40%). Primary care physicians in cities can receive up to 30% of base salary. Moreover, like other specialists, these specialists can receive an additional bonus of up to 50% base salary for increasing the area served, substituting for a missing worker (which is important in understaffed facilities) and for a larger workload. There are no significant differences between inpatient health workers and other personnel, except for surgeons and anaesthetists, whose salaries can be increased by up to 40% for performing specific surgeries. In all health care facilities with hazardous or difficult work conditions, all types of personnel are paid higher salaries, including doctors as well as nurses and other medical staff.

Under health system reforms since 2011, one-off bonus payments equivalent to five times the national minimum wage have been made to medical graduates who agree to work for at least three years as primary care doctors or in remote rural areas. In 2013, emergency care staff were given a bonus payment the equivalent of 20% of the basic salary in recognition of their challenging working conditions. In 2011, TB doctors saw their salaries increased by 30% and to 60% for continuity of service. These large bonuses increased the average monthly wage for health workers, which in 2013 was US$ 397 for doctors and US$ 273 for nurses. However, it should be noted that these salaries still lag behind those in other sectors of the economy. Low salaries have continued to be a problem in the Ukrainian health system, particularly as they have contributed to the persistence of informal payments, which have negatively affected the general equity and accessibility of medical care, and also encourage the migration of health workers either away from the health system or out of the country (see section 4.2.2).

The methods of remuneration give some flexibility in salaries for medical personnel at publicly owned health care facilities. However, this has not proved a sufficient incentive to increase the volume or quality of services provided. In the majority of cases, the remuneration of labour in health care facilities is related only to the hours of work, without real consideration of the volume, quality or efficiency of work. Bonuses and additional payments (except for mandatory payments for substituting a missing worker, length of service or a qualification category) are extremely rare due to the chronic lack of funding in the system. In cases where additional payments are awarded, the criteria are not transparent. Bonuses are given not necessarily to the best workers from a professional perspective, but to those who, for whatever reason, are more pleasing to the facility's administration. The lack of transparent bonus criteria removes any incentive to increase the efficiency or quality of work (Lekhan, Slabkii & Shevchenko, 2009).

Linking pay to the intensity and quality of work, based on clear and transparent criteria, was therefore one of the most important components of the health financing reforms piloted in 2012. In 2012, with subsequent revision in 2013, the government decided to test a new pay system for primary care workers in the four pilot regions, which included bonuses for doctors and nurses based on the amount and quality of work done. The volume indicator was the differential bonus for serving an enrolled population above the normative level, adjusted for age and gender. Quality-related bonuses were measured using several indicators: achieving screening targets for women at high risk of cervical or breast cancer; achieving targets for fluorography of TB in at-risk

groups; achieving immunization coverage targets; reducing hospitalization and referrals to secondary care; and reducing the number of emergency care calls. Volume-related salary bonuses were put in place from 2012 and, in 2013, quality-related bonuses were introduced. Implementation of the new pay system increased the average salary of primary care workers in the pilot regions by 50–60% compared with 2011 levels (Yashchenko & Kotuza, 2013). Moreover, in order to motivate primary care workers in the pilot regions, a local incentives programme was approved, which included the provision of health workers with housing, free public transport, mobile phones for work, and the payment of so-called municipal allowances.

The plan was to extend this mechanism across the country from October 2014, but in the face of the humanitarian crisis and severe economic constraints in 2014, the government necessarily undertook a series of unpopular measures to cut public spending. This included capping the maximum salary (including all bonuses) for state-sector workers (Cabinet of Ministers Resolution No. 65 of 1 March 2014, *On conserving state funds and preventing budget losses*).

4. Physical and human resources

Ukraine has an extensive health care infrastructure despite a rapid reduction in the number of beds in 1995–1998 in response to severe fiscal crisis. Reductions in the number of hospitals were achieved largely by closing rural facilities rather than rationalization of provision in urban areas. Ukraine has also retained a large number of facilities in parallel health systems. Although relatively low in comparison with countries of the CIS, the number of acute care hospital beds in Ukraine is high by international standards.

In 2013, the routine monitoring of facilities by the Ministry of Health found that 37% of primary care facilities required renovation or rebuilding: 23% in rural areas and 46% in urban areas. Unsatisfactory sanitary conditions are found most often in rural health care facilities. The Ukrainian health system has also consistently encountered severe difficulties with the supply and maintenance of existing technological equipment.

Operating indicators for acute care hospitals in Ukraine show that, despite the large number of hospital beds, utilization remains quite high and, once admitted, patients on average stay for 10 days. The high utilization and long length of stay highlight the inefficiency of financing hospitals based on capacity. Research has shown that almost a third (32.9%) of hospitalizations in Ukraine are unnecessary. Consequently, operating indicators remain high despite the development of day care and other schemes that could potentially substitute inpatient care.

Since 1990, there has been a steady increase in the number of health workers per capita nationwide, but this does not reflect a growing number of doctors so much as a decline in the total population; the absolute number of doctors has been falling. The medical workforce is also ageing rapidly as new graduates choose to work outside the state health system or seek out opportunities abroad. The key staff shortages are in rural areas and in primary care, which has a

high turnover. The number of nurses has fallen much more rapidly due to the low wages and low status of nursing, as well as the limited opportunities for professional development. This is a trend witnessed throughout the region and one that runs counter to developments in EU countries.

4.1 Physical resources

4.1.1 Capital stock and investments

Current capital stock

Ukraine has an extensive health care infrastructure, despite the repurposing of small village hospitals as primary care centres since the mid-1990s; this drastically reduced the number of hospital beds and the hospital stock: from 3754 in 1994 to 2369 in 2012, or by 63% over 18 years (WHO Regional Office for Europe, 2014). However, the increase in the rural primary care centres has been offset by a decrease in the number of hospital outpatient departments and the number of FAPs. Hospital outpatient departments have closed as various multiprofile hospitals have merged. With the introduction of family medicine/general practice in 2000, more than half of the rural clinics and FAPs for remote rural areas were converted into physician-led primary care clinics (Lekhan, Rudiy & Richardson, 2010). Recent reforms have sought to strengthen primary care provision and invest in primary care infrastructure (see sections 5.3 and 6.1).

Ukraine has retained a large number of facilities in parallel health systems. In 2012, there were 233 inpatient facilities (10.9% of the hospital stock), 173 primary care facilities and five dental clinics. Most of these facilities are under the Ministry of Infrastructure (75), which includes the railway workers' facilities (73 of 75); the Ministry of Internal Affairs (33), the Ministry of Defence (23), the prison system (64) and the National Academy of Medical Sciences (29) (UISS, 2013). There was also a total of 1785 privately owned facilities, including 94 hospitals (4.4% of the hospital stock), 964 primary care facilities and 5500 private clinics, of which 3800 are dental clinics. Private provision is dominated by dental care (54% of the private medicine market) but the market for diagnostics is expanding rapidly due to patient demand for such services given the technological base in publicly owned facilities (Ikramova & Solovei, 2011).

In 2013, the routine monitoring of facilities by the Ministry of Health found that 37% of primary care facilities required renovation or rebuilding: 23% in rural areas and 46% in urban areas. Unsatisfactory sanitary conditions are found most often in rural health care facilities. The lack of systematic updates on the condition of health care facilities and the minimal financing of capital costs in the state health system are the two main reasons for the lack of planning in prospective development (construction, renovation) of publicly owned health care facilities.

Investment funding

The total volume of investments in the health system has increased in recent years but is still small. Investments in the public sector are primarily used to purchase equipment (see section 4.1.3). The remainder goes into the private sector for construction and equipment. No separate data exist for each sector, nor for the volume of investments for construction and equipment in each sector. With economic growth in Ukraine, despite the general difficulties facing foreign investors (political instability, lack of transparency in the legal system and taxation, bureaucracy and corruption), there was significant growth in foreign investment in the health sector (Makarenkov, 2007). However, the global financial crisis and general economic volatility in Ukraine after this has had a negative impact on private investment in the health sector.

Strategic development planning and investment in the private medical sector depend on several factors. The main factor is the profitability of potential investments as well as identifying gaps in the state health system. Consequently, most investments are made in the capital city and several other large cities. Diagnostic services, dentistry, ophthalmology, gynaecology and a few other fields attract the most investment. Another important factor in investment planning is the focus of high public officials on certain areas of the health system, for example, presidential attention to cancer problems created a lucrative field for investment in oncology (Lekhan, Rudiy & Richardson, 2010).

In 2011, two public–private partnerships for investment in capital facilities were launched. The first was a project called "New Life – new quality mother and child health protection", which sought to create a network of regional perinatal centres (tertiary care level providing obstetric and neonatal care), equipped with the latest technology and equipment. The memorandum of understanding was signed on 20 October 2011 with the project cofinanced from the state budget (US$ 94.3 million) and private investors (US$ 12.5 million) to provide for the commissioning phase for 10 centres and the investment phase for 17 perinatal centres. The second national project was called "Timely

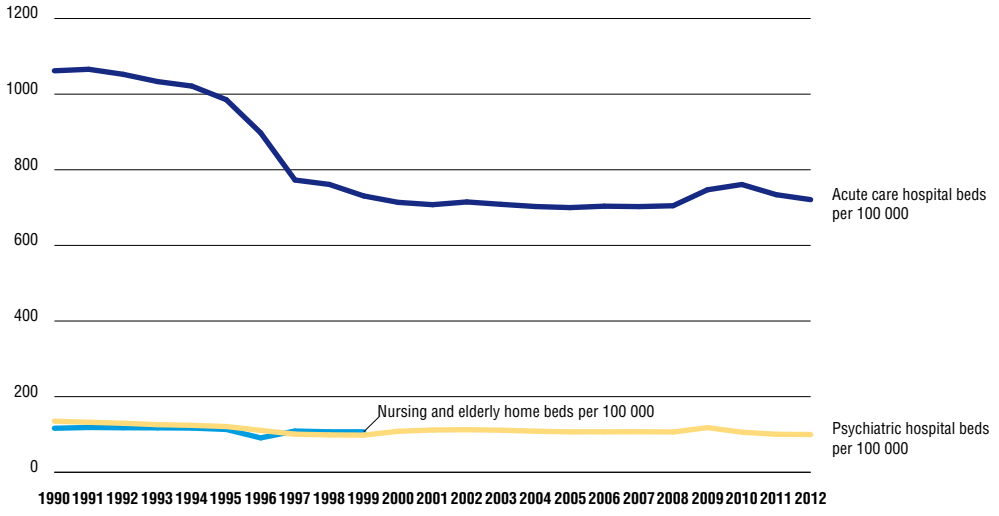
care" and sought to establish unified regional dispatcher control rooms using global position satellite (GPS) technology for emergency care centres; this was financed by private investors.

4.1.2 Infrastructure

Between 1990 and 2012, the total number of acute care hospital beds per capita fell by almost a third (from 10.6 to 7.3 per 1000 population; Fig. 4.1). The main reduction in the number of hospital beds took place in 1995–1998 and was caused by the severe fiscal crisis. It became impossible to maintain the massive overcapacity of the inpatient sector. The Cabinet of Ministers Decree No. 640 of 28 June 1997, *On introducing area-specific maximum norms for inpatient care,* set a rate of 8 beds per 1000 population as the norm, thus requiring regions to adjust their bed numbers accordingly. As a result, more than 150 000 beds in facilities under the Ministry of Health were cut between 1996 and 1998. Further contraction in the hospital bed stock has progressed at a slower rate. The downsizing mainly affected rural hospitals, which were converted into rural outpatient clinics, and municipal hospitals, most of which were reorganized into polyclinics. However, the decrease in bed numbers was only in facilities under the Ministry of Health; elsewhere the number of beds has actually increased.

Fig. 4.1

Mix of beds in acute hospitals, psychiatric hospitals and long-term care institutions in Ukraine, 1990 to latest available year



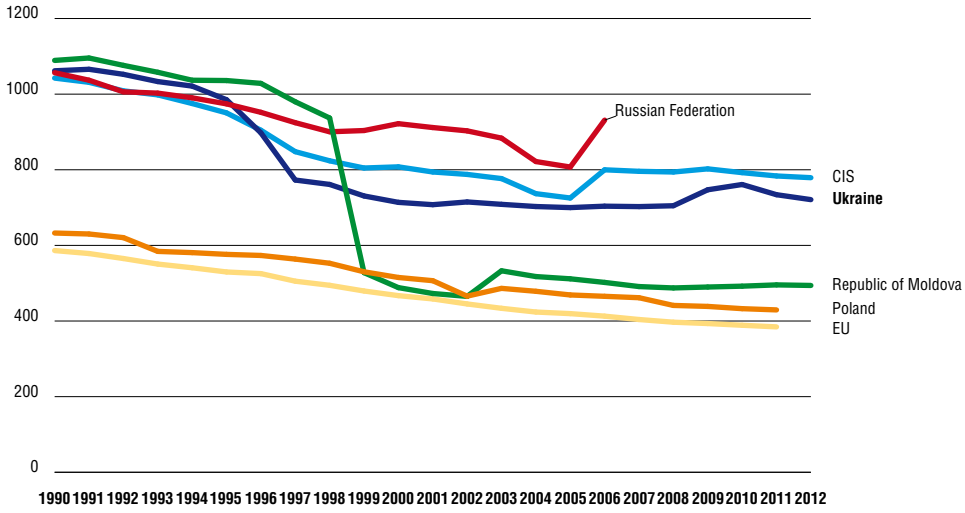
Source: WHO Regional Office for Europe, 2014.

The Ministry of Labour and Social Policy is responsible for the number of beds in long-term care facilities and these beds are not included in bed number calculations made by the State Statistics Service or the Ministry of Health, which are used as the basis for data included in the Health for All (HFA) database. However, although this underestimates the number of beds in the system, their number is still insufficient as demand for nursing care is growing, due to population ageing.

Although relatively low in comparison with countries of the CIS, the number of acute care hospital beds in Ukraine is still high by European standards (Fig. 4.2). HFA data show the sum of all hospital beds minus beds in TB and psychiatric hospitals. In Ukraine, there is no strict differentiation of beds according to the intensity of treatment and care. Thus, the majority of inpatient facilities treat both acute patients and chronic patients who require long-term care, as well as sociomedical patients in need of care for social rather than clinical reasons (such as vulnerable older people during winter months). There are very few so-called emergency care facilities providing care to acute patients only (12 facilities located in 10 out of 24 regions). Plans to rationalize the hospital stock and differentiate hospital beds according to the intensity of treatment are detailed in section 6.1.

Fig. 4.2

Acute care hospital beds in Ukraine and selected other countries, 1990 to latest available year



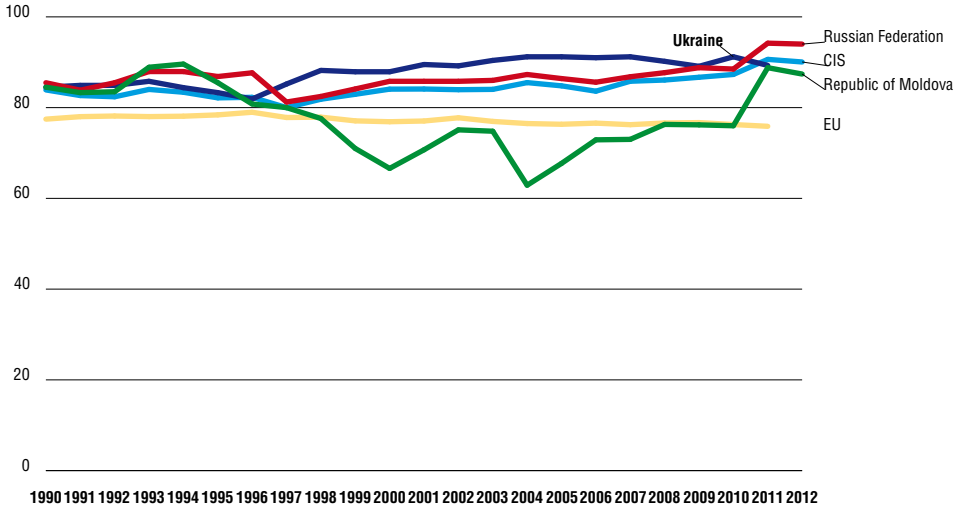
Source: WHO Regional Office for Europe, 2014.

There is considerable capacity in the parallel health system, which accounts for 8% of the total hospital bed stock in Ukraine – 2.2% of the total stock of hospital beds is under the Ministry of Infrastructure (which includes the network of facilities for railway workers); 1.9% is under the National Academy of Sciences; 1.4% is under the Department of Justice; 1.2% is under the Ministry of Defence; and 0.9% is under the Ministry of Internal Affairs. Only 0.5% of beds are in private hospitals (UISS, 2013).

Operating indicators for acute care hospitals in Ukraine show that, despite the large number of hospital beds, utilization remains quite high and, once admitted, patients on average stay for 10 days (Figs 4.3a and 4.3b). The high utilization and long length of stay highlight the inefficiency of financing hospitals based on capacity. This stimulates facilities to maintain a large number of beds and hospitalize patients, irrespective of their medical needs; research has shown that a third (32.9%) of hospitalizations are unnecessary. This number fluctuates widely depending on the unit's profile: cardiology departments for heart attack patients have 11–14% of unnecessary hospitalizations, while pulmonology and gastroenterology departments have 55–73% (Lekhan & Volchek, 2007). Consequently, operating indicators remain high despite the development of day care and other approaches that could potentially substitute inpatient care (see section 5.4.1).

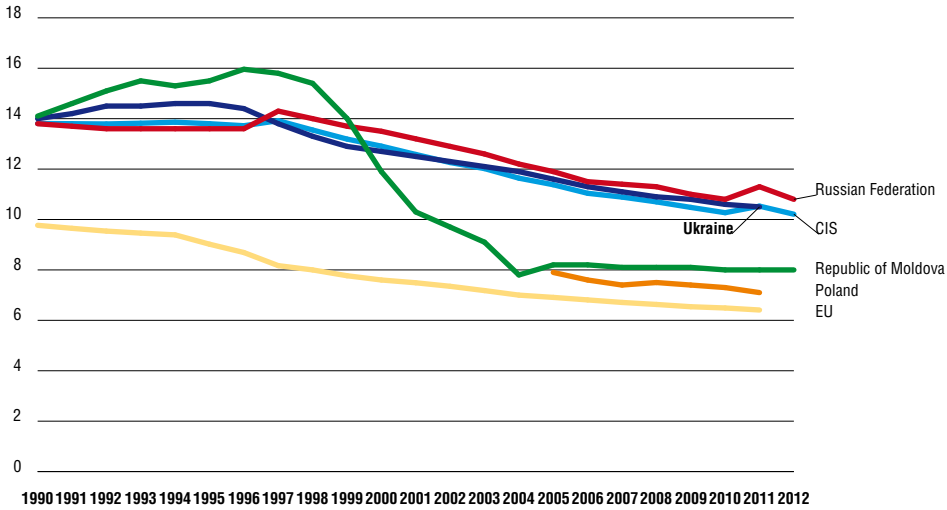
Fig. 4.3a

Operating indicators for acute care hospitals in Ukraine and selected other countries, 1990 to latest available year: bed occupancy rate



Source: WHO Regional Office for Europe, 2014.

