

Health Systems in Action



# Ukraine



**World Health  
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UKRAINE



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This edition of the Health Systems in Action Insight for Ukraine was written by Astrid Eriksen, Nathan Shuftan and Yulia Litvinova.

### The Health Systems in Action series

The Health Systems in Action Insights pilot series supports Member States in the WHO European Region that are not in the European Union.

The Insights for each country are intended to:

- provide core information and data on health systems succinctly and accessibly
- outline the country health system context in which WHO Europe's Programme of Work is set
- flag key concerns, progress and challenges health system by health system
- build a baseline for comparisons, so that member states can see how their health systems develop over time and in relation to other countries.

The pilot series is co-produced by the WHO Regional Office for Europe and the European Observatory on Health Systems and Policies. It draws on the knowledge and understanding of the WHO Country Offices and of the Division of Country Health Policies and Systems (CPS), the Barcelona Office for Health Systems Financing and other WHO/Europe technical programmes; as well as the Health Systems in Transition series and the work of the European Observatory on Health Systems and Policies.

The Insights follow a common template that provides detailed guidance and allows comparison across countries. The series is publicly available on the websites of the WHO Regional Office for Europe and the European Observatory on Health Systems and Policies ([eurohealthobservatory.who.int](http://eurohealthobservatory.who.int)).

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## Acknowledgements

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# HEALTH SYSTEMS IN ACTION: UKRAINE

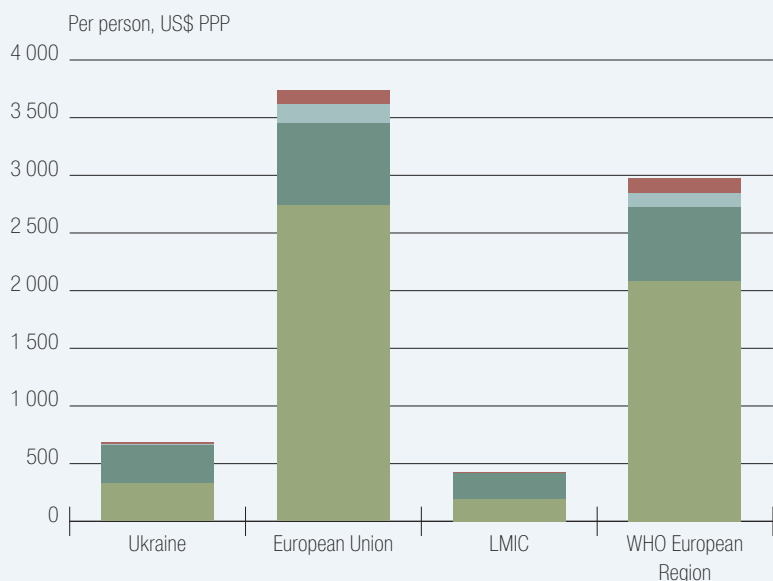
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## Key points

- Ukraine's health system officially provides for a comprehensive set of publicly paid health services. Yet availability of resources at public facilities (where care should be free at the point of service) determines whether people have to pay for care or medicines or not.
- While government spending on health rebounded in 2018 to levels not seen since before the conflict in the east of the country, it remains low compared to the WHO European Region overall and private spending has also risen. This leaves vulnerable groups at risk of catastrophic and impoverishing payments and undermines access to health services.
- More than half (51%) of all health spending in Ukraine in 2018 was private, almost entirely consisting of out-of-pocket payments. After early success in reducing this share in the mid-2000s, the private share of health spending in 2018 was back to where it was in 2000.
- The National Health Service of Ukraine (NHSU) was created in 2018 to facilitate contracting and payment arrangements with health care providers, combined with new pooling and purchasing policies.
- Recent reforms to the health system have aimed to strengthen primary care. Contracting primary care providers directly through the NHSU and giving them greater autonomy has resulted in increased salaries and incentives for providing services at the primary care level.
- Improvements in newborn and maternal health have led to steadily decreasing infant mortality rates across the country, although geographic disparities persist. The estimated maternal mortality in 2017 was higher than the average in the WHO European Region and three times higher than the EU average.
- Despite an overall downward trend, the burden of tuberculosis (TB) remains significant. According to WHO estimates, Ukraine has the 4th highest TB incidence (new cases and relapses) among the 53 countries of the WHO European Region.
- Ukraine's population faces health risks from poor diet, smoking, alcohol consumption and lack of regular physical activity. Men are more likely to be exposed to these behavioural risk factors than women.
- Mental health remains a major challenge. The adult male suicide rate in Ukraine is the highest in the WHO European Region.
- Several eHealth measures have been introduced, enabling health professionals to access and utilize real-time health systems data when caring for patients. The open-data features of these measures also aim to protect against fraud.
- The capacity of Ukraine's health system to respond to health emergencies was self-assessed to be strong in some areas and weak in others prior to the COVID-19 pandemic. Recorded data on cases and deaths indicate that Ukraine was severely affected.
- In response to the pandemic's disruptions to the health system, Ukraine was able to continue offering primary care services and rolling out reform efforts concerning specialized levels of care. There were challenges, however, in securing adequate personal protective equipment (PPE) and other supplies during the initial phase of the pandemic.

This report looks at the action Ukraine is taking to strengthen its health system; to achieve the Sustainable Development Goals; to address the priorities of the European Programme of Work 2020–2025; and to ensure that no one is left behind.

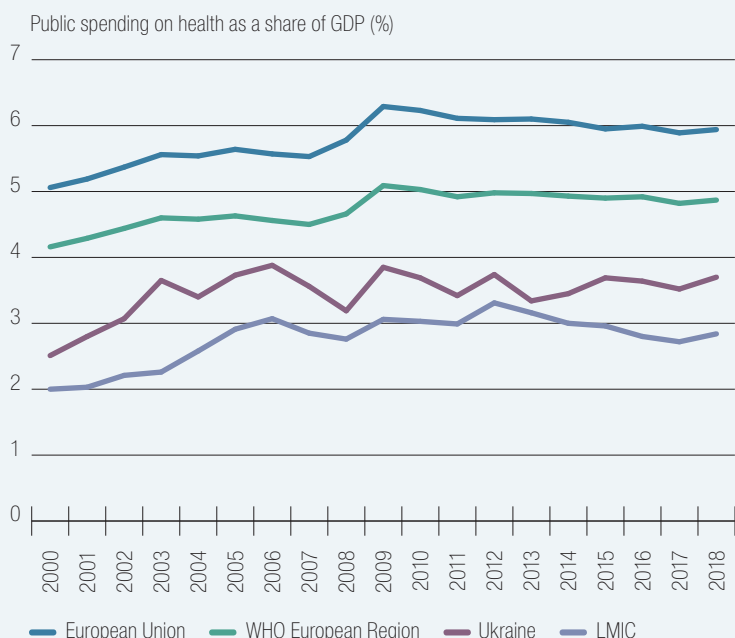
**Fig. 1**  
Health expenditure per capita is above the average of countries with similar income levels



**Note:** 2018 data. PPP: purchasing power parity.

**Source:** WHO, 2021c.

**Fig. 2**  
Ukraine's public spending on health as a share of GDP is higher than the average for lower middle-income countries



**Notes:** GDP: gross domestic product; LMIC: lower-middle-income countries in the WHO European Region (including Tajikistan, a low-income country).

**Source:** WHO, 2021c.

# 1 ORGANIZING THE HEALTH SYSTEM

## The Ukrainian health system has been decentralized but there is a single purchaser of publicly financed services

The Ministry of Health is responsible for developing and implementing national health policies and for administering state-owned specialized health facilities. The National Health Service of Ukraine (NHSU) was established in 2018 and is the single purchaser of health services, replacing the former input-based financing of health care facilities. The NHSU is funded from general taxation through the state budget and is subordinate and accountable to the Cabinet of Ministers through the Ministry of Health. Decentralization reforms have given more functional and managerial powers to the regional and subregional authorities but have also made it more difficult to address health system inefficiencies at the national level. The 24 regional (oblast) health authorities are responsible for health care in their respective territories. Major cities (regional capitals) also have city health authorities, with Kyiv and Sevastopol having special status. They are subordinate to the Ministry of Health in terms of policy implementation but have great autonomy in making decisions regarding the management of their local health facilities.