Fig. 4.3b
Operating indicators for acute care hospitals in Ukraine and selected other countries, 1990 to latest available year: average length of stay



Source: WHO Regional Office for Europe, 2014.

4.1.3 Medical equipment

The Ukrainian health system has continually encountered severe difficulties with the technological supply and maintenance of existing equipment (Lekhan, Rudiy & Richardson, 2010). Most equipment has been in use for 20 to 25 years, far exceeding its technological lifespan and the replacement of worn-out and obsolete equipment takes place at a very slow rate. For this reason, recent targeted programmes have sought to improve the material-technical base of the health system by re-equipping facilities in priority areas, such as mammography screening and ultrasound diagnostics; and primary and emergency care facilities in pilot regions have also been re-equipped.

Overall, about 20% of purchases are made through centralized procedures under the Ministry of Health as part of targeted state programmes. However, the price is often higher than if the equipment were bought independently and there is a lack of transparency in the purchasing process. Medical equipment is not always used to its maximum effect, for example, some facilities operate expensive diagnostic equipment for only one shift. Such equipment is used to its full capacity only in specialized centres, while the usage is three to four times lower in multispecialty facilities (Lekhan, Rudiy & Richardson, 2010).

In 2013, an inventory of expensive equipment in Ukraine was made by the Ministry of Health and, according to this, on 1 November 2013, of the total sum of equipment, 8.1% of equipment which cost 0.9 billion hryvnya is not regularly used; some of the equipment which cost 211 billion hryvnya has never been used due to the lack of consumables and/or trained staff. This inventory has formed the basis for a new register of expensive equipment, its distribution across the regions and in different types of facility.

4.1.4 Information technology

In 2013, 41.8% of the population in Ukraine had access to the Internet. This is relatively low for countries of the region and around half the average level for countries of the EU (75.5% in 2013) (World Bank, 2014b).

There is a unified electronic health information system for reporting health data from the regional level upwards, but at the municipal and community levels reporting is done on paper using standardized forms. There are other localized information systems, but these are not necessarily compatible and they are for the management of individual facilities rather than national-level planning and coordination. Information technology is therefore not integrated into primary care and the use of electronic appointment booking systems or electronic medical records are not systemic.

There was no specific government strategy for the development of IT systems in the health sector, although in many regions local networks and telemedicine projects have developed. In 2012, the *Concept on the computerization of the health sector in Ukraine for 2013–18* agreed a number of priority directions for computerization in the health sector, including the introduction of: standards for computerization; electronic patient records; information systems for health care management; electronic prescription systems; telemedicine systems; and a national centre for data analysis. However, the Concept has not been implemented. At the same time, the Ministry of Health has sought to continue working on the computerization of the health sector. From 2015, a new investment was planned as part of the World Bank project on reforming the regional-level health system to monitor the effective functioning of health care facilities at all levels, population health and epidemiological inspection indicators, and the coordination of governance in the health sector (Ministerial Order No. 901 of 22 October 2013, *On the organization, design and implementation of health system reform in Ukraine using grants and investment loans from the World Bank*).

In 2012, the government did decide to create an electronic patient record system, which obliged all health care facilities (under any form of ownership) to update patient records using agreed medical forms with details of care provided, including any drugs administered or prescribed. Electronic patient records were trialled in those pilot regions where broader health system reforms were being tested (see section 6.1), initially in primary care centres, and 90% of patients registered with these providers were entered into the database. However, due to the lack of adequate security in the system to protect the privacy of patients, it cannot be used even to share data within individual primary care centres.

4.2 Human resources

4.2.1 Health workforce trends

Since 1990 there has been a steady increase in the number of doctors per capita nationwide (Table 4.1), but this does not reflect a growing number of doctors so much as a decline in the total population; the absolute number of doctors has been falling. The medical workforce is also ageing rapidly. According to data collected by the Medical Statistics Centre at the Ministry of Health, in 2012 a quarter (24.7%) of active physicians were of retirement age (compared with 16.1% in 1994; 19.5% in 2002; 22.5% in 2007).

Table 4.1
Health workers in Ukraine per 1000 population, selected years

	1990	1995	2000	2005	2010	2011	2012	2013
Doctors, total	4.3	4.4	4.6	4.8	4.9	4.9	4.8	–
Public health specialists (Sanepid)	0.2	0.2	0.2	0.2	0.2	0.2	0.04	–
Doctors practising clinical medicine, of which:	…	3.0	3.0	3.0	3.5	3.5	3.5	–
– Primary care physicians	…	…	0.5	0.5	0.5	0.5	0.5	0.5
– Medical scientists	…	0.3	0.3	0.3	0.3	0.3	0.3	–
Mid-level health personnel	11.8	11.7	11.0	10.6	10.2	10.1	9.7	–
Nurses (including midwives and *feldshers*)	8.4*	8.4*	7.9*	7.9*	8.5	8.4	8.5	–
Dentists	0.4*	0.5*	0.5*	0.5*	0.6	0.7	0.7	–
Dental technicians	0.1	0.1	0.1	0.1	0.1	0.1	0.1	–
Management staff	0.2	0.2	0.3	0.3	–	–	–	–

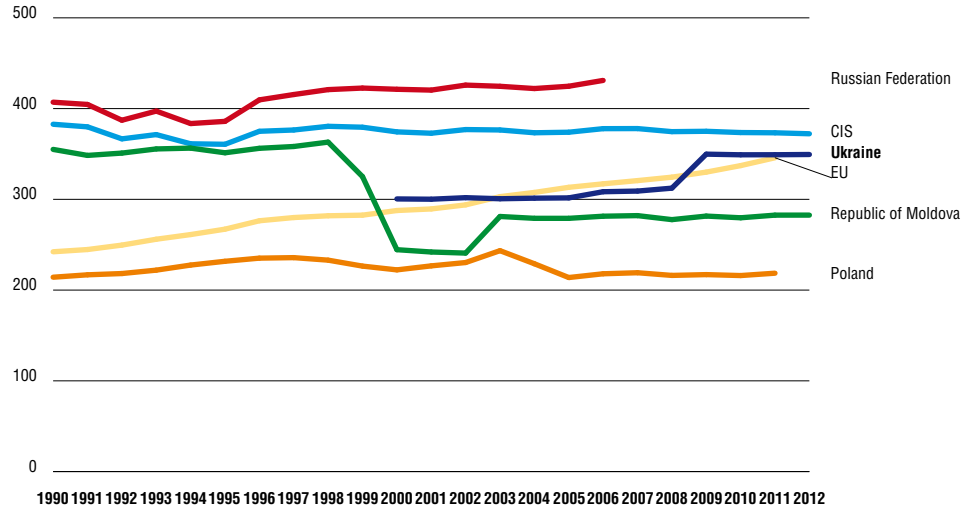
Sources: Previously unpublished data from the Medical Statistics Centre at the Ministry of Health, 2014; *Gruzeva & Galienko, 2009.

Nurses, *feldsher*s and midwives provide both preventive and medical services. *Feldshers* represent a special category of mid-level health workers. Unlike nurses, who in Ukraine work as assistants to physicians, *feldsher*s are sufficiently independent in their work, performing a broad range of preventive, diagnostic and therapeutic tasks, prescribing some drugs, performing administrative functions and, in certain circumstances, conducting expert examinations to establish a patient's capacity to work. The total number of nurses and *feldsher*s fell through the 1990s because the declining wages and status of medical staff made it a less popular career choice (Fig. 4.5). The increase in the number of nurses in 2008–2009 was purely the result of changes in the way the statistics were collected, meaning that all facilities (including private providers and parallel systems) were obliged to report the number of medical workers at all levels on the payroll. Nurses leave health care for other sectors of the economy, primarily due to the low wages and lack of possibilities for professional development. This is a trend witnessed throughout the CIS but one that runs counter to developments in countries of the EU (Fig. 4.6).

The official number of dentists appears quite low until 2008 because the figures did not include dentists working in the private sector, although most dental services are provided privately (see section 5.12). As with nurses, from 2008 the figures include all active dentists working in the country in both public and private facilities, although private dentists are still not included in the data for many countries of the CIS (Fig. 4.7).

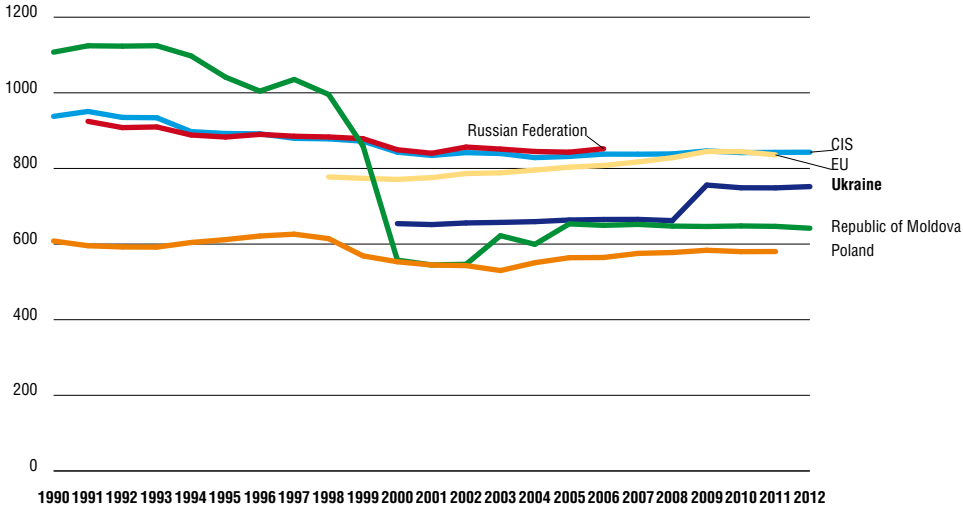
Since 1990, the number of pharmaceutical chemists (pharmacists with a higher education degree) working under the Ministry of Health and other departments has decreased by 20%. There are no exact data regarding the number of pharmaceutical chemists including those working for private companies. However, according to the Ministry of Health, the real number of these specialists is double that given by the State Statistics Service. Practically all pharmaceutical chemists work in pharmacies. Large hospitals with a capacity of 300 or more beds should have a clinical pharmaceutical chemist with responsibility for advising patients and doctors on the most effective medicines available on staff; in reality, there are only 10 employed in a few hospitals. Excluding private-sector specialists, the supply of pharmacists is low in Ukraine (Fig. 4.8). However, including those working in the private sector, the supply of pharmacists in Ukraine is actually closer to the average for the EU countries.

Fig. 4.4
Number of physicians per 100 000 population in Ukraine and selected countries, 1990 to latest available year



Source: WHO Regional Office for Europe, 2014.

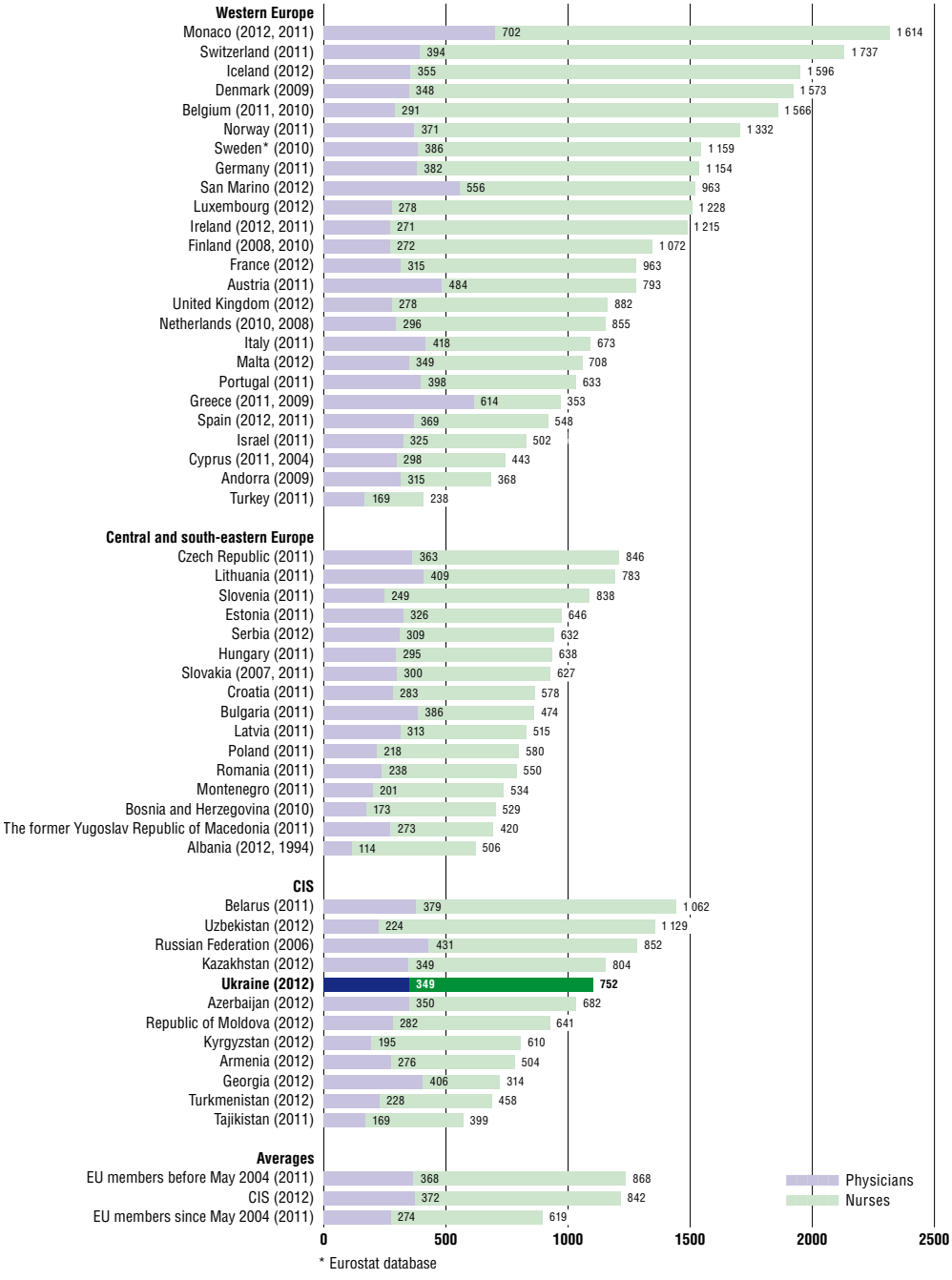
Fig. 4.5
Number of nurses per 100 000 population in Ukraine and selected countries, 1990 to latest available year



Source: WHO Regional Office for Europe, 2014.

Fig. 4.6

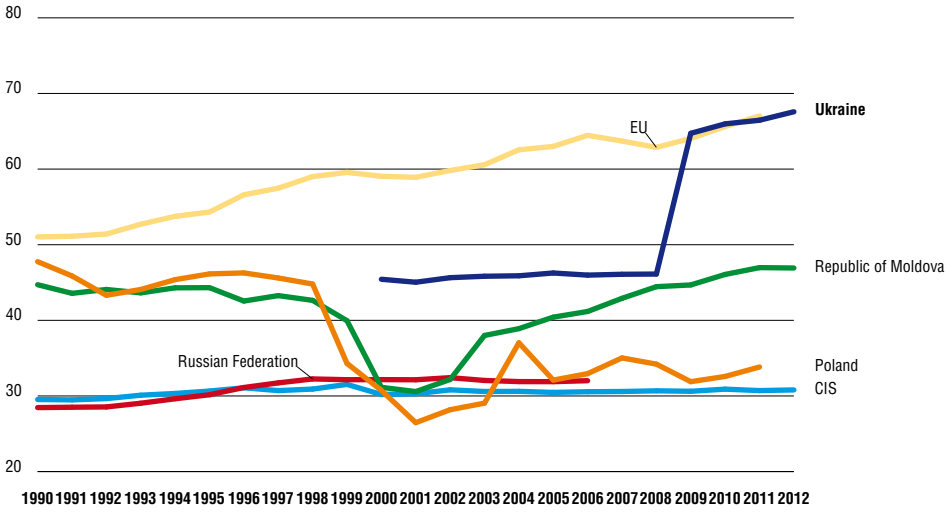
Number of physicians and nurses per 100 000 population in the WHO European region, latest available year



Source: WHO Regional Office for Europe, 2014.

Fig. 4.7

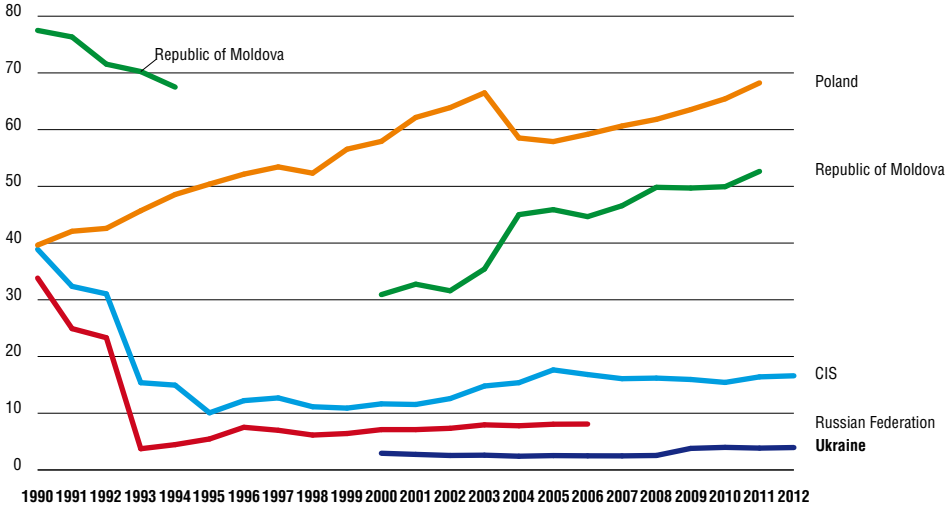
Number of dentists per 100 000 population in Ukraine and selected countries, 1990 to latest available year



Source: WHO Regional Office for Europe, 2014.

Fig. 4.8

Number of pharmacists per 100 000 population in Ukraine and selected countries, 1990 to latest available year



Source: WHO Regional Office for Europe, 2014.