## The Ukrainian health system has undergone major changes since 2015

In 2015 the Ukrainian government started to transform the health system with the goals of improving health outcomes of the population and ensuring financial protection from excessive out-of-pocket (OOP) payments. The first stage of reforms focused on health financing, health information systems and strengthening the role of primary care providers (see Section 3). In 2017 the Ukrainian Parliament approved a new health financing law based on the principle of 'Money Follows the Patient'. The first phase of this reform focused on primary care, including contracting and the design of an explicit primary care benefits package. The second phase began in 2020 and aims to roll out reforms for secondary and tertiary care. In parallel, the Affordable Medicines Programme was introduced in 2017 to reduce the financial burden and increase the availability of outpatient medicines for patients living with cardiovascular diseases, bronchial asthma and type 2 diabetes initially. The programme is continuously expanding within the fiscal space provided.



## The new Programme of Medical Guarantees defines the publicly funded benefits package

Due to low levels of public spending on health and an inefficient provider network, the Ukrainian health system has historically not been able to uphold the commitment that all citizens are entitled to receive a comprehensive set of health services from public health care providers free of charge at the point of use. This has resulted in large unmet needs and OOP payments for health services, mostly medicines and inpatient care. In 2018 Ukraine adopted the Programme of Medical Guarantees (PMG), which assesses benefit entitlements and sets out the basic benefits package. All citizens and residents are now entitled to the health services that are explicitly identified in the publicly funded, state-guaranteed programme. Furthermore, it is illegal to provide services under the PMG under any cost-sharing arrangements. The 2017 health financing law stipulates that the benefits package covers provision of emergency, primary, secondary, tertiary and palliative care, as well as rehabilitation, and mother and child health services, with further details defined in the PMG (WHO/World Bank, 2019; WHO, 2021a).

## Health care providers, including primary health care centres, have been converted into autonomous organizations

Primary care in Ukraine is provided increasingly by primary care physicians (family doctors, GPs and paediatricians) who diagnose and treat common diseases and conditions. However, the role of primary care in the prevention and management of noncommunicable diseases is still underdeveloped. Behavioural or biological risk factors, for example, are not recorded often enough by primary care physicians (WHO, 2020a).

At the secondary level, health care is provided in city hospitals (284), maternity hospitals (69) and children's city hospitals (47) located in larger cities, while central rayon hospitals (424) in each administrative district of each region provide care for their respective populations. At the tertiary level, hospital care is provided in regional multiprofile hospitals (25), monoprofile specialized hospitals (96), regional children's hospitals (27), psychiatric hospitals (53), and tuberculosis and other monoprofile facilities (Ministry of Health, 2020a).

In 2018 a process of transforming regional health care facilities into municipal not-for-profit medical organizations began, with primary health care centres being the first to start this process. This entailed primary care providers changing their legal status to become independent medical organizations with managerial and financial autonomy, thus being able to sign a direct contract with the National Health Service of Ukraine. Since July 2018, 1024 (97%) of all public primary care facilities have been converted into municipal organizations and contracted by the NHSU (WHO/World Bank, 2019).

Furthermore, hospitals contracted for the specialized care packages were required to become legally autonomous from the state. This meant that most public hospitals were converted into communal not-for-profit enterprises which increased their financial and managerial flexibility in organizing the delivery of services.

## 2 FINANCING AND ENSURING FINANCIAL PROTECTION

### Ukraine's spending on health is below the average of the WHO European Region, but higher than in other lower middle-income countries

At US\$ 683 PPP in 2018, health expenditure per capita in Ukraine ranks well below the WHO European Region average but was above the lower middle-income country (LMIC) average of US\$ 426 USD (Fig. 1). As a percentage of Ukraine's GDP, expenditure on health increased from 5.3% in 2000 to 7.7% in 2018 (the WHO European Region ranged from 1.6% to 11.9% of GDP), just slightly below its high mark in 2015.

### Public spending on health has largely stagnated in recent years

The share of public spending on health as a percentage of total government expenditure was 8.9% in 2018, an increase from its lowest point of 6.8% in 2008. As a share of Ukraine's GDP, public spending on health stood at 3.7% in 2018, which was above the average for LMICs (2.8%), but below the WHO European Region average of 4.9% and the EU average of 5.9% (Fig. 2) (WHO, 2021c).

Levels of private spending as a percentage of current health expenditure reached 51% in 2018, up from 39.1% in 2006 and almost exactly where it was in the early 2000s. This high share of private spending (almost entirely in the form of out-of-pocket payments) can lead to households becoming impoverished and to patients not accessing necessary care.

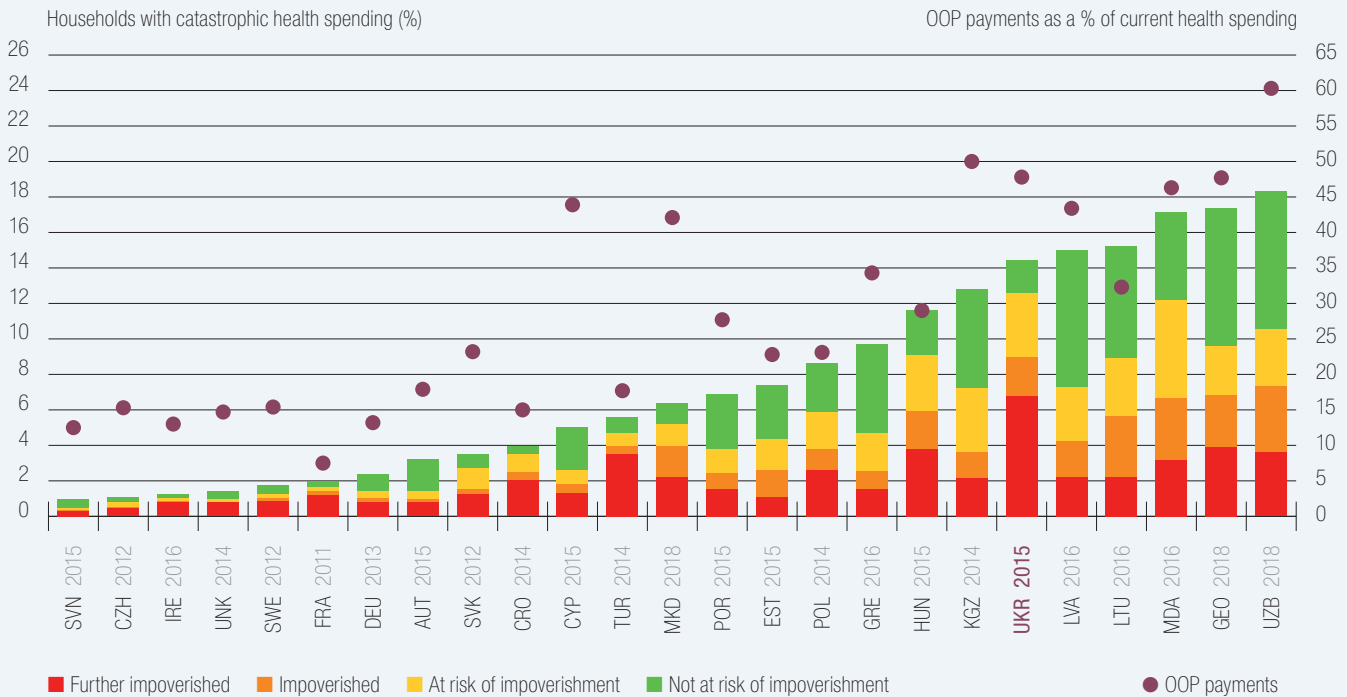
### Out-of-pocket health care costs are catastrophic for many and can lead to impoverishment

Around 16.7% of households in Ukraine experienced catastrophic health spending in 2019, higher than many countries in the WHO European Region (Fig. 3).

While publicly financed health services are officially free at the point of service, there are gaps in public coverage that result in large costs to patients. Ukraine has a high rate

**Fig.3**

Share of households with catastrophic health spending by risk of impoverishment and out-of-pocket payments as a share of current spending on health



**Notes:** The data on OOP payments are for the same year as the data on catastrophic health spending. A household is impoverished if its total spending falls below the poverty line after OOP payments; further impoverished if its total spending is below the poverty line before OOP payments; and at risk of impoverishment if its total spending after OOP payments comes within 120% of the poverty line. The poverty line used here is a relative line reflecting basic needs (food, housing, utilities). AUT: Austria; CRO: Croatia; CYP: Cyprus; CZH: Czechia; DEU: Germany; EST: Estonia; FRA: France; GEO: Georgia; GRE: Greece; HUN: Hungary; IRE: Ireland; KGZ: Kyrgyzstan; LVA: Latvia; LTU: Lithuania; MDA: Republic of Moldova; MKD: North Macedonia; POL: Poland; POR: Portugal; SVK: Slovakia; SVN: Slovenia; SWE: Sweden; TUR: Turkey; UNK: United Kingdom; UKR: Ukraine; UZB: Uzbekistan.