4.2.2 Professional mobility of health workers

The Ministry of Health has acknowledged that there is a growing crisis in human resources for health care in Ukraine. In June 2008, a special board of the Ministry of Health identified the main reasons for such developments as the natural loss of human resources through ageing and migration (Bernik, 2008). There has been an alarming increase in the number of rural primary care health care facilities in which every post is vacant; in 2006, this was the case in 273 rural outpatient clinics and 386 FAPs and, by 2012, 374 rural outpatient clinics were unstaffed, as were 504 FAPs. Graduates from university-level medical institutions often prefer positions in pharmaceutical companies to medical practice, or leave the health sector altogether. The available data on human resources in the health sector do not allow the volume of emigration to be measured, but data from border regions show that a significant number of doctors are seeking work abroad. The main "push" factors are low wages, poor social conditions, poor infrastructure in rural areas and the low status of the medical profession. Ukraine is a signatory to the Bologna Declaration, which provides for the free movement of medical personnel within Europe, although Ukrainian clinical qualifications are not yet recognized within the EU.

It is now essential that the international migration of health care workers be monitored but, to reduce the scale of outmigration, it will be necessary to address the following: restructuring the medical services market in Ukraine; genuinely tackling the shadow economy in the labour market; increasing the quality of medical education; introducing economic stimuli to retain medical specialists within Ukraine; implementing a strategy to develop the medical labour market to deal with its feminization; and the increasing number of doctors working beyond their pension age (Kaminskaya, 2012).

4.2.3 Training of health care personnel

The system of higher medical education for physicians consists of two stages: undergraduate and postgraduate training. 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 four medical faculties within multispecialty universities supervised and funded by the Ministry of Education. During the 1990s, there were also six nongovernmental institutes offering higher medical education. However, five of these institutes have now lost their licence and were closed due to the poor quality of training provided. Therefore, only one

private higher medical educational institution remains: the Medical Institute of the Ukrainian Association of Folk Medicine. Higher medical educational establishments are evenly distributed around the country.

Undergraduate medical education provides training in two main streams: medicine (general medicine, paediatrics, disease prevention and dentistry) and pharmacy. All medical specialties are taught courses; correspondence education is permitted only for pharmacy students. Training usually lasts for six years, but general dentistry and pharmacy courses take five years, or five and a half years for pharmacy by correspondence.

Admittance to higher educational medical institutions has fluctuated over the years, but overall it is growing. A financial deficit in 1996 prompted the Ministry of Health 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 budget fell by 40% between 1995 and 2007. At the same time, in an attempt to mobilize additional sources of funding, higher medical education institutes were permitted to introduce tuition fees. Correspondingly, the number of fee-paying students entering higher medical education increased rapidly, which allowed for the retention of staff and the strengthening and upgrading of the material base and equipment in institutions. However, these policies created many problems for the health system as well. On the one hand, a large proportion of fee-paying students tend to choose particular specializations, which aggravates existing imbalances in the supply of human resources in the health system as there are no caps on the number of students allowed to enter different specializations. On the other hand, some legislative issues remained unresolved, which allowed the Ministry of Health unofficially to limit the employability of graduates at publicly owned health care facilities. Moreover, low wages have prompted fee-paying students to seek employment outside the health care sector.

Postgraduate medical training is based on the principle of continuing professional development and involves a main specialization, further specialization and the advanced professional training of physicians. Main specialization is by an internship, which combines intra- and extramural forms of training. Medical schools usually do not have their own clinical centre, thus the taught part of the internship takes place within medical schools, while the practical part is undertaken within health care facilities. The internship can be completed in 29 specialties, 22 of which are clinical. The remainder are disease prevention, dentistry, pharmacy and so on. The length of internship training currently varies between one and three years, depending on specialty. The

number of internship places available for each specialty is determined according to the needs identified by regional health authorities. Fee-paying interns choose their future specialty themselves. Training in specialties not covered by the internship programme, or the retraining of specialists, is offered at postgraduate medical faculties after completing an internship in the main specialty.

On completing an internship and specialist medical training, doctors are given a certificate and awarded the title of "specialist doctor" in a particular field. Physicians who have completed formal medical training are required to continue professional development in order to maintain knowledge and skills, with the necessary programmes being provided at postgraduate medical faculties. All practising physicians are subject to regular reaccreditation at least every five years. Eligible physicians are required to have completed a preaccreditation cycle within one year before the official accreditation, performed by committees at the Ministry of Health or regional health bodies. The main criterion for appraisal is length of professional record. There are no clear appraisal criteria for the quality of a doctor's performance, however, and decision-making has therefore been rather subjective. One major drawback of the existing accreditation system is that it is largely a tool for increasing the specialist's salary. Thus, a specialist who fails to verify their qualification level will only lose out on a higher salary, while their right to practise will not be affected. The Ministry of Health is planning to pass over the responsibility for accreditation of health workers to the Doctors' Association.

The training of medical staff is based on educational standards. The development of standards for higher medical and pharmaceutical education is the responsibility of the Ministry of Health and the Ministry of Education. The Ministry of Health supervises the content, level and number of state educational standards; develops and approves syllabuses and qualification requirements for specialist training; and monitors the quality of basic medicobiological and professional training at undergraduate and postgraduate levels. The ministries develop and approve syllabuses and model curricula. To safeguard compliance with state educational standards and the achievement of a minimum level of professional competence within the higher medical education system, Ukraine has introduced state integrated licensing examinations. These examinations are performed in all higher medical educational establishments by the Centre for Testing Professional Skills of Health Workers, an independent unit established under the Ministry of Health. Medical students must complete two state licensing examinations during their undergraduate training, after studying basic disciplines (Step 1) and after completing the full training course (Step 2). In 2004, state licensing examinations for internship training

were introduced, which is equivalent to Step 3 in the current system of higher medical education. Medicine, paediatrics and public health graduates have an examination in general medicine, while dentistry graduates must pass an examination in dentistry. Educational standards are mandatory for all medical and pharmaceutical educational establishments. However, the model curricula and syllabuses can be changed for not more than 15% of the total number of hours. Thus, within the allowed limits of standards modifications, the single private university-level medical school – the Folk Medicine Institute – offers a number of courses on folk and non-traditional medicine, including phytotherapy, homeopathy, manual therapy, bio-energy therapy and iridology.

Health care managers must have a higher education degree in medicine and a specialization in health care organization and management, in compliance with qualification requirements. Specialization training is conducted at postgraduate medical schools and covers six modules, covering social medicine, basics of health care management, economic and legal foundations of management, and management culture. However, neither the duration (two months) nor the content of the training ensures high quality. Insufficient training has often compelled medical students, and especially young managers, to take a second higher education degree in management. In order to supply the ever-growing demand for modern managerial skills, some higher education establishments have started taking fee-paying students to train as health care managers. However, health care management has not been officially recognized as a medical specialty so there are no corresponding positions at health care facilities, thus limiting employment opportunities after graduation. Active managers, who return to their posts after training, do not gain any career advantage over their less qualified colleagues. Consequently, many graduates seek employment with international programmes related to health care.

The lack of well-trained managerial staff is a serious obstacle to the implementation of health care reforms. There are constant debates about the creation of a modern system of health care management. Following an order from the Ministry of Health, experts of the EU project Support to Secondary Health Care Reform in Ukraine, together with specialists from the National Academy for Postgraduate Education (Kyiv), developed the qualification requirements and a postgraduate programme to prepare health facility managers for the specialization of health care management. The Ministers of Health planned to retrain health care managers and the managers of large health care facilities over the course of five years, and in 10 years to have retrained all managers working in the health system. Since 2011, a new postgraduate training programme for managers has been developed, which is broadly in

line with the standards of the World Federation for Medical Education. The course lasts 18 months, with the last 12.5 months by distance learning, even though this is not currently a widespread format in higher education. Distance learning was necessary in order to include the managers of tertiary care level facilities. However, the plan did not resolve the issue of differential salaries or responsibilities for those who have undertaken the 18-month course rather than the previous 2-month course. The new plan also does not elaborate on the timescale for retraining hospital managers at all levels of the system.

Mid-level staff are trained at more than 100 vocational medical schools, which are evenly distributed among the regions, and only three of which are private. These schools have medical education certification and hold the status of higher educational establishments at accreditation levels I–II, which allows them to train mid-level specialists (nurses, *feldsher*s, etc.). Some of these schools and several higher medical educational establishments at accreditation levels III–IV train nurses to degree level. Mid-level specialists are trained in such specialties as general medical nurse, midwifery nurse, disease prevention nurse, dental nursing, orthopaedic dental nursing, pharmacy, laboratory work and so on. Mid-level specialists at the undergraduate level study nursing, pharmacy, laboratory diagnostics and so on. Training takes up to three years for students who have a general secondary education, and up to four years for students who have just a basic secondary education. Mid-level medical graduates are required to continue their education and attend advanced training courses at medical vocational schools, colleges and specialized advanced training vocational schools. Like practising physicians, all mid-level medical workers are subject to a regular process of accreditation at least every five years. Accreditation is conducted by accreditation committees in health care facilities and by regional accreditation committees in regional health administration facilities. There are three categories of mid-level medical specialists. However, as for physicians, the main criterion for increasing one's grade is length of professional record.

Nurses occupy a special place among mid-level medical personnel. In the past 10 years, their training has been transformed. Nurses are trained in one of three areas: nursing, therapeutics or midwifery, with further narrow specialization. The training involves a two-year basic course, which now also includes disciplines such as the theoretical foundations of nursing, interpersonal communication, evaluation of patients' health, clinical nursing and public health. Graduates may then enter advanced training at degree level, which lasts for two years full-time (or three years part-time). Advanced training offers a deeper education in family medicine nursing, surgery, midwifery, management and so on. While, in theory, nurses trained to degree level qualify for positions

as chief or senior nurses, or as a deputy chief physician for managing nursing staff, this is rarely the case as there is no appropriate regulatory framework for such posts. Qualified professional nurses continue to work in positions similar to junior nurses and holding a degree does not affect their salary level. The Ministry of Health is planning to continue restructuring the nurse training system to establish nursing as a separate profession, with nurses working in health promotion, disease prevention and patient care – all activities traditionally performed by doctors in Ukraine.

5. Provision of services

Traditionally, primary health care in Ukraine has been provided within an integrated system by therapeutic specialists – district internists and paediatricians employed by state polyclinics. In 2000, the transition to a new model of primary care based on the principles of family medicine began. Family doctors/GPs now make up more than half (57.2%) of all primary care physicians; they work at family medicine polyclinics or in appropriate polyclinic departments. Reforms begun in 2010, which sought to reorient the system to prioritize primary care, were rooted in GP-led care with clear patient pathways and strong gatekeeping at the primary care level. The aim was to reduce irrational use of specialist services, but unnecessary self-referral to hospitals (effectively bypassing primary care) has continued to be a major source of inefficiency in the system and gatekeeping has been broadly opposed by patients.

The inpatient system is hierarchical, organized in three levels. The first (lower) level is that of rural hospitals providing basic inpatient facilities. The second (middle) level is the true foundation of the system. Secondary inpatient care is provided in central district and municipal multiprofile hospitals and also in children's hospitals, specialized clinics (*dispensarii*) and specialized hospitals, which are located and governed at this organizational level. The third (higher) level is that of regional and supraregional specialization provided by regional hospitals, diagnostic centres and specialized clinics, and specialized clinical and diagnostic centres at the national research institutes of the Ministry of Health and the National Academy of Medical Sciences. These were originally designed to provide highly specialized medical care to patients with the most severe and complicated conditions but there has been some blurring of the lines between secondary and tertiary care levels.

5.1 Public health

Until recently, the State SES was the main structure in Ukraine that was legally responsible for public health protection and monitoring. In 2011, the SES (along with the Medicines Service) acquired the status of an individual central executive body directed and coordinated by the Cabinet of Ministers through the Ministry of Health (Presidential Decree No. 1085 of 9 December 2010, *On the optimization of central bodies of executive power,* and Presidential Decree No. 400/2011 of 6 April 2011, *On the regulation of the State Sanitary and Epidemiological Service of Ukraine*). The structure of the SES was radically altered and, at the end of 2013, the sanitary epidemiological stations that had previously formed the backbone of the SES (Lekhan, Rudiy & Richardson, 2010) were liquidated. In September 2014, as part of the process to optimize the system of central executive authorities, it was decided to eliminate the SES as per Cabinet of Ministers Resolution No. 442 of 10 September 2014, *On the optimization of central executive bodies*. The State Agency for Food Safety and Consumer Protection was created through the reorganization of the pre-existing State Veterinary and Phytosanitary Service and the incorporation of the State Inspectorate for Consumer Protection and the SES. This newly created service was assigned functions previously performed by the bodies that had been disbanded, with the exception of the implementation of state policy in the field of occupational health and radiation safety in the workplace and employee exposure, which were transferred to the newly established State Service for Labour.

One aim of the initial reforms was to reduce the bureaucratic burden on small and medium-sized enterprises through the introduction of a risk-oriented approach. This means that economic activities are now grouped according to three criteria – high, medium and low public health risk with corresponding inspection schedules (once a year, every three years and every five years, instead of the previous quarterly, annual and three-yearly inspections) (Cabinet of Ministers Resolution No. 1405 of 30 November 2011). In parallel with this reduction in the administrative burden, a series of measures was introduced to increase the legal responsibilities of enterprises; so the main responsibility for ensuring food safety now rests with manufacturers. As a result of these reforms, the number of planned inspections fell dramatically and the procedures were greatly simplified – for example, the number of necessary permissions granted by the SES inspectors reduced from 29 to 8. However, there was serious concern about the ability of the reformed SES to fulfil its functions and to ensure food safety given that, as part of the reforms, food quality and food safety functions were given to the State Veterinary and Phytosanitary Service (Nekrassova et al., 2013).

In 2014, the SES was merged with the State Veterinary and Phytosanitary Service and the State Inspectorate. This reorganization also caused some concern among specialists as it appeared that the functions of the SES had been distributed among different structures, and the monitoring of the epidemiological well-being of the population (in particular the surveillance and prevention of infectious diseases) had been released from state oversight. This was particularly worrying given the low vaccination coverage in the country and the limited availability of vaccines, as well as the conflict-affected populations in the south and east of the country and the emergence of new global pressures such as the Ebola virus.

Immunization is the main preventive service provided by the health system. The registration of children eligible for immunizations and the planning of vaccination campaigns are the responsibility of local paediatric services or primary care providers. The immunization of children is organized and performed by special units in children's polyclinics or family doctors/GPs, the polyclinic departments of hospitals, rural health care facilities, as well as nurseries and schools. For many years, the SES monitored the organization and regular administration of vaccines, but since the SES stations were closed, this responsibility has passed to the local health authorities. Significant gaps in coverage for vaccine-preventable diseases occurred through the 1990s, largely due to shortages and substandard supplies of vaccines. Immunization rates subsequently recovered, but a cohort of older children was left unprotected. In 1994–1996, there was a diphtheria outbreak across the CIS. There were 646 deaths from diphtheria between 1992 and 1997 in Ukraine. It was a revaccination campaign targeting adults that brought the diphtheria epidemic under control (Nekrassova et al., 2000). However, measles and pertussis rates were not controlled and a state immunization programme was developed for the period 2007–2015 (ratified by Law No. 1658-VI of 21 October 2009). The programme aimed to raise vaccination coverage and revaccination for children in order to create a post-vaccination immunity that can contain an epidemic spread. However, by this time the public had wavering trust in vaccination programmes and this lack of public confidence has been fuelled by media panics (Bazylevych, 2011); the programme was halted and not relaunched. In 2012, 79.2% of Ukrainian children were vaccinated against measles (up from 67% in 2011), 75.5% were vaccinated against diphtheria, tetanus and pertussis (up from 50% in 2011), 73.5% against polio (up from 67% in 2011) and 95.1% against TB (up from 90% in 2011) (WHO Regional Office for Europe, 2014). This situation highlights the chronic underfunding of centralized vaccination procurement (in 2013, around 70% of total demand for vaccines) that has

contributed to, on the one hand, low vaccination coverage rates, and on the other, the growing number of unvaccinated children (Dudina, Golubchikov & Tereshchenko, 2013).

Recent reforms of family planning services have sought to integrate the vertical family planning programme into the core health system as per Ministerial Order No. 1030/102 of 29 November 2013, *On the improvement of family planning and reproductive health in Ukraine*. Family planning services are now organized at three levels, but with the bulk of the services provided in primary care, where family planning services are provided by GP/family doctors, midwives and *feldsher*s who have undertaken special training in family planning. The range of services at the primary care level includes guidance on contraception choices, and identification of low-income and socially disadvantaged families in need of essential contraception. At the secondary level, family planning services are provided by obstetrician–gynaecologist clinics in local district and city hospitals, women's clinics, polyclinics and obstetrics–gynaecology hospitals and youth-friendly clinics where there are no suitably trained primary care staff. This level also provides guidance to those working at the primary care level. The tertiary care level provides highly specialized family planning services for high-risk categories of women at regional or city family planning centres by obstetrician–gynaecologists and other relevant specialists.

The introduction of this organizational model for family planning services is still in the early phase of implementation due to the shortage of GP/family doctors and the lack of a system for their special training in family planning (see section 5.4). A United States Agency for International Development (USAID)-funded programme called "Healthy women of Ukraine" is in place to support the integration of family planning services into primary care and was due to run from 2011–2016. In 2012, the frequency of contraceptive use among women of reproductive age was 52%, which has changed little since 2007, when it was 50.9%. Nevertheless, although the abortion rate is still high by European standards, there has been a significant reduction in the use of abortion as the main method of family planning (see section 1.4).

Ukraine regulates mandatory preliminary and routine medical examinations for certain categories of workers, including workers involved in public services which could lead to the spread of communicable diseases or cause food poisoning (food workers in community or children's facilities and school teachers), and employees who do heavy labour or work in hazardous conditions. The responsibility for arranging and conducting the routine mandatory medical

examinations of employees lies with the owners of enterprises, facilities and institutions. Since the mid-1980s, during the Soviet era, there have also been universal health examinations to provide dynamic monitoring of public health. Preventive screenings took place in accordance with certain programmes, the contents of which differed according to the age of target population groups. Decreased health care financing curtailed the preventive work of health care facilities, particularly concerning screenings for the adult population, which became largely declaratory.

Currently, only certain groups undergo compulsory medical screenings: children (weekly in the first month, then monthly during the first year, twice a year during the second, once at the age of three, then annually from ages 6 to 17 as part of the education process); pregnant women; teenagers; students; emergency services workers; and victims of the Chernobyl disaster. The local authority area is traditionally in charge of community health monitoring. Screenings involve the range of narrow medical specialists available at polyclinics (otorhinolaryngologist, ophthalmologist, surgeon, neurologist, dentist and others depending on indications), laboratory work and diagnostic tests. Unfortunately, this clumsy and expensive model of compulsory mass health screenings by a group of professionals without any proof that these screenings are necessary or effective has persisted.