**Sources:** WHO, 2019c; WHO Barcelona Office for Health Systems Financing (catastrophic health spending) and WHO, 2021c (out-of-pocket payments).

### Box 1

Strategic planning efforts are being made to improve efficiency

Recent reforms to improve efficiency in the health system began with the National Strategy on Health Reform in 2014, which included measures to reduce health inequalities and make progress towards universal health coverage. The National Health Service of Ukraine (NHSU) was created in 2018 to facilitate contracting and payment arrangements with health care providers, combined with new pooling and purchasing policies (WHO, 2020b).

The Ministry of Health and the WHO Country Office identified five areas where further improvements can be made (WHO, 2020c):

- Aligning actions of all stakeholders to transform the national health system.
- Raising public spending on health to 5% of GDP (from 3.7% in 2018) to better help vulnerable groups of the population and guarantee access to services.
- Expanding health data systems to enable the timely utilization of data and improve health services and outcomes.
- Boosting access to quality health services for vulnerable groups of the population.
- Strengthening the health workforce through training, educating and retaining health workers.

of outpatient contacts per person per year and 58% of people reported having paid for these outpatient services out of pocket in 2017. The poorest households are most at risk of facing catastrophic out-of-pocket payments and suffering from associated financial hardships (Fig. 3). Out-of-pocket payments are mainly driven by spending on medicines (Goroshko, Shapoval & Lai, 2018).

### 3 GENERATING RESOURCES, PROVIDING SERVICES AND ENSURING ACCESS

#### Ukraine has reduced its hospital bed capacity in recent years, but capacity remains higher than in many other countries

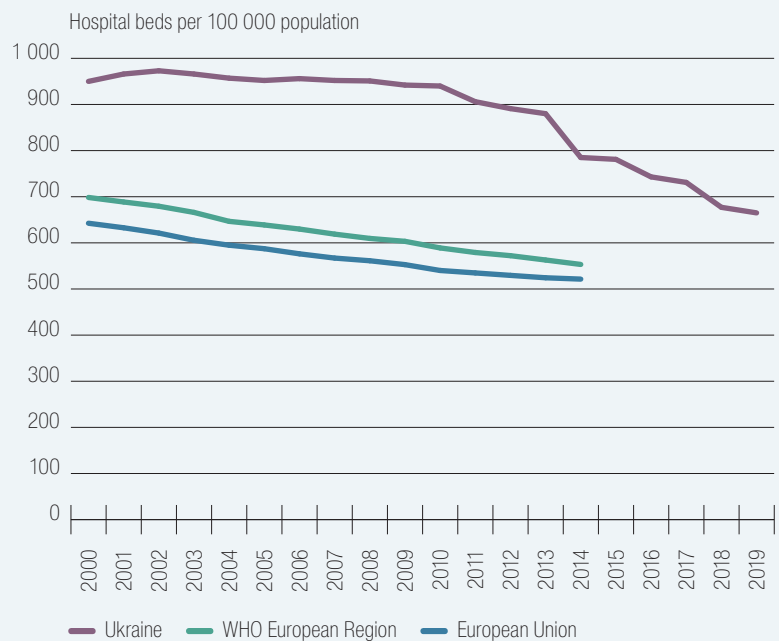
In the mid-1990s hospital capacity was reduced by more than 150 000 beds in facilities under the Ministry of Health's purview, as it became impossible to maintain the overcapacity of the inpatient sector inherited from the Soviet period. Further contraction in the hospital bed stock has progressed at a slower rate and has mainly affected rural hospitals, which were converted into rural outpatient clinics, and municipal hospitals, most of which were reorganized into polyclinics (outpatient facilities providing primary care). Since 2000 the number of hospital beds has decreased from 950 per 100 000 population to 665 in 2019 (Fig. 4). Despite sizeable reductions during the 2010s, Ukraine has remained above the EU and WHO European Region averages for hospital beds, which could indicate overcapacity in terms of hospital infrastructure and unnecessary hospitalizations. Furthermore, the COVID-19 pandemic has highlighted the need to restructure hospitals in Ukraine.

#### There have been difficulties with maintaining medical equipment in the health system

There have been long-standing problems with supplying and maintaining medical equipment. 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. During the COVID-19 pandemic, Ukraine has received funding for new equipment from, among others, the World Bank, Switzerland and USAID to boost the health sector response. The World Bank's support under the Serving People, Improving Health Project is focused on renovating hospitals and rural health clinics with modern equipment (World Bank, 2020). The decentralized nature of Ukraine's health system has resulted in variations in

Fig. 4

Ukraine's high number of hospital beds could indicate overcapacity



Note: Data since 2014 do not include Crimea, Donetsk and Luhansk oblasts.

Sources: WHO, 2021d; State Statistics Service of Ukraine.

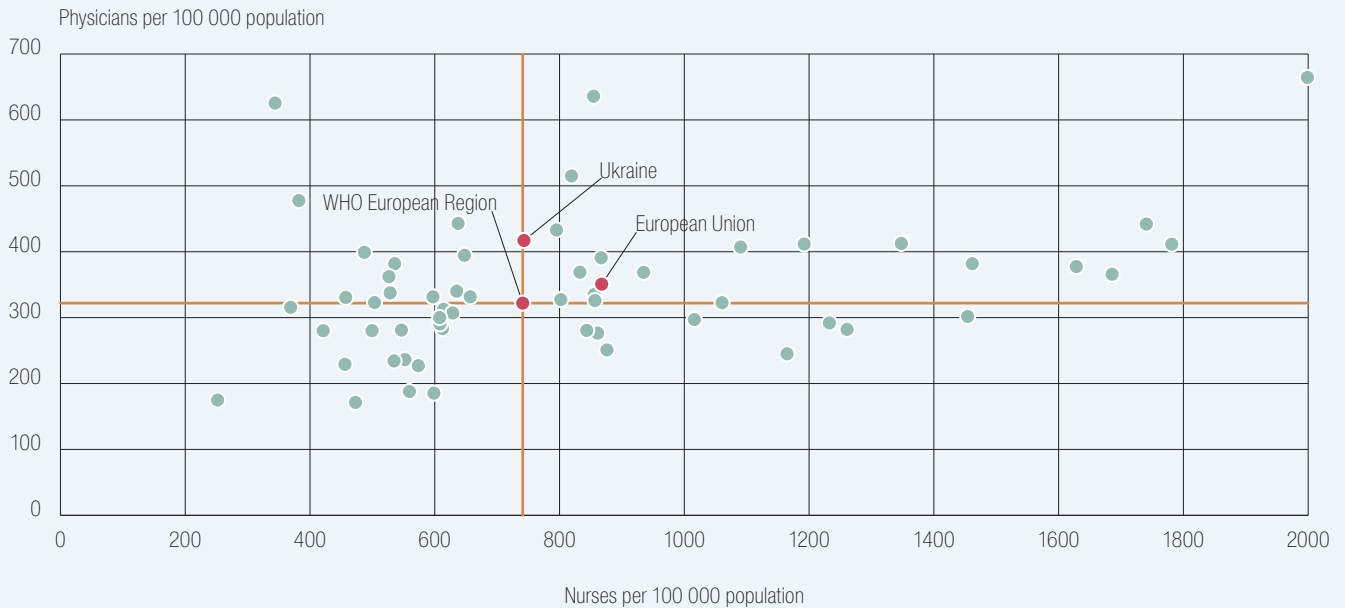
the availability of equipment across the country, and there are discussions to align the actions of local governments with national health priorities (WHO/World Bank, 2019).

#### A new eHealth system supports nationwide real-time monitoring of the health system

Ukraine's digital transformation in recent years has brought an eHealth system to life. By pairing information on indicators (such as the number of facilities, the number of doctors and other medical personnel, the number of patients treated in a particular facility and the length of treatment) with data on health expenditure from the government, the eHealth programme supports real-time monitoring of the health system and aims to safeguard against abuse (NHSU, 2020). The Ukrainian Parliament passed a law in spring 2021 giving digital IDs equal weight with physical ones, meaning Ukrainians will no longer have to present a plastic card to access health services in the near future (Government Portal, 2021). The open data features of the eHealth system enable physicians to view nationwide and oblast-level health trends and to issue electronic referrals to patients. Further additions to the eHealth system were planned for 2021, including electronic prescription, electronic sick leave and a service called "eBaby" that provides new parents with up to ten services from different offices, such as state registration of birth, registration in the eHealth Registry of Patients and potential allowances, without needing to visit them (NHSU, 2020).