Along with mass health screenings in Ukraine, there are also targeted preventive screenings aimed at the early detection of certain conditions and diseases. For example, the state oncology programme (Cabinet of Ministers Decree No. 392, issued 29 March 2002) provides for a number of screening programmes: detection of cervical cancer (yearly cytological screenings of women aged 18–60 and colposcopy for women in risk groups); breast cancer (mammogram screenings for women aged 40–65 and early palpation examinations for women starting age 15); and colon and prostate cancer (annual examinations for people over 50). There is no special financing provided for screening programmes; they are financed primarily from local budgets from general resources allocated to health care. The lack of earmarked financing prevents these programmes from acquiring sufficient equipment and there is a catastrophic shortage of mammographs in the country. The cytological service is rather small, which has a negative impact on cervical cancer screening. There are organizational problems as well, with no coordinated system of preventive screenings for women, which interferes with planning and evaluating the true scale of screening coverage. As a result, screening programmes are not overly effective. The mortality rate for cervical and breast cancer at all ages has been

high since 2002, and the premature (aged under 65 years) mortality rate for breast cancer is one of the highest in the European region (WHO Regional Office for Europe, 2014).

Antenatal services are provided by family doctors/GPs and obstetricians–gynaecologists at specialized outpatient clinics called women's consultation clinics. These clinics provide dynamic monitoring of women's health during the antenatal period from 12 weeks of pregnancy, and provide health education and maternal care during the postnatal period. There are a number of screening programmes for pregnant women, including early detection of congenital defects and tests for syphilis and HIV. The latter is particularly important as the rate of HIV-infected pregnant women in Ukraine is one of the highest in Europe, growing from 1873 in 2001 to 6688 in 2009 (Belogortseva et al., 2011). However, Ukraine has had significant success in lowering the rate of mother-to-child transmission from 27.8% in 2001 to 2% in 2011; in 2011, 95.5% of all HIV-infected pregnant women received antiretroviral treatment to prevent vertical transmission (UNAIDS, 2014).

In 2006, Parliament ratified the WHO Framework Convention on Tobacco Control. In 2008, amendments to the *Law on advertising* were issued, banning tobacco and alcohol advertising (No. 145-VI, effective 23 March 2008). Thus, from January 2009, there has been a ban on tobacco, alcohol and low-alcoholic beverages in external advertisements inside and outside of city limits. Further, the advertising or promotion of alcoholic beverages is banned on television. From 1 January 2010, it has been forbidden to advertise alcohol and tobacco in all printed media except for specialist titles. The passing and implementing of these measures have the potential to have a substantial public health impact given the burden of NCDs (see section 1.4).

5.2 Patient pathways

In Ukraine, a patient can see a doctor of any specialty at a polyclinic. Where patients self-refer to the wrong specialist, they are redirected to another specialist as necessary. However, the majority of patients circumvent their primary care physicians to see medical specialists and self-refer to hospitals directly and this is a significant source of inefficiency in the system. Every third patient who seeks secondary care directly makes a mistake in their choice of a specialist and is redirected elsewhere; nearly half of all patients who self-refer to specialist care at hospitals do not have a condition compatible with the hospital's level

or profile and are transferred to a different health facility. Some self-referring patients are hospitalized unnecessarily if there are empty beds that need to be filled (Lekhan, Rudiy & Richardson, 2010).

Box 5.1

Example of a patient pathway

In Ukraine, for a woman in need of a new hip because of osteoarthritis, formally the patient pathway would be as follows:

- The patient would first visit their primary care doctor at the local polyclinic where they are registered. The visit would be nominally free of charge. The primary care doctor makes an initial assessment of the problem and sends the patient for any necessary tests (many of which would be chargeable).
- Where there is an appropriate narrow specialist working in the polyclinic (such as a surgeon) the primary care doctor refers the patient to them for further investigation or arranges for the patient to see the polyclinic specialist. However, frequently a patient will self-refer direct to the relevant narrow specialist.
- After performing any necessary tests, either the primary care doctor or the narrow specialist can refer the patient to hospital. However, frequently the primary care level is bypassed entirely and the patient self-refers to hospital. The choice of hospital is most likely to be determined through personal recommendations.
- Patients referred to hospital for care wait in a queue to see the specialist, but patients are able to jump the queue by paying out of pocket.
- Although all consultations, the operation itself and any aftercare should all be free of charge, in practice additional costs are incurred. Before admission to hospital, patients are frequently given lists of disposables and pharmaceuticals to bring with them for their stay. Much of the nursing care often also falls to family members, such as providing meals and laundering bed linen. Patients can also choose to use more expensive prostheses, but they pay out of pocket for these.
- Once discharged from hospital, aftercare is the responsibility of either the relevant outpatient department (in urban areas) or the primary care doctor (in rural areas).

Problems in the organization of patient pathways sometimes lead to unjustified complications. Some pathways have loops in them, whereby patients return several times to the same specialist or to the same facility at different stages of their treatment. For example, it is typical for an arterial hypertension patient who goes to see a cardiologist at a specialized clinic to be redirected to his district internist, who refers him back to the cardiologist. The main reason behind such chaotic patient movement is the lack of coordination of patient pathways by primary care physicians. Moreover, there is no distribution mechanism to move patients to different levels of medical care, and there are

concerns about the quality of primary care services (see section 5.3). The convoluted system of patient pathways leads to the irrational use of limited resources, compromises the quality of medical health and has a negative impact on population health. Adequate referral mechanisms could prevent a significant portion of patients from developing more serious conditions or complications. For this reason, it has been a major focus of health system reforms since 2010 (see sections 6.1 and 5.3).

Changes to patient pathways since 2010 have been most effectively realized in maternity services where mothers are referred to the appropriate level of care according to the degree of perinatal risk so that low-risk births are concentrated in secondary care centres while high-risk births are referred to the highly specialized tertiary care level perinatal centres.

5.3 Primary/ambulatory care

Traditionally, primary care in Ukraine has been provided within an integrated system by district internists and paediatricians employed by public polyclinics. From 2000, family medicine/GP models have also been a feature of the system, but since 2010, there has been a large-scale reform programme to move over to a model of primary care based on family medicine/general practice, which was due to be completed by 2020. The revised model of primary care includes: a legal and structural division between primary and secondary care; creating a separate and adequately equipped primary care infrastructure; stronger referral systems (gatekeeping) to optimize patient pathways; a free choice of primary care physician; per capita financing of primary care facilities from city and district budgets; contracting between the main purchasers and providers (primary care centres); and staff remuneration based on the volume and quality of care provided (Lekhan, et al., 2012; Lekhan et al., 2014).

In the pilot regions, strengthening primary care was central to the reforms aimed at rationalizing primary and secondary care, and this was to be achieved through structural, legal and financial division of primary and secondary care, and the creation of a developed network subdivided to improve the accessibility of primary care. As part of these reforms, the basic primary care unit was to be the primary care centre, which would be a structural subdivision that would include outpatient clinics (*ambulatorii*) and polyclinics in urban areas and outpatient clinics in rural areas, which would include reorganized rural hospitals (*silski dil'nychni likarni*) and FAPs. The process of reorganizing rural district hospitals as outpatient clinics for primary care began early in the reform

programme with the closure of a number of rural district hospitals. However, many rural communities are not happy with the changes, particularly those people who are vulnerable or low income. In some regions, problems were resolved by handing over the inpatient capacity to the social welfare sector so that they could provide residential social care services predominantly to the elderly who do not need inpatient treatment, but do have serious social needs.

The primary care centres were to be created in each rural district or town with a population of at least 100 000. In 2012, primary care centres were established in the four pilot regions (Donetsk, Vinnytsya, Dnipropetrovsk *oblasts* and Kyiv city), which covered 27% of the country's population, and from 2013 the programme was to be rolled out to the rest of the country. At the end of 2013, 85% of the planned primary care centres had been established (662 centres in total), and in 14 regions all primary care is delivered through primary care centres. As a result of the reorganization, the number of facilities providing primary care contracted (from 9000 in 2010 to 8300 in 2012), although the number of outpatient clinics has expanded, albeit at a modest pace (from 1.2 per 10 000 population in 2010 to 1.4 in 2013), which should have improved physical access to primary care. The supply of outpatient clinics for urban populations is necessarily lower than it is for rural populations (1 per 10 000 population in urban areas compared with 3.1 in rural) (Ministry of Health, 2014). Those towns outside the pilot regions have preserved the original polyclinic system.

From the beginning of the health system reforms in the pilot regions, long-term plans for the development of health care facilities were developed, particularly for primary care. The realization of these plans was the responsibility of local authorities but, with the worsening economic situation in the country, fulfilling these plans has stalled.

Since 2010, with support from the United Nations Children's Fund (UNICEF), Ukraine has sought to implement the Integrated Management of Childhood Illnesses (IMCI), which is founded on the involvement of parents in the process of identifying illness or health problems in their children (an outpatient, syndrome-based approach for parents of children aged under 5 years). It is also particularly relevant for shifting the primary care system to a model of GP/family medicine (Dudina, Golubchikov & Tereshchenko, 2013).

Officially, family doctors/GPs working under the Ministry of Health make up more than half (57.2%) of all primary care physicians. Most family doctor/GP facilities are located in rural areas (59% in 2013). According to routine monitoring data from the Ukrainian Ministry of Health, overall, in 2013, 47.5% of the population were officially registered with family doctor/GPs: 38.3% of

the urban population and 85.4% of the rural, but the development of general practice has remained marginal and is concentrated in reform regions. The number of privately practising family doctors/GPs is relatively small. The majority of privately practising physicians work with insurance companies (Lekhan, Rudiy & Richardson, 2010).

District internists provide general medical care to the assigned adult population living in their catchment area (*dilnytsia*) in outpatient clinics or during home visits. They are responsible for preventive work among the population, perform dynamic monitoring of patients with chronic diseases, provide health education and immunization, and make referrals to medical specialists and hospitals. Primary care nurses perform mostly auxiliary functions: under doctors' supervision, they prepare and fill out medical forms (except for the primary document, an outpatient's medical record), perform certain tests during a visit (take temperature, blood pressure, etc.), and explain the preparatory steps for diagnostic examinations to patients. The organization of primary care delivery is based on the territorial-district principle by which the area served by a particular primary care unit is divided into catchment areas including a certain number of residents. Ukrainians have nominally been granted free choice of primary care physician; however, this was not widely implemented because, while a patient has the option to change their primary care provider, this was usually blocked by the receiving physician since it would stretch the territorial boundaries of their catchment area and complicate home visits.

In 2011, as part of the wider health care reform programme (see Chapter 6), patients were again given the legal right to choose their primary care provider, and also some choice of provider in referrals to secondary care (*Law on Amendments to the basic laws of Ukraine regarding the improvement of health care,* No. 3611-VI, 7 July 2011). The new law also regulates those instances when a patient can self-refer, including: access to emergency care services; some specialist services provided by obstetrician–gynaecologists, dental surgeons and paediatricians; and care for certain chronic conditions where the patient was already registered with a specialist outpatient clinic. The flexibility of this approach, which has so many exceptions, was to try to appease patients who were accustomed to self-referral for a changeover period. The realization of the right to a free choice of primary care physician began in 2013 in some pilot regions. However, the campaign to promote the free choice of physician was not particularly proactive as a result of the weak promotion work aimed at patients and the apathy of medical personnel. Consequently, only 1.7% of the population in Donetsk *oblast* changed their primary care doctor and in

Dnepropetrovsk *oblast* it was 0.5%. Alongside the free choice of doctor in these pilot regions, rational patient pathways, which used a referral system from primary care doctors to secondary and tertiary care level services, were also developed (Shevchenko, 2014).

Depending on their qualifications, family doctors/GPs are responsible for providing general medical outpatient care to an assigned population (children and adults), including prevention, diagnosis, treatment and after-care/rehabilitation for common diseases. As with other primary care physicians, family doctors/GPs organize referrals to specialists and hospitalizations for their patients; provide immunization services according to the vaccination calendar; conduct examinations for temporary work incapacity; issue documents and verify results; and promote healthy lifestyles and health education for patients. However, they can also perform basic surgical treatment of wounds and the immobilization of fractures, as well as antenatal and postnatal care for women with low-risk pregnancies. Family doctors/GPs work together with family medicine/general practice nurses. However, people are reluctant to bring very young children to family doctors/GPs who are retrained adult district internists rather than retrained primary care paediatricians, particularly in urban areas. Sometimes children are already 7 or even 12 years old before their first visit. The retraining programme of six months (shortened to four months as part of recent reforms in order rapidly to meet the demand for family doctors in primary care) is viewed as inadequate and, unlike in rural areas where district internists and district paediatricians had been *de facto* working as family doctors/GPs prior to retraining, a former district internist in an urban polyclinic may have had very little contact with children. Consequently, in some areas, family doctors/GPs only work with children older than 3 or 7 years of age.

At the first stage of reforming the primary care system the negative attitude of the population, particularly the urban population's attitude towards children being served by family doctors, became radicalized. There was a protest campaign across different information platforms including the mass media. However, by mid-2013, the situation had already stabilized and attitude surveys undertaken in the pilot regions found that the situation was showing signs of improvement. Among respondents with children who were under the care of a family doctor, most (60%) were satisfied with their doctor's work and only one third (34%) were unsatisfied. Nevertheless, the problem of weak professional training for family doctors and retraining for active district internists and paediatricians remains. For this reason the Ministry of Health is moving to a new way of training family doctors via a two-year postgraduate internship.

Currently, the composition of doctors working in primary care across the country is a patchy mix of GPs/family doctors, district internists and district paediatricians. The attempt to provide primary care for a transitional period using teams of district internists, district paediatricians and obstetrician–gynaecologists did not prove successful. At the same time, in a number of ambulatories, mainly in urban areas, there is also a range of narrow specialists and often these medical professionals most strongly oppose structural and financial reforms of the sector. Primary care is still most often provided in polyclinics. The full conversion of the primary care model to one based on general practice/family medicine is planned for completion by 1 January 2020.

The optimum number of patients is set at 1700 adults per internist and 800 children per paediatrician. For family doctors/GPs it is set at 1200 adults and children in rural areas and 1500 in urban areas. However, the real workload of all primary care doctors is much higher than the set norm. According to Ministry of Health monitoring data, on average, a primary care doctor working in an urban area serves 1840 patients, with a range of 920 in Lviv *oblast* to 2600 in Volyn *oblast*, and 2369 patients in a rural area, with a range of 1572 in Cherkasy *oblast* to 5070 in Chernihiv *oblast*. Data for the pilot regions for the primary care reform programme found that district internists served on average 2700 adults (with a regional range of 1750 to 3180) in urban areas and in rural areas (range: 1812 to 3977); district paediatricians serve around 1050 children in urban areas (range: 861 to 1174) and 1130 in rural areas (range: 710 to 1390). In these pilot regions, family doctors serve on average 1960 people in urban areas (range: 1560 to 2190) and around 2100 in rural areas (range: 2060 to 2180) (Shevchenko, 2014).

Although FAPs provide primary care services as well, the shortage of medical staff in rural areas causes a number of problems with the accessibility and quality of medical care. In some areas this is further aggravated by a low population density of 30–70 people per km^2. About 12.7% of rural communities have outpatient clinics and hospitals with outpatient departments covering a catchment area of between 2.5 and 9.5 km^2; 53% of rural communities have FAPs. About a third of rural communities have no health care facilities in their territory. Experts are sceptical about the prospects for FAPs at their current level and believe that their numbers should be reduced by 45% (from 12 800 to 7000, from the most remote and inaccessible territories). In parallel, the medical and social infrastructure of rural areas requires development (the primary care network, roads, social and medical transport, communications, etc.) (Kondratyuk et al., 2012). In some rural facilities there are no staff and

the number of such facilities is growing. Nevertheless, the total number of outpatient contacts per citizen per year is high in Ukraine and significantly higher than in EU countries (Fig. 5.1).

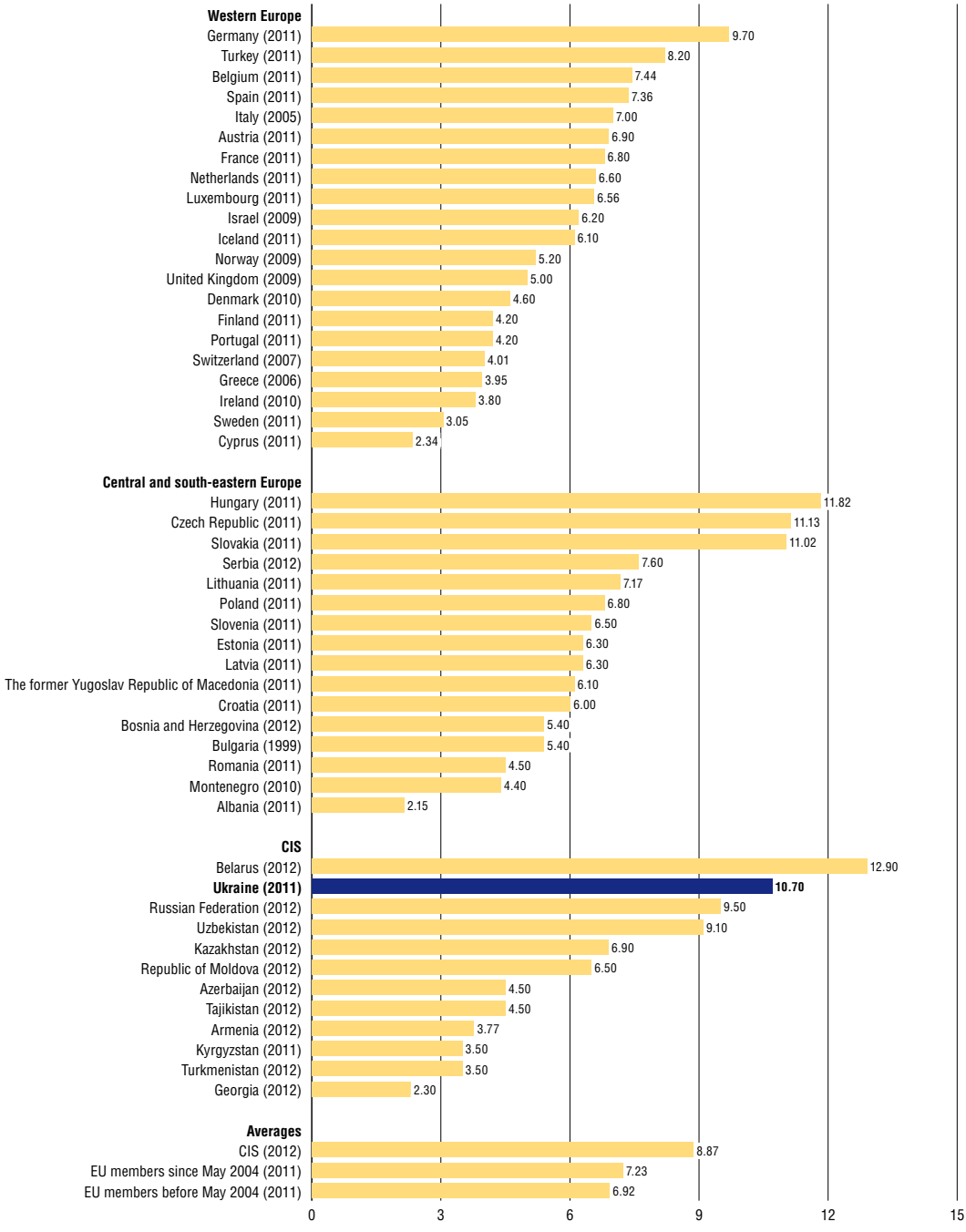
The large number of visits per capita is a result of the Ukrainian method of paying for services based on capacity measures (see section 3.7.1). Of the total number of outpatient contacts, visits to medical specialists account for 75%, while home visits account for about 9%. More than a third of visits (36.7%) to an outpatient clinic or a polyclinic are for a range of compulsory preventive checks (see section 5.1). The number of outpatient visits in rural areas remains significantly lower than in urban areas and the majority of them (61%) are visits to mid-level medical specialists (Lekhan, Rudiy & Richardson, 2010). More recent data from pilot sites showed that these trends have remained strong; in 2013, 60.3% of visits were to a specialist, 9.1% were home visits, and 32% were compulsory preventive checks. The only real change was in the proportion of outpatient visits to mid-level specialists, which fell markedly to 19%. Until recently, access to secondary care was not regulated as there was no strict distinction between primary and secondary care in Ukraine. However, as part of reform efforts since 2010, a financial, structural and functional delineation has been made between primary and secondary care in the pilot regions and this has been actively rolled out to other regions to support the introduction of referrals from primary care as standard (see section 5.2).