**Fig.5**

Ukraine has more physicians per population than the WHO European Region overall

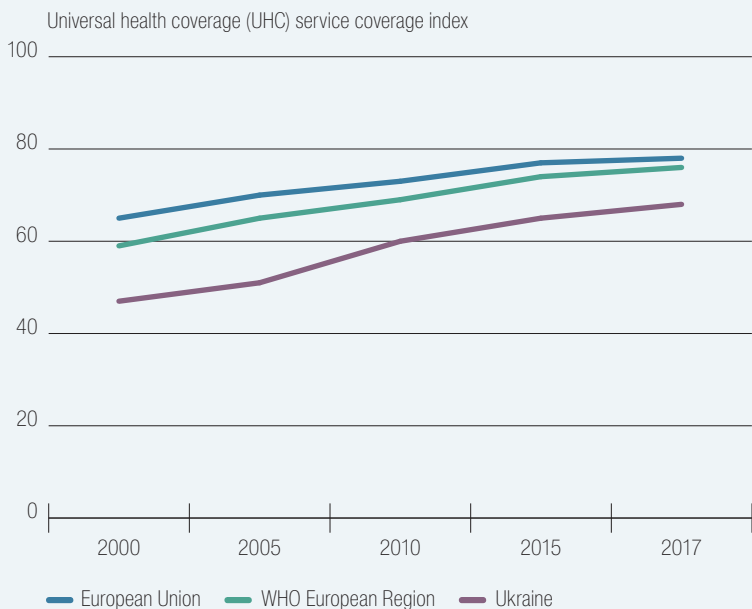


**Notes:** 2014 data for the European Union and the WHO European Region, 2015 or latest available for countries, 2019 for Ukraine; numbers of nurses include midwives and feldshers.

**Sources:** WHO, 2021d; State Statistics Service of Ukraine.

**Fig.6**

Ukraine remains below the regional averages for UHC service coverage



**Note:** Universal health coverage service coverage index in 2017, defined as the average estimated coverage of essential services based on tracer interventions that include reproductive, maternal, newborn and child health; infectious diseases; noncommunicable diseases; and service capacity and access; among the general and the most disadvantaged population.

**Source:** WHO, 2021e.

### Ukraine is experiencing a shortage of physicians and nurses in rural areas

The number of physicians in Ukraine has been decreasing in recent years. One reason for this trend is an ageing workforce. In 2019, 24.7% of active physicians had reached retirement age (Ministry of Health, 2019). Furthermore, there has been an increase in the emigration of health workers and in physicians seeking work outside the state health system.

There were 417 physicians per 100 000 population in 2019 (excluding dentists), a decline from 462 in 2000. Numbers of nurses and midwives in Ukraine have declined from 1103 per 100 000 population in 2000 to 743 in 2019. Factors contributing to this decline include low wages, low status of the nursing profession and limited opportunities for professional development. The decline in the numbers of health workers in recent years is also due to the fact that data from territories outside government control have not been included in national statistics since 2014.

The largest staff shortages are in rural areas, where primary care staff is increasingly lacking, resulting in underequipped and financially unviable facilities. Many health facilities have tried using incentives (such as increased wages or housing) to attract GPs and specialists, in order to avoid risking non-compliance with NHSU contracting regulations on staffing and equipment (NHSU, 2020).

## Access to health services has improved, but there are also increasing levels of unmet needs

In terms of the universal health coverage (UHC) service coverage index, access to essential services has increased from 47 (out of 100) in 2000 to 68 in 2017, although this was still below the averages for the EU and the WHO European Region (Fig. 6). As previously mentioned, there are considerable out-of-pocket payments (including informal payments) which result in barriers to access and reduce transparency in the health system.

The share of people reporting unmet needs for health care increased from 10% in 2010 to 29% in 2015 (Goroshko, Shapoval & Lai, 2018). In both years the most common reason for unmet needs was cost. Data from the Health Index Ukraine survey for 2016 indicate that nearly one third of people in need of hospitalization did not use it due to cost (Goroshko, Shapoval & Lai, 2018). There is also evidence of substantial income inequality in unmet needs: poorer households are much more likely to report unmet needs than richer households, particularly for inpatient care. Very few mechanisms are in place to protect poor people and regular users of health services from out-of-pocket payments and rising health-care prices.

## The HIV, TB and viral hepatitis epidemics remain threats to public health in Ukraine

In November 2019 the Ukrainian government adopted a public health approach to countering these epidemics through the approval of a National Strategy on HIV, Tuberculosis and Viral Hepatitis up to 2030. The strategy takes a patient-centred and integrated approach that focuses on prevention programmes targeting key populations while expanding access to treatment.

Ukraine is at a critical juncture in the evolution of its HIV epidemic. As the country with the second highest burden of HIV in the WHO European Region, Ukraine is a fast-track priority country for scaling up HIV treatment towards reaching 90:90:90 in 2020 (95:95:95 in 2025) HIV targets and achieving the goal of ending the AIDS epidemic as a public health threat by 2030. So far, there have been demonstrable improvements across the national HIV treatment cascade in diagnosing and treating HIV. This includes an increase in the percentage of persons living with HIV who are aware of their status (from 56% in 2017 to 67% in 2019). Furthermore, there has been an increase in the percentage of persons living with HIV who are aware of their status and receive antiretroviral therapy (ART) (from 72% in 2017 to 80% in 2019). Finally, there has been an increase in the percentage of persons living with HIV who are aware of their status, receive ART and achieve viral suppression (from 89% in 2017 to 95% in 2019). Despite this progress, 30% of persons living with HIV were not aware of their status and 20% did not initiate ART in 2019 (Fig. 7).

**Fig. 7**

Ukraine has improved diagnosis and treatment of HIV patients



**Note:** ART: antiretroviral therapy.

**Source:** UNAIDS, 2020.

Tuberculosis re-emerged as a public health challenge in Ukraine in the 1990s. Since 2004 the estimated TB incidence rate has decreased by 37%, from over 127 cases per 100 000 in 2004–2005 to 80 per 100 000 in 2018 (WHO, 2019a). During the same period TB mortality (excluding HIV) has decreased by 69% (from 25 to 8.3 cases per 100 000) (WHO, 2019a). Despite an increase in the effective treatment coverage of TB since 2005 (Fig. 8), only 57% of TB cases were detected and successfully treated in 2017, highlighting the need for further national policy initiatives to fight TB. In November 2019 Ukraine approved the 2020–2023 State Strategy for Development of Anti-tuberculosis Care for the Population.

Despite the overall downward trend, the burden of TB in Ukraine remains significant. According to WHO estimates, Ukraine has the 4th highest TB incidence (new cases and relapses) among the 53 countries of the WHO European Region (WHO, 2019a). The high burden of anti-TB drug resistance is a major obstacle for effective TB control in Ukraine. WHO estimates that among bacteriologically confirmed pulmonary TB cases notified in 2018, 6900 had rifampicin-resistant TB (RR-TB), representing 29% of new TB patients and 46% of previously treated patients (WHO, 2020d). These rates are high in comparison with other countries of the WHO European Region.

Ukraine is among the WHO European Region's 18 high-priority countries for TB prevention and care and among the 10 highest multidrug-resistant (MDR)-TB burden countries. Among newly diagnosed cases nearly 29% are diagnosed with drug-resistant TB (DR-TB). The fact that every year about a quarter of TB cases are not detected in time contributes to its further spread in the population.

Viral hepatitis is a significant cause of death and disability in Ukraine and, according to estimates from 2018, approximately 3.6% of the adult population were infected with the chronic hepatitis C virus and 1.5% were infected with the chronic hepatitis B virus (Ministry of Health, 2020b). In 2019, 5906 newly diagnosed cases of chronic hepatitis C and 1560 newly diagnosed cases of chronic hepatitis B were reported in Ukraine (Ministry of Health, 2020b). Standards and guidelines for the prevention, diagnosis and treatment of viral hepatitis are being implemented. Recent achievements in the fight against hepatitis include a substantial increase in the provision of generic direct-acting antivirals for hepatitis C treatment and approval of the “National Strategy on HIV, TB and hepatitis 2030”, calling for the reduction of new cases of viral hepatitis and the reduction of viral hepatitis mortality by 10% in 2025 and 65% in 2030.

## 4 IMPROVING THE HEALTH OF THE POPULATION

### Life expectancy in Ukraine increased in the last two decades, but remains one of the lowest in Europe

Life expectancy at birth in Ukraine increased from 67.9 years in 2000 to 73.3 years in 2019 (Fig. 9). Despite this gain of 5.4 years prior to the COVID-19 pandemic, Ukraine remains one of the countries in the WHO European Region with the lowest life expectancy. Advancements in cancer detection and care, along with the improved management of chronic respiratory conditions, have played a role in improving life expectancy in recent years. However, there are rising numbers of deaths due to Alzheimer's disease and a continuously high mortality due to cirrhosis and self-harm.

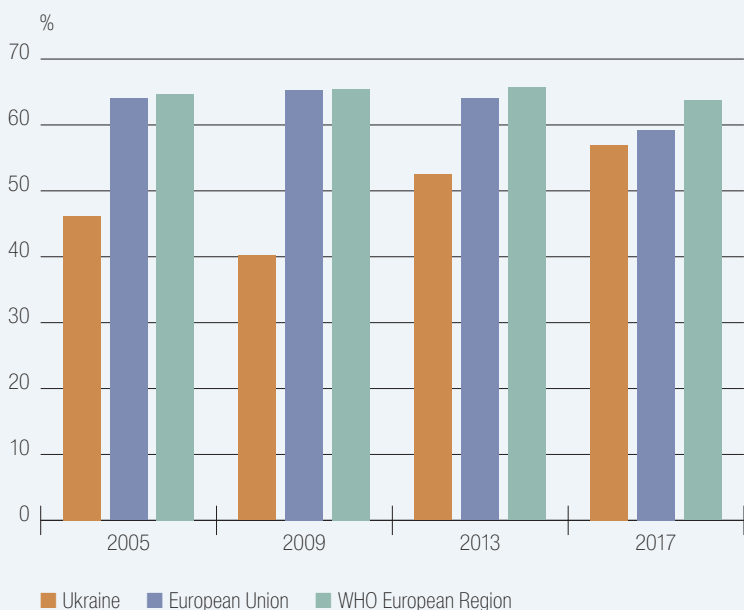
Gender disparities in life expectancy in Ukraine are far greater than the averages for the EU and the WHO European Region. In 2000 Ukrainian females lived 11.3 years longer than Ukrainian males (versus 6.6 years in the EU and 7.7 years in the WHO European Region), a gap that had slightly narrowed to 10 years by 2019. Part of the large gap between females and males is explained by the higher death rates due to external causes among men.

### Advancements in newborn and maternal health have resulted in declining mortality rates

In 2017, 19 women per 100 000 live births died due to pregnancy complications, a decline from 35 in 2000. While these figures are still above the averages for the WHO European Region (13 per 100 000 in 2017) and the EU (6.1 per 100 000 in 2017), the downward

Fig. 8

Effective treatment coverage of TB has increased

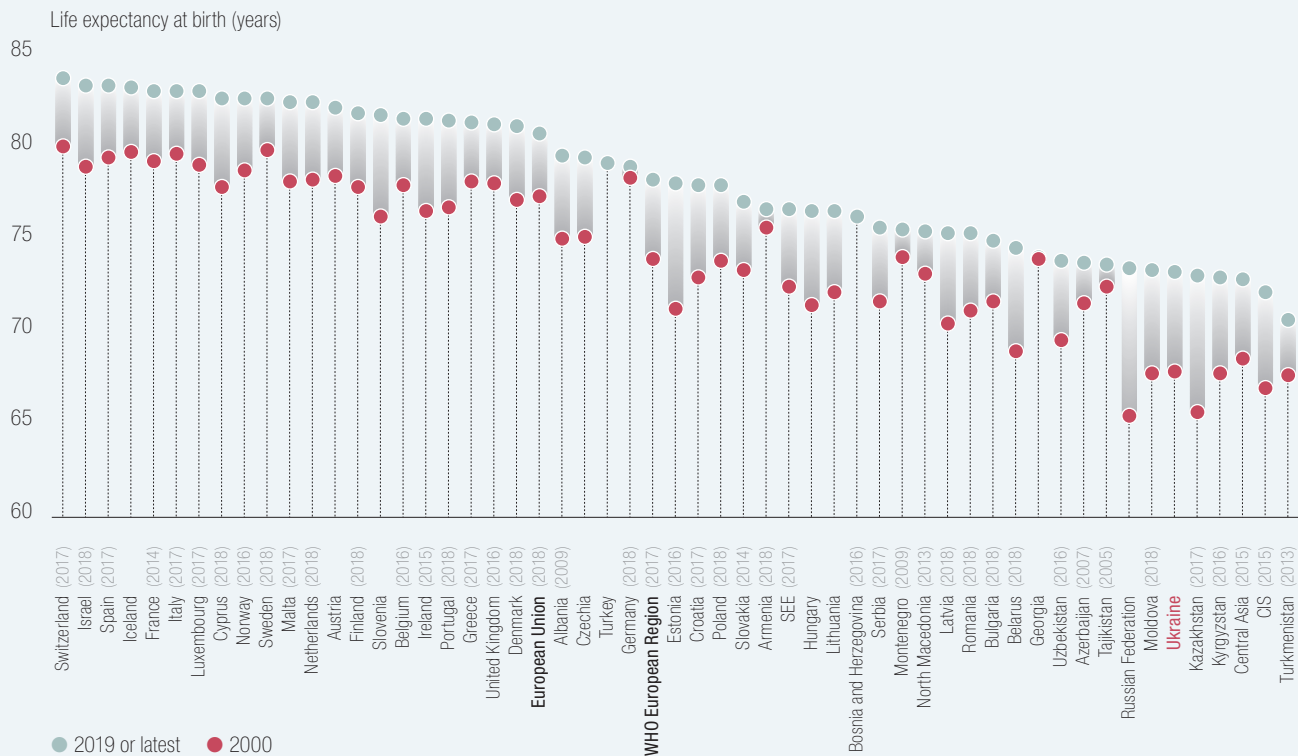


Note: \*2006 data for Ukraine. Proportion of TB cases detected and successfully treated (estimate).

Source: WHO, 2021e.

Fig. 9

Despite gains in life expectancy since 2000, Ukraine lags behind most other countries in Europe



**Notes:** Data are for 2019 or latest available year (shown in brackets). CIS: Commonwealth of Independent States; SEE: South Eastern European countries (Albania, Bosnia and Herzegovina, Bulgaria, Croatia, Montenegro, North Macedonia, Romania, Serbia).

**Source:** WHO, 2021d.

trend reflects improvements in perinatal care and targeted efforts by health authorities (Marushko & Dudina, 2020). In 2017 the Ministry of Health and the UNICEF country office jointly launched the national “Happy Pregnancy” campaign with the goals of promoting timely medical examinations from the beginning of a pregnancy and tackling low levels of awareness about the possibility of various health complications (Ministry of Health, 2017). However, reducing maternal mortality, especially from preventable causes, is still an unfinished agenda for Ukraine.

The infant mortality rate declined by more than half – from 15.7 per 1000 live births in 2000 to 7.2 in 2019, ranking just below the average for the WHO European Region (7.5 in 2018). However, there are high geographic disparities in newborn deaths (Fig. 10). For example, the rate in Zakarpattia oblast has remained unchanged at 10.9 deaths per 1000 live births since 2010 (StateAnalitInform, 2020), while the establishment of regional multilevel systems for perinatal care has resulted in improvements in other parts of the country (Slabiky, Dudina & Gaboretz, 2018). Lack of tertiary care providers in Zakarpattia oblast has been suggested as one reason for the stagnating rate of neonatal deaths.