5.4 Specialized ambulatory care/inpatient care

Secondary outpatient care is provided within the integrated model, primarily by specialized departments of regional polyclinics and the polyclinic departments of city hospitals, children's hospitals, central district hospitals and the polyclinic departments of specialized clinics (*dispensarii*). The average urban multispecialty polyclinic serving a catchment area of 25 000 residents will have six or seven narrow specialists, such as surgeons, orthopaedists, traumatologists, neurologists, ophthalmologists and otolaryngologists, whereas larger polyclinics may also have cardiologists, rheumatologists, gastroenterologists, urologists and others. As noted above, the delineation of primary and secondary care levels is ongoing in Ukraine, but currently, with the exception of the pilot regions, specialists in municipal polyclinics provide services to patients referred to them by primary care physicians and those who self-refer directly. The organization of secondary outpatient care is based on a territorial principle, with each polyclinic being assigned a defined catchment area. Residents of that catchment

Fig. 5.1

Outpatient contacts per person per year in the WHO European Region, latest available year



Source: WHO Regional Office for Europe, 2014.

area are entitled to full diagnostic services and treatment as appropriate, and may be referred to the tertiary level when necessary. As part of the reform programme, the strict territorial boundaries for patients have formally been erased in order to concentrate resources for hospital care at the regional level. Under this system, a patient can use their referral to access necessary services at any hospital in their region (*oblast*). This was operational in the pilot sites and was to be rolled out nationwide.

The inpatient system used to be hierarchical and organized into three levels (rural hospitals, municipal/district hospitals and regional hospitals) but has been reorganized into two levels (see section 6.1). Rural hospitals have been reorganized as outpatient clinics en masse and the proportion of beds in rural hospitals at the end of 2013 was just 0.5%. Secondary inpatient care is provided in cities by inpatient wards in multiprofile hospitals, children's hospitals, specialized clinics and hospitals (for communicable diseases, maternity care and so on). In rural areas, it is provided by the inpatient departments of district and central district hospitals. These facilities have up to 90% of the total number of beds, and most are in multiprofile hospitals. Due to a general reduction in hospital beds, their capacity is gradually decreasing. Hospitals offer several specialties, usually in 7 to 12 units (general medicine, surgical, infectious diseases, maternity services, etc.), although the range of specialties covered is not regulated. In large cities there are also specialized clinics (most often for communicable diseases), maternity hospitals and highly specialized centres (for example, a burns centre or neonatal centre) based at multiprofile hospitals. In addition, municipal specialized clinics provide inpatient care for some socially significant diseases, such as TB, sexually transmitted infecions (STIs), psychiatric illness, endocrine conditions and others. Reform of the secondary care level is still under discussion.

The plans for the second phase of the reforms involved the differentiation of inpatient facilities by the intensity of care they provide, and the founding of so-called hospital districts (*hospital'nyi okrug'*). Forming hospital districts would involve the merging of facilities in a few rural districts or towns and districts, depending on the density and profile of the local population. Local transport conditions, the technical and human resources capacity of hospitals, their profile, and the structure of medical services would also be taken into account in planning. Hospital districts were conceived with the aim of creating the conditions for secondary (specialist) care providers to ensure the quality and timeliness of services provided, and to optimize the network of facilities to make the most effective use of technology, human resources and finance. The hospital districts include: multiprofile hospitals providing intensive care (level

1 serving 350 000 population or level 2 for providing secondary care for rare diseases or more complex cases); hospitals for routine treatment (to serve the population of one rural district or 50 000 urban population); a rehabilitation hospital (to serve 350 000 or more population); and hospices, as per Cabinet of Ministers Decree No. 1113 of 24 October 2012, *On approval of the creation of hospital districts in Vinnytsya, Dnipropetrovsk, Donetsk regions and in Kyiv city*. Hospital districts are not structural units but are a form of organizing and providing secondary care, overcoming duplication of publicly owned facilities owned by different local authorities and improving access to and the quality of secondary (specialized) care, as well as improving the efficiency of resource use in secondary care (Lekhan, Slabkii & Shevchenko, 2009). In the pilot regions, a preliminary long-term plan for the development of existing health care facilities was developed, which also included the merging of several smaller health care facilities.

The huge quantity of hospital beds in health care facilities hides the fact that, in 2012, almost 33 500 beds (or 9% of the beds opened up) were not functional. Currently, the possibility of changing earlier norms around inpatient care capacity are being examined. A government order was drafted which would reduce the norm from 75 beds per 10 000 population at 1 January 2014 to 65 per 10 000 population by 1 January 2020. However, the passing of this document was stalled for political reasons.

The third level is that of regional and supraregional specialization provided by regional hospitals and specialized clinics, and specialized clinical and diagnostic centres at the national research institutes of the Ministry of Health and the Academy of Medical Sciences. These facilities hold over 10% of the total number of hospital beds. They were originally designed to provide highly specialized medical care to patients with the most severe and complicated conditions. There are also highly specialized single-profile centres which provide care at the regional level, e.g. regional TB/psychiatric/STI facilities (among others). However, the boundaries between secondary and tertiary inpatient care have become blurred. It has been reported that about one third of patients admitted to regional hospitals should, in fact, have been treated in secondary level hospitals. There are very few private inpatient facilities and most of them are specialized, highly equipped centres for oncology and cardiology patients, among others.

5.4.1 Day care

In Ukraine there have been intensive efforts to try and develop capacity for both day care and home care services to replace inpatient care. The number of beds in day care facilities increased from 0.1 per 1000 population in 1990 to 1.6 in 2013; however, increased utilization of day care services has not displaced inpatient care but has instead been supplementary. This is primarily because the excess volume of hospital beds has not fallen significantly as hospitals have sought to retain larger bed numbers to ensure concomitant financing.

5.5 Emergency care

Emergency care in Ukraine is defined as medical assistance in health- or life-threatening conditions at the scene of an accident, en route to or at a hospital. All medical workers and facilities are required to provide emergency care. In urgent cases, when medical help is unavailable, emergency care must be provided by civil defence forces, the police, fire and rescue services, public transport drivers and others. In such cases, citizens and organizations are obliged to provide vehicles to transport victims to the appropriate medical facility. In the case of a life-threatening emergency, medical workers have the right to use any vehicle to reach victims or to get to hospital. In reality, the primary component in emergency care is the emergency care service of physicians and paramedics (*feldsher*s).

As part of the wider programme of health system reform, emergency care (along with primary care) has received particular attention. On the passing of the *Law on emergency medical care* (No. 5081-VI, 5 July 2012) the emergency care system began a process of fundamental change. Previously, emergency services were subdivided by administrative territories (towns and districts), subordinate to the local health authorities and financed from the local budget. Now, administrative and financial responsibility for emergency care has been given to emergency care and disaster centres at the regional level. According to the law, as far as possible, emergency care facilities should be autonomous institutions subordinated to the emergency care and disaster centre for their region. To ensure the accessibility of emergency services, permanent as well as temporary emergency care stations or departments for emergency care teams were envisaged. Moreover, reform of the system differentiated between emergency care and urgent care that can be provided at the primary care level. The key role in the function of the new emergency care system should be played by the coordinating dispatcher service with a reliable telecommunications

network, with digital, technical and other resources to process emergency care calls round-the-clock for the whole region. Their work would focus on passing all the necessary information on to the appropriate station with the emergency care team as well as the receiving medical facility.

When the new law was introduced, emergency care and disaster centres were created in all regions, to be financed from the regional budget, which would also cover extraterritorial calls as necessary to reduce response times and optimize patient pathways. For the first time since independence there was also a plan to comprehensively renew the ambulance fleet (1400 new ambulances were purchased) and re-equip emergency care teams.

In the four pilot regions where the emergency care reforms were trialled from 2012, a further 250 ambulance stations were set up (the most were in Donetsk *oblast* – 99, with the fewest in Kyiv – 29). The ambulances were fitted with GPS navigation systems and all the ambulance teams were equipped with radio and mobile telephone links (Shevchenko, 2014). At the same time, the Ministry of Health renewed its attention on emergency care by supporting its national project called "Timely care", which sought to create centralized dispatcher services for the regional centres. Although work on this should have been completed by November 2013, not one regional dispatcher service at an emergency care and disaster centre was operational at the time of writing (Bogatyreva, 2013; Ministry of Health, 2014).

In 2013, there were 472 operational emergency care stations/departments, of which 75 were stand-alone facilities and the others were subordinated to emergency care and disaster centres. Even though the Law was only introduced relatively recently, there has already been a significant increase in the number of ambulance teams – to 3407 (0.75 per 10 000 population). The proportion of general doctor teams is unchanged at 34%, but the share of specialized teams has fallen to 6.4% and the share of paramedic teams has grown to 60%. The number of calls has fallen by 20% since 2007, from 297 to 238 per 1000 population in 2013. This may be due to the redefinition of urgent and emergency care, and the improvements in the primary care system in dealing with urgent care, particularly as, according to data from the Medical Statistics Centre of the Ministry of Health, the share of emergency calls for patients with chronic conditions has fallen, as has the frequency of calls for acute diseases (from 206.9 per 1000 population in 2007 to 176.5 in 2013).

Currently in Ukraine there are different norms for call-out times in emergency care depending on location – 10 minutes in urban areas and 20 minutes in rural areas. According to official statistics, on average, these targets

were met in 90.8% of urban locations and 87.6% of rural locations. The problem of geographical access to timely emergency care for rural populations is often tackled by having a network of emergency care team points, which are either permanent or part-time/temporary. However, the reliability of these indicators is not certain. Real data can only be collected after the introduction of centralized dispatcher services where the call-out time can be measured without room for human error.

In emergencies caused by natural, man-made or social catastrophes, initial emergency care at the scene is provided by special rescue units. Subsequent care outside of the rescue zone is provided by the State Medical Emergencies Service. This service was created in 1997 and comprises the Republican Scientific and Practical Centre, as well as 27 territorial centres of emergency care and catastrophic medicine, a mobile hospital, specialized mobile teams and brigades, and more than 780 teams of the regular emergency care service. The catastrophic medicine service also includes 12 emergency care hospitals and 77 other health care facilities, and the capacity can expand, if needed, to 15 000 beds. State and local budgets reserve funds to reimburse expenses that may arise from the provision of medical care to the victims of emergency situations.

5.6 Pharmaceutical care

In 2011, there were 126 licensed pharmaceutical manufacturers in Ukraine, five of which produce 60–70% of domestic pharmaceuticals; the country has the largest pharmaceutical production capacity among the countries of the former Soviet Union (WHO, 2013). All pharmaceutical manufacturers are privately owned. Domestic producers accounted for 27.2% of pharmaceutical consumption by value, but 67% by volume, because most domestic production is of low-cost generics (Pharmexpert, 2013). In 2013, of the 10 leading pharmaceutical manufacturers on the Ukrainian market, four were domestic producers. In order to compete with imported drugs, large domestic manufacturers have initiated a transition to manufacturing pharmaceuticals in compliance with GMP (see section 2.8.4).

According to the State Medicines Service, in 2013, there were 15 831 licensed pharmacies in Ukraine. There are also a number of pharmacy kiosks, which are permitted to sell only non-prescription drugs. Only 1.5% of all pharmacies are publicly owned; the rest are private or collectively owned. Rural areas have only 26% of all pharmacy facilities (pharmacies and pharmacy kiosks), although 33% of the population lives in rural areas. Rural populations

were underserved until 2009 when large numbers of pharmacy facilities were opened; between 2009 and 2013 the number of outlets increased by 62.5%. A new norm was introduced with the aim of supplying the rural population with pharmaceuticals: if there is a shortage of outlets in an area, then FAPs and other primary care facilities are allowed to sell medicines to meet local demand (Ministerial Order No. 723 of 31 October 2011). All pharmacies are served by 465 wholesale units – pharmaceutical warehouses. Only 6% of these belong to the state or community. The number of wholesale distributors is decreasing rapidly as the sector consolidates. Just five companies deliver 80% of goods to the pharmacies and these wholesalers are also developing pharmacy chains as retail distribution is more profitable than wholesale. Retail pharmacies distribute 79% of all pharmaceuticals directly to the population, while 21% are dispensed through hospitals.

Even under the Soviet Semashko system, outpatients were obliged to pay for drugs out of pocket (with the exception of certain groups entitled to benefits). Since independence, severe shortages in health care financing have forced patients to pay out of pocket even for inpatient drugs (see section 3.4). Certain population groups are entitled to some benefits in receiving medical services and pharmaceuticals. Vulnerable population groups and patients with socially significant and very serious diseases, such as TB, cancer and so on, receive medical services either free of charge or with significant discounts. These benefits mostly include outpatient drugs. Drugs prescribed for outpatients that are on the government-approved list must be provided free or with discounts. Benefits-related pharmaceutical costs are meant to be covered by state budget allocations to health care. However, poor health care financing limits their availability. In reality, even vulnerable population groups have to pay for their medications out of pocket most of the time. Since 2012, a pilot project on the state regulation of pharmaceutical prices has been in place, to control the prices of drugs to treat hypertension using a system of reference pricing and reimbursement (see section 3.7.1). There are plans to extend the use of reference pricing to other groups of drugs (see section 2.8.4).

In 2009, total pharmaceutical expenditure was US$ 62.5 per capita and it accounted for 31.4% of THE (WHO, 2013). However, financial instability and the weakness of the national currency has increased the cost of pharmaceuticals in Ukraine; in 2010, total pharmaceutical expenditure per capita was US$ 65.6, but this grew 16% in just one year, reaching US$ 76.1 in 2011 (Pharmexpert, 2013). Even the prices of domestically produced pharmaceuticals are vulnerable to price shocks as most active ingredients are imported rather than manufactured locally. Weak control over prescribing and dispensing practices means that it

is not possible to assess prescription or pharmaceutical consumption patterns (see section 2.8.4). In 2012, retail pharmaceutical expenditure (both outpatient and inpatient) was US$ 92 per capita, and it accounted for 30.7% of THE but, including centralized pharmaceutical purchasing from the state budget, total pharmaceutical expenditure was US$ 100.6 per capita and accounted for 33.6% of THE (State Statistics Service of Ukraine, 2014c). In 2014, the devaluation of the hryvnya (see section 1.2) and the introduction of VAT on pharmaceutical sales (which were previously exempt) caused pharmaceutical prices to leap, particularly for imported products (see section 2.8.4). In the first half of 2014 there was a decline in the sale of drugs in all price segments, with a higher attrition rate for medicines in the lower cost niche. The weighted average cost of a standard pack for the first half of 2014 grew 33.4% for imported drugs and 21.2% for domestically produced drugs.

5.7 Rehabilitation/intermediate care

In 2006, the government approved a model state programme on the rehabilitation of disabled people, which provides a list of rehabilitation services and medical devices that the government should provide free of charge, regardless of age, gender or type of disability (Cabinet of Ministers Resolution No. 1686, issued 8 December 2006). The model state programme serves as the framework for an individual rehabilitation programme, which defines the types, forms, quantity and timeliness of rehabilitation, aimed at the restoration of or compensation for disabilities or lost bodily functions and capabilities, as well as determining when and where rehabilitation should take place. The government has assumed responsibility for developing a rehabilitation policy, which is delegated to central authorities (the Ministry of Labour and Social Policy, Ministry of Health, Ministry of Education and Science, and Ministry for Family, Youth and Sport) as well as local authorities. Local authorities should work in partnership with public organizations for disabled people to develop and implement programmes for the prevention of disability and to provide for the alleviation or treatment of disabling conditions. Disabled adults and children are treated through medical, psychopedagogical, psychological and professional means, as well as with physical therapies, sporting activities and social rehabilitation.

Medical–social expert commissions are responsible for assessing the degree of disability, determining a disabled adult's occupational capacity, potential for rehabilitation and developing individual rehabilitation programmes. These commissions act as independent centres within the regional health authorities.

In 2013, there were 429 medical–social expert commissions, including 62 *oblast* and city commissions and 367 inter-regional commissions, of which 163 had a specialist profile. By law, the rehabilitation sector in Ukraine is comprised of executive authorities, local self-governments and various institutions such as: rehabilitation facilities for disabled people; special and sanatorium-type preschools and schools for children requiring long-term treatment for physical and/or developmental problems; prosthetic and orthopaedic enterprises; sanatoria and health resorts for labour unions; social protection agencies; cultural activities agencies; and public organizations for disabled people. Rehabilitation facilities are comprised primarily of social rehabilitation centres for disabled children, professional rehabilitation centres to restore functional capacity and prepare people for work, and medico-social rehabilitation subdivisions in social care centres for elderly people and single disabled people.

These rehabilitation centres function as national and local specialized facilities financed from national or local budgets, or as nongovernmental, non-profit-making organizations that receive financing from extra budgetary sources. Each centre's structure is determined by its specialization and can contain occupational and social rehabilitation treatment rooms, laboratories, workshops, classrooms and so on. These centres are staffed by both medical and psychological assistants. Currently, there are more than 270 rehabilitation centres for children in the network, 72 professional rehabilitation centres, and more than 270 medico-social rehabilitation departments within territorial social care centres for elderly people. The Ministry of Social Policy is responsible for the majority of rehabilitation facilities, and the Ministry of Education and the Ministry for Family, Youth and Sport are responsible for the remainder. Despite the fact that the model rehabilitation programme outlines the basic medical rehabilitation services to be provided to disabled individuals, there are no health care facilities attached to organizations engaged in rehabilitation. To provide these services, the programme refers patients to appropriate specialized departments of health care facilities, research institute clinics and sanatoria.