## Noncommunicable diseases are responsible for nearly 80% of deaths and 90% of premature deaths

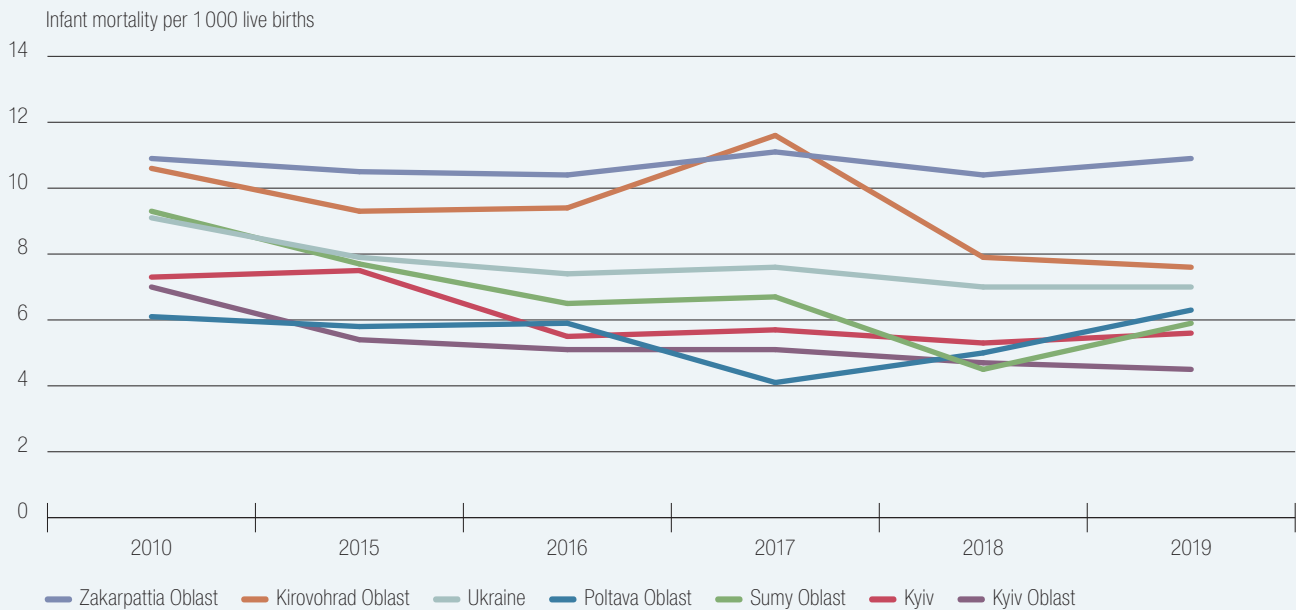
Nearly 80% of all deaths in Ukraine are attributable to circulatory system diseases, cancer and respiratory diseases. In 2017 almost 400 deaths per 100 000 population occurred due to ischaemic heart disease, compared to 136 in the WHO European Region and 63 in the EU (Fig. 11).

To overcome the challenges of noncommunicable diseases in the context of an ageing population, declining birth rates and increasing life expectancy, the Ukrainian government developed and endorsed the National NCD Action Plan (2018–2030). The plan defines priorities and actions on NCD control and prevention and assigns responsibilities among the various stakeholders. While the NCD Action Plan mainly targets metabolic and behavioural risk factors, it also covers issues related to road safety and environmental health risk factors.

Noncommunicable diseases are also the leading cause of premature mortality (among those aged 30–69). Premature mortality rates from four major noncommunicable diseases (cardiovascular diseases, cancer, diabetes mellitus and chronic respiratory diseases) combined amounted in 2019 to 584 per

**Fig. 10**

There are geographical disparities in infant mortality



**Note:** National average and selected oblasts.

**Source:** State Statistics Service of Ukraine.

100 000 population (**Fig. 12**). This was much higher than the averages for the WHO European Region (359 in 2017) and the EU (261 in 2018).

## Unhealthy diets and smoking are major behavioural drivers of mortality in Ukraine

A diet low in fruits and vegetables but high in salt, sugar and trans-fats is estimated to account for 28.2% of all deaths in the country (**Fig. 13**). Poor diets are also related to other metabolic and biological risks, such as high systolic blood pressure (estimated to account for 34.1% of mortality) and high levels of LDL cholesterol (23.5%). Paired with physical inactivity, an unhealthy diet results in a rising prevalence of overweight: 58.4% of all adults had a BMI higher than 25 kg/m<sup>2</sup> in 2016, up from 52.2% in 2000. This corresponds to an increase in the number of overweight people in the EU from 52.1% in 2000 to 59.4% in 2016.

The Ukrainian Ministry of Health together with WHO developed and introduced multi-level training interventions aimed to strengthen service delivery at the primary care level in risk assessment, early detection and management of cardiovascular diseases (CVDs) (WHO, 2020a). As part of these efforts, Ukraine is implementing internationally recognized screening mechanisms for the early detection of NCD risk factors, which have improved the management of hypertension and diabetes at the primary care level (WHO, 2020a).

Tobacco consumption is another major behavioural risk factor, estimated to account for 18% of all deaths in 2019. Smoking prevalence among males aged 15 and over is considerably higher than among females (50.3% vs 16.7% in 2019) and smoking among males in Ukraine (50.3%) is much more prevalent than in the EU (28.1%) and the WHO European Region (33.1%). Additionally, the risk of second-hand smoke exposure remains high. According to the 2019 STEPS survey from the Ministry of Health and the WHO Country Office in Ukraine, 30.4% of adults who worked indoors were exposed to tobacco smoke at their workplace and 30.2% were exposed in their homes. This highlights the need for stricter tobacco control policies (**Box 2**) (WHO, 2020e).

There is a smoking ban in indoor workplaces and public places, but a lack of formal enforcement. The taxation of tobacco products remains an underused mechanism for tobacco control. Ukraine has since 2016 been unable to keep the tax share at or above the 75% level (as recommended by WHO). The country did start taxing e-cigarette liquids in 2021, but no comprehensive network for tobacco control action currently exists.

## Poverty and air pollution threaten health status improvements

Poverty levels in Ukraine have been influenced by recent military conflicts and rose sharply in 2015 after years of progress, with over 58% of the population falling below the national poverty line. The poverty rate declined to 38.5% in 2019, but this was still far above the average of the WHO European Region



(14.9%). The impact of the COVID-19 crisis is likely to reverse this recent progress (Cherenko et al., 2020).

Environmental risk factors, such as air pollution, also continue to pose threats to health: 6.6% of all deaths in 2019 were estimated to be due to outdoor and indoor air pollution (Fig. 13), while 5.6% of deaths due to cardiovascular diseases were attributed to ambient particulate air pollution. Reduction in emissions of air pollutants from stationary sources remains a priority in the context of achieving the sustainable development goals (SDGs). The Ukrainian government has endorsed state policies on industrial pollution as a part of the National NCD Action Plan and the EU-Ukraine Association Agreement (Ministry for Development of Economy, Trade and Agriculture of Ukraine, 2020).

## Mental health disparities exist between females and males and COVID-19 brought new challenges

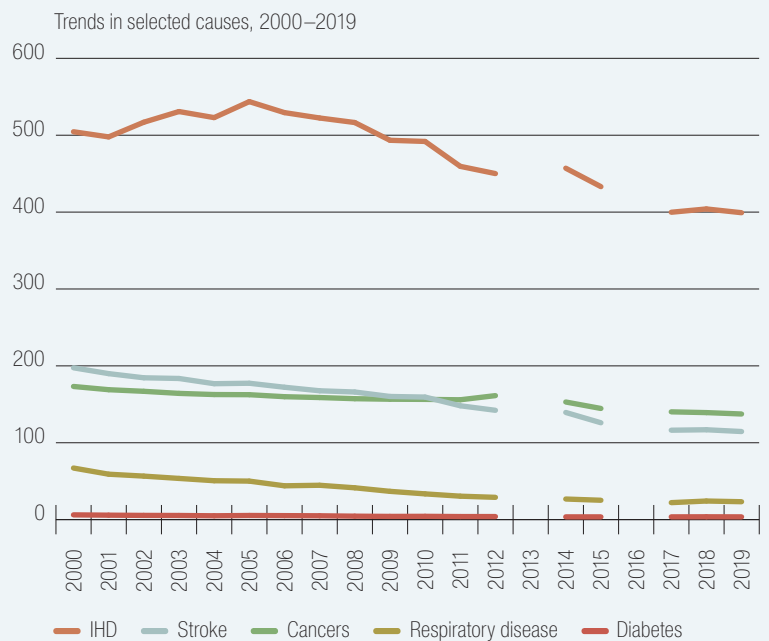
Documentation of mental health issues in Ukraine has improved in recent years. In a survey in 2019 one in eight reported symptoms of depression. This rate was nearly twice as high among women (16.2%) than among men (8.7%). The rate of those with diagnosed depression was higher in urban than in rural areas (3.7% and 1.7% respectively), partly due to the fact that access to mental health services is lower in rural areas. While only 0.4% of the population had received treatment for depression, 1.1% acknowledged having suicidal thoughts over the previous 12 months (WHO, 2020f). The suicide rate among males in Ukraine, at 57 deaths per 100 000 in 2019, was the highest in the WHO European Region (IHME, 2019).