Health care facilities are not differentiated according to the intensity of care or treatment provided. Restorative treatments and medical rehabilitation are therefore performed at practically all levels of health facility, but there are some specialized facilities including a hospital for medical rehabilitation, a physical therapy clinic and a centre for children with impaired nervous systems. However, rehabilitation services are limited, not many patients are served and the system does not address the full spectrum of problems in rehabilitating and reintegrating people with limited physical abilities or psychological and developmental problems. Under Cabinet of Ministers Resolution No. 716, issued

12 July 2007 *on rehabilitation for disabled children,* there was meant to be a medical–social rehabilitation centre for children with neurological disorders to provide integrated care across medical, social, psychological and educational rehabilitation (Dudina, Golubchikov & Tereshchenko, 2013). By 2012, there were 55 such centres, including three nongovernment organizations. However, the demand for such services has not yet been fully met.

At the same time, there has been an ongoing reorganization of children's residential care homes (to increase the use of fostering) as medical–social centres for the rehabilitation of newborns and their families. The medical and teaching human resources, as well as the technical equipment in children's homes, are being reoriented towards the achievement of life skills and communication skills by children with neurological disorders (Ustinov, 2012).

An intersectoral programme to address some of the problems of medical rehabilitation was developed but never implemented. The reforms since 2010 have therefore addressed medical rehabilitation for the first time in health care legislation (*Law on amendments to the basic laws of Ukraine regarding the improvement of health care,* No. 3611-VI, 7 July 2011). Rehabilitation services will be provided in secondary care level rehabilitation therapy hospitals. These hospitals will be both inpatient and day care facilities and located within existing general hospitals.

5.8 Long-term care

Long-term care in Ukraine is provided by facilities in the social care system (under the Ministry of Labour and Social Policy) that provide medico-social care to certain population groups. Nursing homes are inpatient facilities, which provide long-term care for elderly people, war veterans and disabled adults who need medical services and assistance with daily living. These facilities accept individuals without relatives. If there are vacancies, however, they can accept patients with able-bodied relatives when all financial costs are paid in full. Relatives are generally required by law to care for or make provision for those who need long-term care. According to the Ministry of Labour and Social Policy, as of 2012, there are 324 residential homes for long-term care, of which 268 are nursing homes for the elderly and disabled; almost 50 200 older people with disabilities are living in such homes. There are also 732 territorial centres which give everyday and medical–social assistance to 1 525 000 citizens for long-term and temporary assisted living.

Homes for children are medico-social facilities designed to provide assisted living, education and medical services for children aged between 4 and 18 with physical and learning disabilities. They are divided into four groups: (1) children of preschool and school age with normal intellectual development whose physical impairment severely limits their movement; (2) children with severe learning disabilities who can move freely and attend to their own needs; (3) children with severe learning disabilities who can move freely but cannot attend to their own needs; (4) children with various levels of learning disabilities and complex physical needs who cannot move freely or attend to their own needs. As of 2012, there are 55 homes with more than 7000 children. The capacity of these long-term residential facilities (*internaty*) fully covers demand, but their material and technical resources do not meet modern requirements. The deinstitutionalization of these children and the prevention of their institutionalization have not as yet received serious attention from policy-makers. Mental institutions are inpatient medico–social facilities that provide assisted living for patients with learning disabilities who need medical services and assistance with daily living. These institutions accept patients of retirement age and disabled people over the age of 18 with learning disabilities or debilitating psychiatric illnesses, regardless of whether they have relatives.

Nursing homes and mental institutions receive their funding from local budgets, primarily through interbudgetary transfers from the state budget, social insurance funds and through patients' pensions. However, with little funding available, these facilities are unable to provide adequate care. Many of these facilities are situated in old buildings, poorly equipped and in poor condition. The quality of care is low. Moreover, these facilities do not have enough beds so there are waiting lists. The types of medical staff employed at these facilities are determined by their areas of expertise. Thus, in nursing homes for elderly people, care is provided by geriatric and psychiatric specialists, while psychiatrists provide the care in mental institutions. Social workers provide social support and every facility is required to have a dentist.

5.9 Services for informal carers

In Ukraine, many people use and participate in providing informal care services. There is no political or financial support from the government for this type of care, and there are no data available on the number of people involved in providing it.

5.10 Palliative care

In 2006, the All-Ukrainian Association of Palliative Care was created, along with the Inter-Departmental Work Group for Improvement of the Legal Basis of Palliative Care. In April 2008, in accordance with an order from the Ministry of Health on the national programme of palliative care development in Ukraine for 2010–2014, the Coordination Council on Palliative and Hospice Care was created. The Council is comprised of government members and public organizations. A programme was drafted that provides for the development and improvement of the legal basis for using opiates in pain relief, the development of a hospice network, the creation of palliative care delivery standards, and the formation of a national system of medical and social staff training in palliative care.

Palliative care was also included in the reform programme, which has been developing since 2010. A specific statute on palliative care was included in the new health reform law *On amendments to the basic laws of Ukraine regarding the improvement of health care* (No. 3611-VI, 7 July 2011) and this was followed by ministerial orders detailing how palliative care should be provided from both a clinical and an organizational perspective (Ministerial Order No. 733 of 31 October 2011, *On organization of palliative and hospice care in Ukraine;* Ministerial Order No. 229/22761 of 7 February 2013, *On the organization of palliative care in Ukraine*). In accordance with these, palliative care should be provided at home or in specialized facilities by multidisciplinary teams of: medical workers specifically trained in palliative care; psychologists; social workers; specialists in providing spiritual support; volunteers; relatives or legal guardians of patients; and other specialists as necessary. Palliative care provided in the home is a service provided at the primary care level; inpatient care is provided in hospices or the palliative care departments of general hospitals. In 2013, the long-awaited registration of oral morphine took place and it is now manufactured domestically (in Odesa) which required a change in the narcotics regulations (Cabinet of Ministers Resolution No. 333 of 15 May 2013, *On procedure for the acquisition, transportation, storage, release, use and destruction of narcotic drugs, psychotropic substances and precursors in health care*). Human Rights Watch called this decision one of the most important steps towards improving the quality of care for patients at the end of their life. However, palliative care in Ukraine is still just beginning. The resources devoted to palliative care (with the exception of outpatient care delivered through primary care facilities) is practically unchanged.

In 2013, there were five hospices in Ukraine under the Ministry of Health, along with 13 palliative care departments, which had a total of 521 beds. The HIV/AIDS prevention centres have 50 beds for end-of-life care for PLHIV. There are also three hospices that are charities working in partnership with local health authorities (65 beds). In these facilities patients receive medical care with elements of psychological and spiritual support. However, most patients still do not have access to comprehensive palliative care services when they need them (Association of Palliative and Hospice Care, 2014). To ensure full access to palliative care services requires much greater investment in the network of facilities, but also professional training as well as a large amount of organizational work.

5.11 Mental health care

The mental health care system in Ukraine consists of psychiatric hospitals and outpatient clinics, and the psychiatric departments of multiprofile hospitals that operate under the Ministry of Health. There are also low-capacity psychiatric agencies that work under the jurisdiction of the security services, the Ministry of Internal Affairs, the Ministry of Transport and Communications and the Ministry of Defence, providing services directly to the employees of these departments and their families. There are a small number of private health care facilities providing psychiatric, psychotherapeutic and drug treatment services. In 2013, there were 89 psychiatric and narcological hospitals in Ukraine, which had a total of 44 224 beds (9.8 per 1000 population); there were also 28 specialist psychoneurological clinics as well as 660 psychiatric and 141 psychotherapeutic clinics. The mental health workforce under the Ministry of Health consists of 5271 psychiatrists (11.6 per 100 000 population), including 1522 addictions specialists (narcologists) (3.4 per 100 000 population), and 227 general doctors working in psychiatry (0.5 per 100 000). There are also 611 psychologists (1.3 per 100 000 population) and 13 063 nurses (28.6 per 100 000) working in mental health. Depending on the region, the supply of psychiatrists varies significantly: some regions have twice as many psychiatrists as others; most are concentrated in the eastern part of the country, with very few working in the west. According to staffing standards, every psychiatric hospital department and every mental health clinic is required to have at least one psychologist. In reality, the numbers are much lower. Staffing standards do not provide for social workers in health care facilities and social care nurses are responsible for providing services to psychiatric patients (1 nurse per 150 beds). Each department for compulsory psychiatric treatment is required to have a social care nurse on staff as well.

Mental health receives about 2.5% of total health care expenditure. It has been estimated that 89% of all resources are used on inpatient psychiatric care, while outpatient services receive only 11%. Psychiatric patients have to purchase their own medications in an outpatient setting, but also frequently need to contribute to pharmaceutical costs as inpatients. A study conducted in Lviv in 2010–2011 found that one month's supply of modern neuroleptic medication for the treatment of schizophrenia (a disabling, chronic condition requiring long-term treatment) would cost €100, the equivalent of 44% of the average monthly wage (Zaprutko et al., 2014). This constitutes a significant barrier to care and encourages the use of older neuroleptics, which have more pronounced side-effects. The lack of a national system for supplying medication to psychiatric patients creates a heavy burden for the patients' families, reduces access to treatment, hampers compliance, and decreases its efficacy.

The organizational problems that specialists working in mental health face in Ukraine include: the virtual absence of community care for mental health patients and the inflated network of large psychiatric hospitals that leads to excessive hospitalization and to the unnecessary use of inpatient beds for long-term care (see section 5.8); the insufficient use of psychologists and psychotherapists in the system, and the virtual absence of social workers in the system (Pinchuk et al., 2013). The Ministry of Health started developing a plan for the development of mental health services to the year 2020. The plan covered a range of measures to overcome the trend for institutionalization of people with mental health issues, but also to create an integrated system of psychiatric care facilities in which, alongside specialized services, a greater emphasis is placed on primary care services (Ustinov, 2013).

In 2013, as part of wider health care reforms in Ukraine, the Ministry of Health worked with the Association of Psychiatrists and mental health service user groups to develop a concept for the reform of child and adolescent mental health services, which was endorsed by UNICEF. The concept considered a raft of changes in the way services would be provided to children and adolescents that would be revolutionary for Ukraine. These changes would include: moving psychiatric services closer to where the young people live; the separation of adult and child psychiatric services; and providing services in outpatient facilities or existing multiprofile children's hospitals. An important aspect of these changes would be the removal of many features of psychiatric care services that actually infringe the rights of the child. In particular, changes should support the inclusion of children with developmental disabilities and special needs in mainstream education and vocational training, and an end to the abuse of psychiatry in children's homes under the Ministry of Education and

Science and the Ministry of Social Policy. For the first time since independence, the measures also ensured access to medicines for children with psychiatric illness, the effectiveness of which has been determined on the basis of evidence-based medicine. In 2013, the first purchase of drugs from the state budget was made for the treatment of children on the autistic spectrum. The greatest difficulty in implementing the concept has been the separation of adult and child psychiatric services. Solving this problem has come up against numerous difficulties of a structural, financial and psychological nature. But the most significant issue has been the shortage of specialists in child psychiatry; the total number of paediatric psychiatrists is 424, or 5.3 per 100 000 children aged 0–18 years and the extremely limited number of psychologists.

5.12 Dental care

Currently, most dental health services are commercial. Patients must pay out of pocket for diagnostic tests, filling materials and so on, not only in private dental facilities – the number of which is growing rapidly in Ukraine – but also in publicly owned facilities. State regulation of dental care prices is insignificant; the market plays the primary role in setting prices, although dental care for children and dental prosthetics for certain population groups remain free. There is limited quality control of dental services (Lekhan, Rudiy & Richardson, 2010). Dental equipment is in fairly poor condition in publicly owned facilities, especially in children's dental polyclinics, departments and practices. Also, techniques in use are incompatible with modern dental health care and treatment standards. The disintegration of the national system of primary and secondary prevention has played a role, as has the downsizing of the network of dental practices in preschools and schools. Moreover, there is a lack of coordination between state and private dental sectors, and a lack of proper quality control for dental hygiene devices on the national market (Lekhan, Rudiy & Richardson, 2010).

In 2013, there were 270 independent dental polyclinics and 4336 dental clinics in multiprofile health care facilities and also five private dental polyclinics and 3830 private dental clinics. Most private dental clinics are in urban areas, and there is a wide disparity of access to and quality of dental care in rural and urban areas; there are very few fully qualified dentists serving rural areas (Bindi et al., 2012). There are 21 680 dentists working in state facilities (0.5 per 1000 population), most of whom (69%) are narrow specialists (dental surgeons, orthodontists, general dentists, etc.) rather than general dental surgeons (Falko,

2013). There are also 6518 dentists in private practice (0.1 per 1000 population). The rate of decayed, missing or filled teeth at age 12 was 2.8 in 2008, which is relatively high in the WHO European region (WHO Regional Office for Europe, 2014).

Dental care reforms are under public discussion and have been for many years. The most recent draft concept proposes the definition of a package of benefits for dental care provided free at the point of use and the transformation of publicly owned dental facilities into lease-holding, local or national companies, reorganizing the service model by providing equal conditions for facilities of different forms of ownership. But these have not been implemented anywhere in the country. In Lviv and Odesa, economic pressures on the system have led to some restructuring to increase the volume of commercial activities in dental care facilities.

5.13 Complementary and alternative medicine

Since the 1990s, Ukraine has been going through a social crisis, accompanied by a decline in the prestige of science and education. Combined with the compromised quality and accessibility of mainstream medical care, there was an explosion in alternative healing. A large number of fraudulent healers appeared and, during the 1990s, these so-called healers managed to obtain licences or similar documents from the Ministry of Health, alongside legitimate specialists who use holistic approaches. As the massive uncontrolled spread of these healing practices began to negatively affect the population's health, the government began to react. In 1998, the President issued a special decree to bring this activity under public control (Presidential Decree No. 823/98 of 31 July 1998, *On the regulation of folk and alternative medicine*). The decree commissioned the Ministry of Health to strengthen the licensing law for alternative medicine, and tasked the Ministry of Internal Affairs and the Ministry of Finance jointly to find and prosecute illegal healers. It commissioned the Ministry of Information and the State Committee on Nationalities and Religion to control the mass media, filtering out advertisements for so-called medical services that could harm public health. In fulfilling this decree, the Ministry of Health created a special Folk and Alternative Medicine Committee (reorganized in 2006 as a state enterprise) responsible for: proposing state policies regarding the development of the field; creating a database of alternative practitioners and regulating their activity; and issuing special permits to practise folk and alternative medicine to people without a degree in medicine. A permit can be

issued on the basis of the Ukrainian Association of Folk Medicine's expertise and a positive decision by the special committee that includes specialists from the Ministry of Health and other health authorities. Folk and alternative medicine practitioners are forbidden to treat cancer, infectious diseases including STIs, HIV and contagious skin diseases, drug addiction and mental disorders that require immediate hospitalization. They are forbidden to assess psychological health, monitor and treat pregnancy complications, or perform surgical interventions including abortion. They are also not permitted to perform mass healing sessions with the use of hypnosis or other methods of psychic or bioenergetic influence (Lekhan, Rudiy & Richardson, 2010).

To a certain extent, the committee has organized the field of complementary and alternative medicine, but a number of goals have not yet been met. For instance, there is still no registry of alternative practitioners, which makes it difficult to regulate their activities. Many individuals continue to practise and advertise services unrelated to medicine (removal of curses, fortune telling, etc.) under cover of a licence from the Ministry of Health, further discrediting legitimate folk and alternative medicine practitioners. This caused the Ministry of Health to issue another order in 2003, which mandated an analysis of the implementation of legislation for folk and alternative medicine (Ministry of Health Order No. 267 of 19 June 2003, *On controlling illegal medical practice in the field of folk and alternative medicine*). Further, this Order mandated the recertification of practitioners with a new licence from the Ministry. However, the necessary legitimization of the field has still not been realized, a situation aggravated by massive, uncontrolled advertisements of pseudo-healing practices in the mass media.

According to the Ukrainian Association of Health Care Promotion, there are about 4000 alternative medicine practitioners in the country, but medical circles suggest a number at least 10 times higher. A small proportion of these practitioners are medical professionals specializing in folk and alternative medicine. The remainder do not possess any medical training. Moreover, according to the Ukrainian Association of Health Promotion, up to 70% of these so-called healers are neither professionally nor morally affiliated with healing. There are no exact data about the number of professional specialists in the field of folk and alternative medicine. A small proportion of them are employed at publicly owned facilities as reflexologists or specialists in folk medicine; the rest practise privately. They have minimal connection with mainstream health care. About 5.5 million people receive services from these so-called healers and this number does not show any signs of decreasing (Lekhan, Rudiy & Richardson, 2010). The majority of patients seeking alternative treatment from

healers live in rural areas, but a significant number of richer urban residents also prefer to consult with folk healers for a range of common symptoms (Stickley et al., 2013). The preference for folk healers also correlates with a lack of faith in biomedicine and a distrust of doctors (Stickley et al., 2013).

5.14 Health services for specific populations

Medical health care for prisoners is provided in accordance with the health care law as with the population at large. Care is normally provided directly in a prisoner's cell. In emergencies, prisoners can be transported to a medical facility in the Department of Justice or to the health care facilities of the Ministry of Health with the appropriate security measures in place.

6. Principal health reforms

The Ukrainian health system has preserved the fundamental features of the Soviet Semashko model against a background of other changes, which have developed along market economic principles. Although no fundamental reform has taken place, some changes in the health sector have been initiated and realized since independence; the most recent package of reforms was introduced from 2010. Three phases of the reforms were to be implemented over a four-year period (2010–2014), and started with changes to health financing to reduce fragmentation and prioritize primary care. Phase two was to pilot the programme in four regions (Donetsk, Dnipropetrovsk, Vinnytsya *oblasts* and Kyiv city). In phase three, the pilot regions were then due to deepen the reforms, but these plans were put on hold in view of the unstable political situation.

Strengthening primary and emergency care, rationalizing hospitals and transforming the model of health care financing are ambitious aims in health care reforms and ones which often face strong resistance from patients and existing power structures. To implement these reforms at a time of severe economic constraint was an understandable but bold move. Fundamental issues such as the numerous institutional barriers, including constitutional difficulties, which have hampered reform efforts in the past, re-emerged. However, conflict and political instability have proved the greatest barriers to reform implementation. More recently, governments have necessarily concentrated on more pressing humanitarian concerns.

At the time of writing, the political situation was such that although health system reform was nominally high on the agenda, plans remained undeveloped and secondary to macroeconomic concerns. This has created space for special interest groups to lobby for the health system to be reformed in ways that serve their purposes. It is hoped that greater political, social and economic stability will provide a conducive environment for the introduction of far-reaching

reforms to address shortcomings in the Ukrainian health system, but that these reforms will also draw on the best available international evidence of what works to promote equity, quality and efficiency.

6.1 Analysis of recent reforms

Despite several health system reforms that have been adopted into legislation, only a few have been implemented throughout the system (Tarantino et al., 2011). These earlier reform efforts are detailed in previous editions of this review (Lekhan, Rudiy & Nolte, 2004; Lekhan, Rudiy & Richardson, 2010), and this chapter focuses on the principal health reforms since 2010.

In 2010, as part of the Ukraine Economic Reforms Programme for 2010–2014 "Wealthy society, competitive economy, effective state", a wide-ranging reform of the health service also began. The bold overall aim of the reform programme was to improve population health and to improve the accessibility of the health care system, but there was also the economic imperative to rationalize the system as well as pressure from the IMF, World Bank Group and other lenders to reform state-financed services (Tarantino, 2011); WHO, USAID and other partners have also shaped the reform direction. Reform priorities included: health financing reforms to change the budgetary model of health financing with integration and contracting, and eventually to transition to a social health insurance model (see Chapter 3); strengthening primary care (see section 5.3); strengthening emergency care (see section 5.5); rationalization of the whole network of health care facilities (see section 5.4); and improving the quality of care throughout the system (see section 2.8).

Three phases of the reforms were to be implemented over a four-year period (2010–2014) and started with changes to health financing to reduce fragmentation and prioritize primary care. Phase two was to pilot the programme in four regions as per the *Law on the introduction of reforms to the health care system in Vinnytsya, Dnipropetrovsk, Donetsk regions and in Kyiv city,* issued in July 2011. These pilot reforms separated the funding of different levels of care as the first cautious steps towards transforming health system financing mechanisms; modernizing primary and emergency care; developing modern health information management systems; and rationalizing inpatient and specialist care. The reforms were piloted in three *oblasts* (Donetsk, Dnipropetrovsk, Vinnytsya) and Kyiv city according to an action plan drawn up in December 2012. In phase three, the pilot regions were then due to deepen the reforms using a loan from the World Bank from the autumn of 2014, but these

plans were put on hold in view of the unstable political situation. These reforms would have led to the unified costing of health services, introduced contracting between purchasers and providers, and then introduced social health insurance (Tarantino et al., 2011).

Each area of the Ukraine Economic Reforms Programme had a working group; for health it was chaired by the Minister of Health and consisted of both internal and external health experts. The draft health reform legislation was then reviewed by international experts and posted online for public comment. The law governing the pilot reform programme was then submitted to the parliamentary health committee and passed into law by Parliament (Tarantino et al., 2011).

Strengthening primary and emergency care, rationalizing hospitals and transforming the model of health care financing are ambitious aims in health care reforms, and ones which often face strong resistance from patients and existing power structures. To implement these reforms at a time of severe economic constraint was an understandable but bold move. Fundamental issues such as the lack of clarity over what model of social health insurance would be most appropriate for Ukraine, and the numerous institutional barriers including constitutional difficulties, which have hampered reform efforts in the past, have been explored previously (Lekhan, Rudiy & Richardson, 2010). However, conflict and political instability have proven the greatest barriers to reform implementation, despite relatively consistent support from international partners (see section 2.5). More recently, governments have necessarily concentrated on more pressing humanitarian concerns.

6.2 Future developments

In a study commissioned by the United Nations Development Programme (UNDP) in Ukraine, respondents identified "efficient health care for longer, healthier lives" as a key priority for the country post-2015, concluding that Ukraine requires (Libanova et al., 2013):

- reform of the health care management system, particularly funding for care;
- standards for a healthy lifestyle to be devised and promoted in society;
- economic and social motivations for people to be healthy;
- legal, economic, institutional and infrastructural conditions for leading a healthy lifestyle;

- an efficient system of prevention and early diagnosis, especially for socially determined diseases;
- equal access to health care services for all citizens, regardless of their welfare and residence;
- accelerated development of the reproductive health care system;
- less employment in harmful and hazardous conditions;
- strengthened supervision of compliance with occupational safety standards, particularly by eradicating the use of alcohol in the workplace, and especially when it endangers life and other people's health; and
- a reduction in the number of road traffic injuries.

The Health System Reform Strategy for Ukraine 2015–2025 was released for public discussion in November 2014 by the Health Strategic Advisory Group. Bold reforms are once again being advocated to create a people-centred system that is also outcome-oriented, so that the health system will meet the country's health needs through a reorientation towards primary care, improved service quality and efficient, sustainable financing. The acknowledged challenge will be ensuring that these bold reforms are not just implemented but that they are sufficiently monitored and evaluated to ensure that systemic change is on track.

Survey data have shown that there is a broad consensus that something needs to change in the Ukrainian health system, with 79% of households and 95% of physicians in one study agreeing that the system needs reforming (Luck et al., 2014). At the time of writing, the political situation was such that although health system reform was nominally high on the agenda, plans were yet to be elaborated and were secondary to macroeconomic concerns. This has created space for special interest groups to lobby for the health system to be reformed in ways that serve their purposes. It is hoped that greater political, social and economic stability will provide a conducive environment for the introduction of far-reaching reforms to address shortcomings in the Ukrainian health system, but that these reforms will also draw on the best available international evidence of what works to promote equity, quality and efficiency in health systems.

7. Assessment of the health system

The core challenges for the Ukrainian health system remain the limited protection of the population from the risk of catastrophic health care costs and structural inefficiency in the health system, which is supported by an inefficient system of health care financing. Health system weaknesses are also highlighted by increasing rates of avoidable mortality.

Patients and doctors alike recognize the need for fundamental reform of the Ukrainian health system; however, government reform efforts to date are viewed negatively and popular mistrust of doctors is strikingly high. Improving the quality of care is necessary as this is the main popular concern but also because improving the quality of care would save lives. To rebuild trust in the system it will also be necessary to tackle the issue of informal payments in a way that moves beyond sloganeering about corruption to tackling the underlying issues of low wages and popular perceptions. Concerns about affordability are linked to the prevalence of informal payments and the cost of pharmaceuticals for treatment and these concerns in themselves constitute a barrier to access.

7.1 The stated objectives of the health system

In 2002, Parliament ratified the long-term comprehensive programme "Health of the Nation for 2001–2011", the aims of which were given as: improving the demographic situation; improving and strengthening the health of the nation; improving the quality and efficiency of health care; and ensuring social equity and the right of citizens to health protection. Moreover, every government on coming to power has announced its desire to reform the health system, but an explicit health strategy outlining the vision for such reforms has not yet been published.

After the Orange Revolution in 2005, the government approved a programme of activities called "Towards the People" (Cabinet of Ministers Resolution No. 115 of 4 February 2005), which listed the government's responsibilities

including: the provision of health care free at the point of use; strengthening primary care (including its financing); and moving to an insurance-based system of health financing. The programme was further developed through President Yushchenko's social initiatives, which were presented to society in 2007, and included increasing the official salary of state employees (including health care workers) and the development of rural health care. However, these documents remained declarative and were not fully implemented (Lekhan, Rudiy & Richardson, 2010).

In 2010, the then Prime Minister of Ukraine, Yulia Tymoshenko, approved the fundamental conceptual direction for health care reforms (Cabinet of Ministers Resolution No. 208 of 17 February 2010). After a change of power following elections in 2010, as part of President Yanukovych's Programme of Economic Reforms for 2010–2014, titled "Wealthy society, competitive economy, effective state", health care reforms were introduced in order to improve population health, as well as to provide equitable and fair access to services of reasonable quality for all citizens. Among the main aims of the reforms were: increasing the quality and accessibility of services; improving the efficiency of state financing; and encouraging the population to embrace healthier lifestyles. It was predicted that the full implementation of these reforms would significantly reduce premature mortality (including infant and maternal mortality and deaths from TB); reduce the share of people who could not access care for financial reasons; and reduce informal payments in the system.

In parallel to the implementation of the economic reform programme, in 2011, work began on a government-wide programme, "Health 2020: the Ukrainian dimension", which was oriented towards promoting and strengthening population health and increasing equity in the financial burden associated with accessing medical services through the future development of the state health system and strengthening health services. The draft programme was approved by the government and, in 2013, a draft law for its implementation was put before Parliament, but it was withdrawn shortly afterwards and the programme's fate is not known.

7.2 Financial protection and equity in financing

7.2.1 Financial protection

Out-of-pocket spending on health in Ukraine is high. In 2012, 40.2% of THE was paid out of pocket by patients and their families (see section 3.1). Out-of-pocket payments include: informal payments and gratuities for staff; transport costs for accessing care; and pharmaceutical costs. Of these, by far the biggest cost is pharmaceuticals. The average cost of an outpatient medical visit for someone with no chronic diseases is: US$ 1 for transport, US$ 2.5 in gratuities for staff, and US$ 14.4 on medicines; for a patient with three or more chronic conditions this jumps to: US$ 1.3 for transport, US$ 3.3 for gratuities, and US$ 30.6 for medicines, per visit (Menon & Frogner, 2010). Most of the population pay out of pocket for their pharmaceuticals in both outpatient and inpatient care. The global economic crisis followed by political unrest and conflict in Ukraine have pushed up the price of pharmaceuticals and increases are happening in a chaotic and uncontrolled fashion in response to economic turmoil, while successive governments have struggled to mitigate the negative consequences of this process for the population. Out-of-pocket costs have the potential to push households into poverty and out-of-pocket spending can be catastrophic, particularly for households with members who have chronic conditions (Murphy et al., 2013b). This is likely to be exacerbated by the recent levying of VAT on pharmaceuticals, because the sick (particularly those with chronic diseases) who need these medicines are often the least able to afford such taxes (Gelders et al., 2006).

Both rich and poor alike pay for drugs and treatment out of pocket, but unquestionably it is the poorest and most vulnerable households that bear a disproportionate burden. A survey conducted in 2001 and 2010 found that in Ukraine fewer than half the respondents had sought care when they needed it in the previous four weeks and, of these, one fifth cited financial barriers as the reason why; half of them gave self-treatment as the reason, but this may also be used as a substitute for accessing the health system (Balabanova et al., 2012).

The necessity of paying out of pocket limits the affordability of care. The annual nationwide household survey conducted by the State Statistics Service found that, in 2011, 22.7% of households reported that they had to forego necessary medical care, which is considerably higher than it had been in 2010 (14.9%), and even a bit higher than in 2009 when the global financial crisis hit (20.5%). This sharp reduction in the accessibility of medical care has been attributed to increased popular expectations from the health system as the

reform programme started in 2010. In 2012, the proportion of households where at least one member had foregone treatment fell, but it was still high (16.7%). In 2013, the proportion of households where at least one member could not access necessary care, including medicines, increased once more to 21.6% and this was primarily due to the high cost of pharmaceuticals; 95.5% of respondents said that they had foregone care due to the high cost of pharmaceuticals and health services. Overall, in 8.3% of households, at least one member did not go to a polyclinic doctor when required; in 5.2% at least one member did not go to a dentist when required; 7.4% could not get a necessary diagnostic procedure; 3.9% could not access inpatient care; and 13.9% had to forego required medication. However, these averages mask significant inequalities between income groups – the poorest households were 2.3 times more likely to forego necessary medical care than those in the richest decile.

7.2.2 Equity in financing

One of the main challenges faced by the health system in Ukraine is the mobilization of adequate resources in such a way as to guarantee equity in access to core health services. In accordance with the current requirements, health care financing should be both vertically and horizontally equitable; overall, however, the system of health care financing in Ukraine may be considered regressive. Although the main funding source – general taxation revenues – combines revenues from direct and indirect taxes, so the financing system can be considered generally progressive (Mossialos & Dixon, 2002), the progressiveness of financing from budgetary resources is reduced by a considerable volume of activities in the informal economy, especially as wealthier citizens conceal their income from taxation. National sources estimated that the size of the informal economy increased to 39% of GDP in 2009 and these estimates appear to be comparatively conservative (OECD, 2011). In 2012, it had risen to 45% (Anon, 2013). Moreover, the allocation of resources according to the type of health service, challenges vertical equity in the system. Research conducted by the World Bank found that 70% of general government expenditure on health goes to hospitals, specialist facilities and sanatoria, although the poorest sections of the population use the services of these facilities considerably less frequently than wealthy citizens (World Bank, 2008). The reforms initiated in 2012 sought to address this imbalance, but they have now been relegated in the face of ongoing conflict and crisis, and it is not yet clear what the aims of future reforms will be.

However, direct payments for services undermine vertical equity in financing to an even greater extent than do inequitable allocation mechanisms. Although estimates of private health expenditure from different sources and using different methods vary greatly, even the most conservative suggest that they account for more than 40% of THE (see section 3.1). Overall, in the World Bank's assessment, population payments for medical services in Ukraine are more regressive than in other countries of the WHO European region and OECD countries (World Bank, 2008).

The system of budget financing in place allows for a certain amount of redistribution of financial resources. Following decentralization after independence (see section 2.4), the available approaches for interbudgetary transfers did not equalize financial provisions for health expenditure because the prime concern was historical precedent in allocations to facilities, and differences in the age and sex structures and morbidity levels of populations living in different territories were not taken into account. The difference between maximum and minimum funding levels for health from territorial budgets was 2.1 times. Budgetary reforms undertaken in 2001 changed these budgetary transfers so they were calculated according to a single norm – per capita funding corrected by coefficients for the budgets of different levels and territories. The system led to a definite reduction (of up to 1.6 times) in the inequalities between residents in different regions of Ukraine. However, the formula, which gives the requirements for disbursements and associated level of transfer equalization, not only included the age and sex structure of the population but was also burdened with multiple correcting coefficients taking into account the resources involved (Lekhan, Rudiy & Richardson, 2010). For example, a few coefficients linked financing to the characteristics and number of health personnel working in the health facility network, so the shortcomings of budgeting based on historical precedent were not overcome (World Bank, 2008). It also became a defining factor for the preservation of significant territorial inequalities in health care financing in connection with the presence of existing differences in regional resource provision. The health care reforms that began in 2010, did reduce inter-regional differences (up to 1.5 times) but regional inequalities nevertheless remained (State Statistics Service of Ukraine, 2014b).

7.3 User experience and equity of access to health care

7.3.1 User experience

Data on user experience is not routinely collected, but public satisfaction with the health system is low and the population of Ukraine is very critical of the condition of health services in their country. In a study conducted in 2010, only 17.4% of the population was satisfied with their health system and, while this represents an improvement since 2001 when just 12.2% were satisfied, it is still very low in international comparison (Footman et al., 2013). The same study also found that recent users of the health system had lower satisfaction with the health system than non-users (Footman et al., 2013). A survey of service users conducted in 2009–2010, found that 37% were dissatisfied with some aspect of their care (Luck et al., 2014). The persistence of informal payments in the system is at least in part linked to this dissatisfaction as patients seek to access more responsive care and avoid waiting times by paying out of pocket (Onoshchenko & Williams, 2013; Stepurko, 2013). It is also one of the factors influencing the low levels of trust people have in the system (Luck et al., 2014). The overall responsiveness of the health system has not been high on the reform agenda (see section 2.9). In 2011–2013, a study found that responsiveness in the Ukrainian health system was below average at 4.9 on a 10-point scale (Kryachkova, 2014). Meeting people's legitimate expectations about how they should be treated would likely help to rebuild trust in the system, but it would also be one of the most difficult reform challenges to overcome.

7.3.2 Equity of access to health care

Nominally, all benefits should be equitably distributed across the population. However, the inequities in financing mean that there are significant barriers to access in health care and that these barriers are greater for poorer and more vulnerable households (see section 7.2.1). In a household survey conducted in 2009–2010, only 36% of respondents felt that everyone in their town/village had access to health care (Luck et al., 2014). The diffusion of informal payments deters the poorest groups and rural populations (most of whom are low-income) from using medical services most of all. Due to their inability to pay for medical services, both urban and rural poor more often do not seek medical care, or postpone it; moreover, low-income patients are more often refused treatment because they cannot pay for services or pharmaceuticals (Lekhan, Rudiy & Richardson, 2010). Vulnerable groups include many elderly people who rely on their state pensions as their main source of income and people with low

educational attainment as they find it hard to find well-paid employment. Inequality in access to health care is also demonstrated by access for people living in regions with different levels of economic development. Research shows that in the poorer regions in western Ukraine financial access to health services is lower than in the wealthier regions in eastern and central Ukraine (Lekhan & Shishkin, 2007).

Inequalities caused by out-of-pocket payments can also have a horizontal regional character, as people with the same income level living in richer regions pay more out of pocket than those living in poorer regions. Similarly, in villages and small towns, gratuities are smaller than in big cities (see section 3.4). Horizontal equity in budgetary payments also impinges on the functioning of parallel health systems. Often, especially in emergencies, patients who use services in parallel health care facilities access services in the local statutory facilities, thereby taking a portion of the resources allocated to the financing of medical services for other patients in that territory who cannot access the parallel system (see section 3.6.1). The fragmentation of financial resources for health also exacerbates inequality. The move towards pooling resources to make more powerful pools at the regional level is being undone with a return to the extreme decentralization with divisions at the national, regional district/ municipal and village levels (Cabinet of Ministers Resolution No. 333-p of 1 April 2014, *On approval of the Concept of reforming the local self-government and territorial organization of power in Ukraine*).

One of the more pressing problems for the Ministry of Health is how to reduce the scale of inequalities, particularly during an economic crisis that has led to a reduction in the amount of finances available for distribution.

7.4 Health outcomes, health service outcomes and quality of care

7.4.1 Population health

Data on trends in morbidity, mortality and the major risk factors in Ukraine since independence are provided in section 1.4. As detailed there, the main factors which have contributed to changes in population health are disputed, but it is probable that some of the fluctuations are the result of socioeconomic hardships, although changes in alcohol consumption patterns have underpinned them (Krasovsky, 2009; Meslé & Vallin, 2012). Against a background of high adult mortality from cardiovascular diseases and external causes, the strong

improvement in population health through the 1990s was the fall in infant mortality rates. These improvements are likely to reflect improvements in health care services in the perinatal period (Nizalova & Vyshnya, 2010; Meslé & Vallin, 2012). Other than this, it is not clear that the recent improvement in life expectancy since 2008 is the result of any specific policy intervention.

It has been argued that the Ukrainian health system is still designed for acute episodic disease management and therefore ill-equipped to deal with the noncommunicable disease burden it faces (Menon & Frogner, 2010). Despite recent improvements in life expectancy, in 2012, almost half the male deaths and one third of female deaths occurred at under 65 years of age (WHO Regional Office for Europe, 2014). This is considerably higher than premature mortality rates in countries of the EU. It was estimated that 25% of all premature deaths (at under 75 years of age) in 2004 could have been avoided with timely access to effective treatment; 17% could have been avoided with adequate prevention of major risk factors (smoking, alcohol, diet and road traffic accidents); and 80% of deaths among working age males and 30% of deaths among working age females were from illnesses that could have been treated adequately at the primary care level (Menon & Frogner, 2010).