Pre-existing high mental health needs of the population in the conflict territories have intensified due to COVID-19. Access to mental health and psychosocial support services declined due to lockdowns, exacerbated by the poor quality of mobile/Internet connections, and underdeveloped technology skills among older people (Humanitarian Response, 2021; UN OCHA, 2021).

Mental health care in Ukraine is highly centralized and focuses mainly on inpatient psychiatric institutions, where low availability of human resources for mental health is a challenge (nine workers per 100 000 population in 2019). The government has adopted the 2017 Mental Health Care Development Concept followed by the Mental Health Action Plan. These aim to improve access to mental health care through deinstitutionalization and development of community-based services, as well as strengthening professional competences of health workers, increasing awareness about mental health, and addressing discrimination and human rights violations of individuals with mental health problems (WHO, 2020g). The Ministry of Health of Ukraine and the NHSU also introduced a new service package in 2021 called Community Mental Health Teams, as part of the PMG (see Section 1). This package is aimed at increasing access to mental health care in community settings (Ministry of Health, 2021).

**Fig. 11**

Mortality due to ischaemic heart disease has declined since 2005 but remains high



**Note:** Deaths per 100 000 population; IHD: ischaemic heart disease.

**Source:** WHO, 2021b.

**Fig. 12**

Premature mortality caused by NCDs has declined but is more than double the EU average



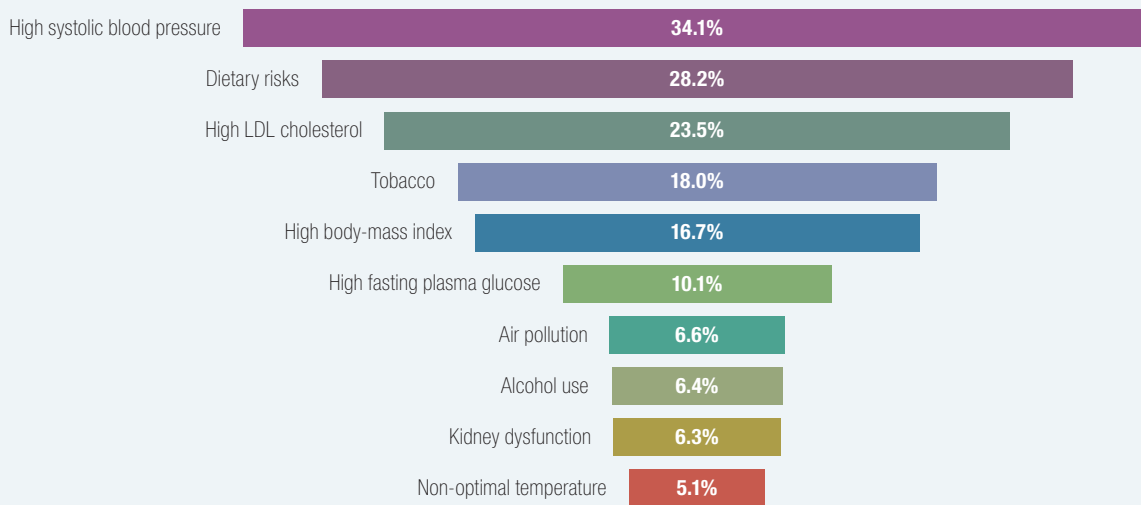
**Note:** Premature mortality (in people aged 30–69 years) from major noncommunicable diseases (cardiovascular diseases, cancer, diabetes mellitus and chronic respiratory diseases).

**Source:** WHO, 2021d.

**Fig. 13**

High blood pressure, dietary risks and high LDL cholesterol are the main immediate risk factors as a share of all deaths

#### Top 10 risk factors as a share of all deaths



**Note:** Shares overlap and therefore add up to more than 100%.

**Source:** IHME, 2019.

#### Box 2

Ukraine has made progress in tobacco control, but policies need to be stepped up

Ukraine's focus in public health action has shifted in recent years towards a reduction in the prevalence of NCDs. The Ministry of Health, in close collaboration with the WHO Country Office, has been working to develop preventive policies and strengthen the health system's ability to respond to changing morbidity and mortality patterns. In 2006 Ukraine became one of the 181 Member States to ratify the WHO Framework Convention on Tobacco Control (WHO FCTC). Following that, progress was seen in implementing the essential articles of the WHO FCTC, with a nearly 20% decline in smokers between 2010 and 2017 (WHO, 2020e). It also eliminated tobacco advertising (further banning advertising for electronic cigarettes in 2021) and launched a national hotline dedicated to helping those who want to quit smoking, as well as the internet portal <http://stopsmoking.org.ua/> to offer comprehensive information on quitting smoking.

## 5 SPOTLIGHT ON COVID-19

Ukraine has responded to COVID-19 with a multilevel approach, while struggling with infection prevention and control

The 2019 self-assessment on capacities for the implementation of the International Health Regulations (IHR) in Ukraine had mixed results (Fig. 14). Ukraine scored better than the average of the WHO European Region in terms of legislation and financing, even at capacity at points of entry and laboratories, and lower in terms of national health emergency framework (60% vs 74%), risk communication (40% vs. 66%) and health service provision (53% vs. 79%). While the Public Health Centre of the Ministry of Health (UPHC) has been designated by the Ministry to lead in this area, it faces challenges in engaging and coordinating multisectoral decision-making regarding IHR implementation (WHO, 2019b). This has also given rise to a parallel system whereby the State Border Service assumes authority for IHR-related activities at points of entry. As such, the Joint External Evaluation (JEE) was launched in Ukraine in March 2021 with the aim of comprehensively assessing the country's capacity to prevent, detect and rapidly respond to public health risks in the IHR framework. Under the leadership of the Ministry of Health, 36 national institutions are involved

in the JEE process in Ukraine. The results will help the Ministry of Health identify the most critical gaps in IHR implementation, prioritize actions to improve preparedness and response capacities for public health threats, and establish a regulatory framework at the strategic and technical level (procedures for routine and emergency operations, technical requirements and capacities at the points of entry, etc.) to boost core capacities and effective public health response at points of entry.

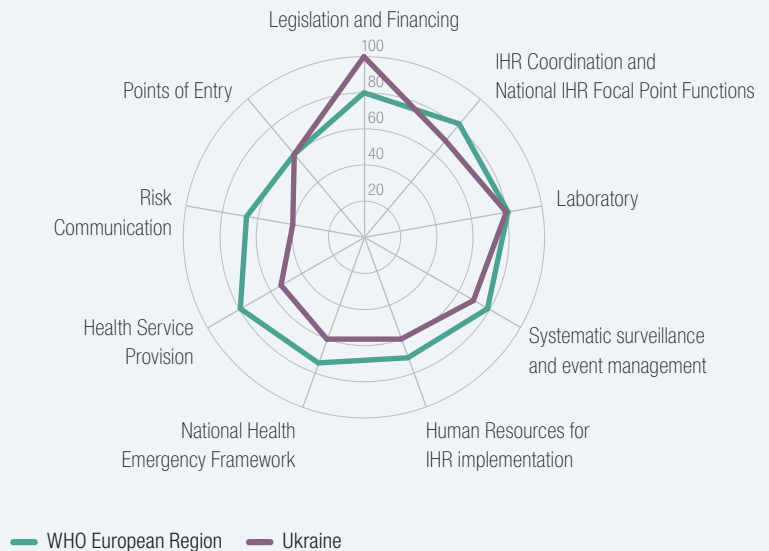
New focus was also put towards creating infection and prevention control (IPC) policies for Ukraine as the pandemic developed, including how to repurpose hospital wards as well as improving waste management practices and reprocessing medical devices. According to a 2021 follow-up report from the WHO European Region, health workers faced a lot of difficulties during the pandemic in accessing personal protective equipment (PPE) and other hygienic supplies (WHO, 2021b).

Ukraine's government set up an Emergency Operation Committee through the Ministry of Health in January 2020. As the country did not have a specific pandemic response plan in place, the COVID-19 National Action Plan (NAP) was approved on 3 February 2020 and tasked the Chief State Sanitary Doctor (who was also the Deputy Health Minister) with ensuring intersectoral coordination within the government. The NAP and follow-up legislation activated key stakeholders in a multilevel approach (involving national ministries/state authorities and regional governments) to design and implement regional response plans, develop standard COVID-19 medical pathways and prepare procurement plans for the health system. Support also came from international partners, the private sector and WHO (Habicht & Piven, 2021). While the efforts of the government and external partners kept Ukraine's health system from collapsing and in better shape than some European neighbours, recorded deaths per 100 000 population from COVID-19 in the country were still high (Fig. 15).