Very low treatment compliance rates for people living with chronic conditions may also be indicative of significant weaknesses in the Ukrainian health system. A survey conducted in 2009 found that compliance with prescribed treatments for hypertension, diabetes and high cholesterol is low, with less than half of respondents saying they followed all of the doctors' directions in taking medications for managing their condition (Menon & Frogner, 2010), and a survey undertaken in 2001 and repeated in 2010 found similar results for the control of hypertension (Roberts et al., 2012b). While internal documents in the Ministry of Health from 2013 indicated that the pilot project for the partial reimbursement of pharmaceutical costs for the treatment of hypertension (see section 3.7.1) did improve adherence, wider implementation of this project is under threat due to the difficult economic situation in the country.

Cancer is not as prevalent in Ukraine as other noncommunicable diseases, which is likely to be linked to the relatively short average life expectancy (Menon & Frogner, 2010). Although there has been a cancer registry in Ukraine since 1996, its data cannot meaningfully be used as an indicator of health system performance by looking at indicators such as cancer survival rates.

Perhaps the only clear population health improvement that can be attributed to a specific policy intervention is in communicable disease control, with the number of new HIV cases falling in 2012 for the first time since 1995, as a result

of concerted efforts to implement harm reduction policies nationwide, which have included needle and syringe exchange programmes, education campaigns and methadone maintenance prescribing (UNAIDS, 2014). It is not yet clear how effectively these programmes will be able to continue in the territories no longer under the control of Kyiv, despite the relatively high burden of HIV in these territories (Holt, 2014; Owczarzak, Karelin & Phillips, 2015).

7.4.2 Health service outcomes and quality of care

Most direct indicators of health service outcomes are not available in the form of health service quality measures for Ukraine. As a process indicator, it can be said that the extremely low vaccination rates for children are indicative of extremely weak preventive care systems in Ukraine, but this weakness is less an issue of access than one of trust (Bazylevych, 2011; Luck et al., 2014). More complex outcome measures, such as patient-reported outcome measures (PROMs), are not in general use. The quality of health services is not regulated by a specific piece of legislation in Ukraine. From the late 1990s, the standardization of health care has developed rapidly. Thousands of clinical protocols have been developed for different medical specialties. However, the level of the standards has remained low and, although their implementation should be checked regularly in accordance with an agreed quality control system, in reality the checks carried out are fairly formal; more in-depth assessments happen usually in connection with a patient complaint about the quality of care, or a court case or other conflict situation. Health personnel lack adequate motivation to improve the quality of their work and, in the case of adopting clinical standards, this is most often linked to the low remuneration of staff. As part of the reform programme begun in 2010, only in pilot regions do health workers in primary care receive salaries linked to the intensity and quality of their work (see section 3.7.2).

An evaluation of the quality of care for selected noncommunicable diseases (chronic obstructive pulmonary disease (COPD) and chronic heart failure) in Ukraine, using a previously validated method, was conducted in 2009–2010 (Peabody et al., 2014). Overall, the scores for quality of care were low, averaging 47.4%, which was below the 50–60% range typically observed in other countries. Physicians performed best in taking a history and diagnosing the condition, but scored lowest in prescribing the standard effective treatment. This study found that there were no significant differences in quality of care between urban and rural facilities, or between the care provided in polyclinics or hospitals, but there was considerable regional variation (42–51%), with care in Crimea scoring lowest (Luck et al., 2014; Peabody et al., 2014). Indeed, the research indicated that

recent continuing medical education was the key factor impacting the quality of care provided by physicians. This is important because higher quality care can help mitigate some of the more intransigent socioeconomic determinants of health (Peabody et al., 2014). An evaluation of the Mother and Infant Health Programme similarly found that significant improvements in infant mortality rates were achieved through training health personnel and thereby changing attitudes and practices (Nizalova & Vyshnya, 2010). Nevertheless, there is a considerable gap between quality of care as it is measured and the quality of care as it is perceived by patients and the general population. Multiple coordinated surveys with households, physicians and service users conducted as part of the wider study found that 86% of households had only some or no trust in the medical profession in Ukraine (Luck et al., 2014).

Patient safety indicators such as those used for international comparisons elsewhere in Europe are not routinely collected. As such, it is not possible to assess the impact of reforms on the prevention of health care-related harm.

7.4.3 Equity of outcomes

Studies and data on health service outcomes in Ukraine cannot yet be meaningfully broken down by socioeconomic group, gender or geographical region.

7.5 Health system efficiency

7.5.1 Allocative efficiency

Under the Soviet Semashko system, resource allocation was conducted according to the number of beds and staff in health care facilities and not on population health care needs. The volume and quality of work conducted were not factors. This approach created inappropriate incentives for extensive development and the preservation of excessive and inefficient infrastructure, resulting in unjustified growth in outpatient appointments, unnecessary hospitalizations, longer hospital stays, and so on. The biggest health care facilities were also concentrated in the cities, towards which most health care resources were directed. Overall, this Soviet approach to allocating resources to health care facilities based on their size has been preserved in Ukraine despite recent reform efforts in four pilot regions.

Formally, budgets at the health facility level are based on Ministry of Health norms, which define the staffing levels and other essential resources (such as the number of doctors) arising from the number of beds and visits to health care facilities and not from the demand for medical services. The imperative nature of these normative acts (if they are not fulfilled, there may be harsh sanctions) has been a contributory factor to the inflexibility of resource allocation in health care, leading to high routine expenditure (particularly wages, utility bills and the like) and limiting investments to improve the quality and efficiency of services for patients. Exacerbating this problem is the legislation, which prohibits the closure of health care facilities and the difficulties local authorities encounter when trying to reduce staff numbers.

At the same time, under the pressure of economic crises in Ukraine, there have been a number of specific structural changes in the health system. The acute shortage of state funding for health care became the main reason for changes in the most expensive sector – inpatient care. New norms for the maximum number of beds and staff per capita have been introduced and reduced, but they have provoked strong resistance from both the health care leadership and the many medical personnel at the local level. For the former it would mean a cut in funding and for the latter they could lose their jobs. Cutting the number of beds was achieved mainly by cutting hospital capacity (see section 5.1). As a result, the main saving from reducing bed numbers through the 1990s was insignificant in the face of dominant expenditure structures financing care irrespective of the volume of services provided. More radical ways of reducing the number of hospital beds by closing facilities generally only affected the smallest rural hospitals, which, as a rule, were turned into outpatient clinics. In a number of cases, the closure of these facilities was dictated not so much by expediency as by the limited resistance to their closure. Besides economic factors, the reduction in the size of the population served was also influential for reducing the number of hospital beds.

A reasonably high level of utilization against the background of poor access to inpatient care, which is extremely expensive for a significant proportion of the population, is strong evidence of the inefficiency of financing inpatient care by the number of bed-days. This pushes hospitals to keep beds open and fill them with patients, irrespective of whether they really need inpatient treatment. As a result, the dominance of funding for inpatient care in THE has been preserved, and spending on outpatient and particularly primary care remains far too low. This was the spur for reforms in pilot regions, which sought to reorient the system towards primary care, but the ongoing political crisis has prevented the scale-up of these pilots to the rest of the country.

The reduction of bed numbers pushed the task of raising the efficiency of resource utilization into second place. In trying to preserve their bed capacity and to receive additional informal funds from the population, hospitals increase the volume of services, weakening the call for hospitalization to be necessary on medical grounds. The expansion of day and home care from polyclinics has not yet been accepted as a substitute for inpatient care. Unnecessary hospitalizations account for a third of all hospitalized patients (Lekhan, Rudiy & Richardson, 2010). It was found that nearly 13% of patients were receiving specialist outpatient care and 20% were receiving treatment using technologies which did not require hospitalization. The average cost of medical services for one patient based on total expenditure (not only those that are really covered by the budget) in an outpatient setting would be approximately four times lower, and for day cases two times lower, than the cost of inpatient treatment (Lekhan, Rudiy & Richardson, 2010). Human resources policies to change the skill mix and make greater use of nurses have not yet been explored at the policy level.

In addition, human resources are extremely unevenly distributed. The biggest staff shortages are in rural areas and in primary care. Measures taken by the Ministry of Health in the form of sending new graduates to work in underserved areas and specialties, and the introduction of some benefits for health workers working in rural areas have not brought the desired results (see section 5.3). Overall, as government funds are allocated according to inputs (linked mainly to beds and bed-days) with line-item budgeting for health care facilities and seniority-based salaries for doctors and nurses, according to national staffing norms, there is little incentive to make the system more efficient. Thus, the majority of public resources are still directed towards maintaining the existing infrastructure, despite recent reform efforts in four pilot regions. Real rationalization of the system will require strong political will as well as constitutional change so that the existing network of providers can be reduced. This is in addition to the universal resistance from local populations to the closure or downgrading of their local health care facilities, an issue which is particularly acute in Ukraine where problems with the basic infrastructure, such as roads, hamper access to other facilities.

7.5.2 Technical efficiency

Assessing the economic efficiency of the health system is not feasible, as this kind of research has not been conducted in Ukraine. Cost-effectiveness guidelines are not yet a feature of the system. Policy development around generic prescribing has also been limited, despite the significant cost of pharmaceuticals in Ukraine. Barriers to rational prescribing include the lack

of incentives for doctors to prescribe generics and pharmacists to dispense them but also the widespread lack of trust in the efficacy of unbranded medicines (Richardson, Sautenkova & Bolokhovets, 2014).

7.6 Transparency and accountability

Public participation in the development of health policy and programmes, or in setting the broader health agenda, are in their nascent stages in Ukraine. Although there are a number of legal provisions for public participation in the health sector and various patient groups, they have not yet played an active role in influencing decisions. Most influential has been the less formal protest channels used by social groups to challenge the most recent health reform programme, which began in 2010 (see section 2.9). Nevertheless, priorities are still formally set centrally by the Ministry of Health, although the direction more recently has been heavily influenced by international agencies involved in managing the economic crisis.

The fragmentation of the system along with the general lack of transparency makes it hard to see who would be responsible for health system monitoring and ensuring accountability – neither of which have been the focus of reform efforts to date. However, the current level of informality in the system would undoubtedly act as a barrier to effective monitoring, and tackling this in order to bring greater transparency to the system will prove a great challenge given that the health system is an embedded part of the Ukrainian economy, much of which is resolutely in the shadows (Bazylevych, 2009; Onoshchenko & Williams, 2013; Stepurko, 2013). A heavy reliance on informal practices within the Ukrainian health system is testament to the failure of formal institutions to satisfy the needs of most participants in the system (Bazylevych, 2011).

8. Conclusions

Since the beginning of the new millennium, Ukraine has attempted to overcome the deep economic crisis of the 1990s and modernize the health care system to meet the needs of the population's health. However, these actions did not have a clear strategy and were not supported by consistent policy. As a result, the health system has preserved the main features characteristic of the Semashko model, while losing its main positive – universal access to health care.

From 2006 to 2012, average life expectancy in Ukraine was increasing, albeit from a low base, despite the lack of progress in implementing health policies. However, the events of 2013 and 2014 will have reversed many of these gains with, at the time writing, almost 5000 killed in the violent conflict and 1.2 million displaced from their homes. A new and largely unanticipated humanitarian crisis is facing Ukraine and the health system is ill-equipped to cope with it. Even before the political turmoil and conflict began, the health system in Ukraine was weak and inequitable. The pilot reforms initiated in 2010, which aimed to reorient the system to one focused on primary care, were still in their nascent stages and their scale-up scheduled for 2013/2014 has been delayed indefinitely. In many respects, the pilots show that it is possible to change the system, even though the lack of meaningful reform since independence means that many of the inefficiencies of the system are deeply entrenched. However, there was not enough time to see if the reorientation of the system to one based on primary care could be embedded and rolled out nationwide, and whether changes to the way services are financed can improve efficiency in the longer term.

The successful implementation of health system reforms requires strong political will, but also a certain degree of popular consensus. Both local communities and health workers need to be engaged in the reform process and convinced of its benefits. Perhaps most importantly, health system changes

require policy windows, and while, for example, economic crises can focus efforts to make systems more efficient, political, social and economic turmoil push health sector concerns far down the policy agenda. A certain degree of stability is needed for changes to be made and implemented successfully, and creating such conditions is beyond the control of the health sector.

Research has shown that patients and doctors alike recognize the need for fundamental reform of the Ukrainian health system; however, government reform efforts to date are viewed negatively and popular mistrust of doctors is strikingly high (Luck et al., 2014). Addressing the concerns of communities and providers could provide a means of building trust when the next policy window opens. Improving the quality of care should be an explicit reform priority (as this is the main concern people have with the system) and linking quality improvements to purchasing reforms may be a powerful way to enlist physician support for new changes to the Ukrainian health system (Luck et al., 2014). Improving the quality of care could also save lives. To rebuild trust in the system it will also be necessary to tackle the issue of informal payments in the system in a way that moves needs beyond sloganeering about corruption to tackling the underlying issues of low wages and popular perceptions. Ensuring affordability should also be an explicit policy goal. Concerns about affordability are linked to the prevalence of informal payments and these concerns constitute a barrier to access, as do concerns about the cost of pharmaceuticals for treatment.

9. Appendices

9.1 References

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9.2 Useful websites

Verkhovna Rada of Ukraine, official web portal: **http://rada.gov.ua/en**

President of Ukraine, official website: **http://www.president.gov.ua/en**

Cabinet of Ministers of Ukraine: **http://www.kmu.gov.ua/control/en**

Ministry of Health of Ukraine [in Ukrainian]: **http://www.moz.gov.ua/ua/portal**

State Statistics Service of Ukraine: **http://www.ukrstat.gov.ua**

Ukrainian Institute for Strategic Studies (UIPH) under the Ministry of Health: **http://uiph.kiev.ua**

WHO Country Office in Ukraine: **http://who.int/countries/ukr/en**

UN Office for the Coordination of Humanitarian Affairs updates on humanitarian situation in Ukraine: **http://reliefweb.int/updates?format=10&source=1503&country=241#content**

9.3 HiT methodology and production process

HiTs are produced by country experts in collaboration with the Observatory's research directors and staff. They are based on a template that, revised periodically, provides detailed guidelines and specific questions, definitions, suggestions for data sources and examples needed to compile reviews. While the template offers a comprehensive set of questions, it is intended to be used in a flexible way to allow authors and editors to adapt it to their particular national context. The most recent template is available online at: http://www.euro.who.int/en/home/projects/observatory/publications/health-system-profiles-hits/hit-template-2010.

Authors draw on multiple data sources for the compilation of HiTs, ranging from national statistics, national and regional policy documents to published literature. Furthermore, international data sources may be incorporated, such as those of the OECD and the World Bank. The OECD Health Data contain over 1200 indicators for the 34 OECD countries. Data are drawn from information collected by national statistical bureaux and health ministries. The World Bank provides World Development Indicators, which also rely on official sources.

In addition to the information and data provided by the country experts, the Observatory supplies quantitative data in the form of a set of standard comparative figures for each country, drawing on the European Health for All database. The Health for All database contains more than 600 indicators defined by the WHO Regional Office for Europe for the purpose of monitoring Health in All policies in Europe. It is updated for distribution twice a year from various sources, relying largely upon official figures provided by governments, as well as health statistics collected by the technical units of the WHO Regional Office for Europe. The standard Health for All data have been officially approved by national governments. With its summer 2007 edition, the Health for All database started to take account of the enlarged EU of 27 Member States.

HiT authors are encouraged to discuss the data in the text in detail, including the standard figures prepared by the Observatory staff, especially if there are concerns about discrepancies between the data available from different sources.

A typical HiT consists of nine chapters.

1. Introduction: outlines the broader context of the health system, including geography and sociodemography, economic and political context, and population health.

2. Organization and governance: provides an overview of how the health system in the country is organized, governed, planned and regulated, as well as the historical background of the system; outlines the main actors and their decision-making powers; and describes the level of patient empowerment in the areas of information, choice, rights, complaints procedures, public participation and cross-border health care.
3. Financing: provides information on the level of expenditure and the distribution of health spending across different service areas, sources of revenue, how resources are pooled and allocated, who is covered, what benefits are covered, the extent of user charges and other out-of-pocket payments, voluntary health insurance and how providers are paid.
4. Physical and human resources: deals with the planning and distribution of capital stock and investments, infrastructure and medical equipment; the context in which IT systems operate; and human resource input into the health system, including information on workforce trends, professional mobility, training and career paths.
5. Provision of services: concentrates on the organization and delivery of services and patient flows, addressing public health, primary care, secondary and tertiary care, day care, emergency care, pharmaceutical care, rehabilitation, long-term care, services for informal carers, palliative care, mental health care, dental care, complementary and alternative medicine, and health services for specific populations.
6. Principal health reforms: reviews reforms, policies and organizational changes; and provides an overview of future developments.
7. Assessment of the health system: provides an assessment based on the stated objectives of the health system, financial protection and equity in financing; user experience and equity of access to health care; health outcomes, health service outcomes and quality of care; health system efficiency; and transparency and accountability.
8. Conclusions: identifies key findings, highlights the lessons learned from health system changes; and summarizes remaining challenges and future prospects.
9. Appendices: includes references, useful web sites and legislation.

The quality of HiTs is of real importance since they inform policy-making and meta-analysis. HiTs are the subject of wide consultation throughout the writing and editing process, which involves multiple iterations. They are then subject to the following.

- A rigorous review process (see the following section).
- There are further efforts to ensure quality while the report is finalized that focus on copy-editing and proofreading.
- HiTs are disseminated (hard copies, electronic publication, translations and launches). The editor supports the authors throughout the production process and in close consultation with the authors ensures that all stages of the process are taken forward as effectively as possible.

One of the authors is also a member of the Observatory staff team and they are responsible for supporting the other authors throughout the writing and production process. They consult closely with each other to ensure that all stages of the process are as effective as possible and that HiTs meet the series standard and can support both national decision-making and comparisons across countries.

9.4 The review process

This consists of three stages. Initially the text of the HiT is checked, reviewed and approved by the series editors of the European Observatory. It is then sent for review to two independent academic experts, and their comments and amendments are incorporated into the text, and modifications are made accordingly. The text is then submitted to the relevant ministry of health, or appropriate authority, and policy-makers within those bodies are restricted to checking for factual errors within the HiT.

9.5 About the authors

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The Health Systems in Transition profiles

A series of the European Observatory on Health Systems and Policies

The Health Systems in Transition (HiT) country profiles provide an analytical description of each health care system and of reform initiatives in progress or under development. They aim to provide relevant comparative information to support policy-makers and analysts in the development of health systems and reforms in the countries of the WHO European Region and beyond. The HiT profiles are building blocks that can be used:

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

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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
[j] Estonian
[k] Polish
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HiTs are in-depth profiles of health systems and policies, produced using a standardized approach that allows comparison across countries. They provide facts, figures and analysis and highlight reform initiatives in progress.

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