In January 2021 the Ministry of Health (with WHO Country Office support) conducted the Intra-action review for COVID-19 to identify current best practices, gaps and lessons learned, as well as to propose corrective measures and actions to improve and strengthen the continued COVID-19 response. Five main priorities were identified: (1) development and audit of the regulatory framework for emergency preparedness in public health; (2) development of a National Emergency Preparedness and Response Plan; (3) establishment of a single body responsible for coordinating actions and consolidating information from all parties involved in responding to public health emergencies; (4) development of a risk communication strategy; and (5) development of a training strategy for public health specialists (including epidemiologists, biosafety specialists and others).

**Fig. 14**

Ukraine had uneven capacities for the implementation of the International Health Regulations prior to the COVID-19 pandemic

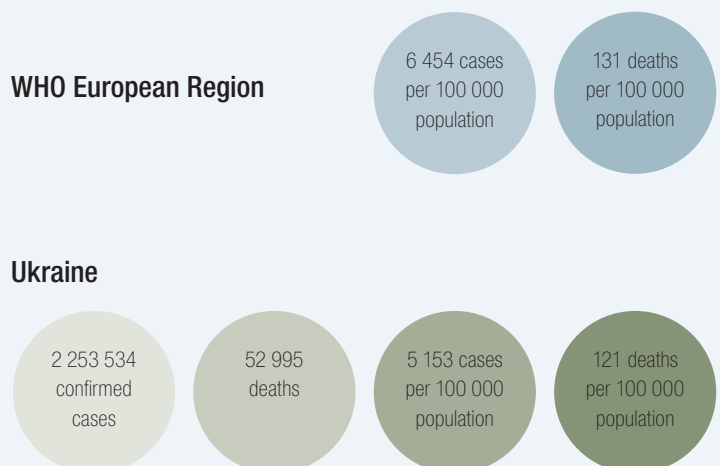


**Note:** Country self-assessment on selected core capacities for the implementation of the International Health Regulations.

**Source:** WHO, 2021e.

**Fig. 15**

COVID-19 had a stark impact on the Ukrainian population



**Note:** Data as of 3 August 2021.

**Source:** WHO, 2021f.

## Disruptions to essential health services were navigated in conjunction with WHO

While elective procedures were initially postponed, neonatal care, cancer and palliative care, along with other urgent procedures, continued to be provided. WHO and the UPHC offered courses for primary and essential care workers to help with psychological support for their patients as well as stress management in the workplace. Regional emergency commissions throughout Ukraine also directed primary care providers and specialists to manage patients with chronic diseases (except for those with acute conditions) via remote consultations during the pandemic, and in the case of treatment they were sent to hospitals providing services to non-COVID-19 patients.

The Ministry of Health, aided by WHO, developed a national blueprint to organize and continue regular vaccinations during the COVID-19 outbreak, and helped the vaccination rate recover by May–July 2020 from disruptions in March and April 2020. UPHC (with help from WHO) also put focus on maintaining and improving HIV service provision after the first lockdown. Additional efforts were taken to reconfigure service delivery that included designating 393 hospitals as first-line response centres (Habicht & Piven, 2021).

## 6 EUROPEAN PROGRAMME OF WORK (EPW)

### Moving towards universal health coverage

In 2020 the WHO Country Office supported the Ministry of Health in the implementation of the National Health Strategy and engagement with key stakeholders through policy dialogues. Dialogues with the NHSU yielded nationwide changes in contracting and financing of hospitals by the NHSU, opening the door for significant improvements in the efficiency of service delivery by tying the funding and income of health care providers to the volume and quality of services provided to patients.

There is a national consensus that Ukraine needs to redefine the service delivery model for primary care. A “Concept on primary health care development 2021–2031” has been developed that outlines future reform directions.

Regarding pharmaceuticals, progress was made in building the capacity of the National Regulatory Authority by enhancing fast-track registration of essential medicines, the surveillance of drugs in the marketplace, and monitoring substandard and falsified health products. Policy dialogues facilitated the launch of the benchmark assessment of the National Regulatory Authority, using WHO’s Global Benchmarking Tool to identify strengths and areas for improvement. WHO also provided technical support and capacity building to ensure the consolidation of best practices on priority medicines selection when updating the National Essential Medicines List (NEML). Strengthening of the central procurement agency of the Ministry of Health and development of its quality assurance system was initiated and is ongoing.

## COUNTRY DATA SUMMARY

	Ukraine	WHO European Region	EU-28
Life expectancy at birth, both sexes combined <sup>a</sup>	73.3 (2019)	78.3 (2017)	81.2 (2017)
Estimated maternal mortality per 100 000 live births (2017)	19	13	6.1
Estimated infant mortality per 1000 live births <sup>a</sup> (2019)	7.2	7.5 (2018)	3.5 (2018)
Population size, in millions (2019)	44.6	927.2	512
GDP per capita, PPP US\$ (2019)	13 341	36 813	46 699

<sup>a</sup> Latest year for which data are available shown in brackets.

**Notes:** EU-28: 28 EU Member States until 2020; GDP: gross domestic product; PPP: purchasing power parity.

**Sources:** WHO, 2021d; World Bank, 2021.

## Protecting against health emergencies

During the COVID-19 pandemic WHO has supported laboratory capacities and contributed to the roll-out of the Electronic Integrated Disease Surveillance System (EIDSS) in Oblast Laboratory Centres across the country. WHO was also involved in efforts for contingency planning and disaster risk reduction in eastern Ukraine, including the strengthening of surveillance and early warning systems for the effective and systematic collection, analysis and communication of relevant health risk information.

As lead coordinator for Ukraine's Strategic Preparedness and Response Plan (SPRP), WHO led the development of the Country Preparedness and Response Plan and supported its adaptation throughout the year. WHO engaged with all relevant national and international stakeholders involved in preparedness, readiness and response for emergencies in the relevant capacity building and other technical activities.

WHO continued supporting the institutionalization of a new legal framework for public health and the development of the first Public Health System Law in the country. With no legal precedents in Ukraine, this law represents an important step for health systems reform and reaching communities across the country. Finally, WHO assisted with a Pandemic Influenza Preparedness (PIP) framework to provide expert advice to the government of Ukraine on how to improve and strengthen the sharing of data on influenza viruses with human pandemic potential.

## Promoting health and well-being

WHO led the preparation of a series of technical meetings to sustain progress on NCDs, building on a four-year project implemented on NCD Prevention and Health Promotion in Ukraine in 2015–2019. Moreover, WHO supported national authorities and health practitioners on how best to plan, design and implement diabetic retinopathy screening programmes, and how to lead successful Therapeutic Patient Education programmes for people with chronic diseases.

In Ukraine one out of four breast cancers are diagnosed at a later stage. WHO provided technical guidance to the Ministry of Health to boost investments in high quality and advanced rapid identification centres with the goal of providing adequate, efficient and sustainable early diagnosis interventions that can identify cancer in patients with symptoms. WHO also organized technical consultations among national authorities and relevant health experts to tailor services and strategies more effectively to the needs of the country.

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## WHO Regional Office for Europe

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WHO is the authority responsible for public health within the United Nations system. The WHO Regional Office for Europe (WHO/Europe) covers 53 countries, from the Atlantic to the Pacific oceans.

To support countries, WHO/Europe seeks to deliver a new vision for health, building a pan-European culture of health, where health and well-being goals guide public and private decision-making, and everyone can make healthy choices. WHO/Europe aims to inspire and support all its Member States to improve the health of their populations at all ages. WHO/Europe does this by providing a roadmap for the Region's future to better health; ensuring health security in the face of emergencies and other threats to health; empowering people and increasing health behaviour insights; supporting health transformation at all levels of health systems; and by leveraging strategic partnerships for better health.

## European Programme of Work 'United Action for Better Health in Europe'

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The European Programme of Work (EPW) sets out a vision of how the WHO Regional Office for Europe can better support countries in our region in meeting citizens' expectations about health.

The social, political, economic and health landscape in the WHO European Region is changing. United action for better health is the new vision that aims to support countries in these changing times. "United", because partnership is an ethical duty and essential for success, and "action" because countries have stressed their wish to see WHO move from the "what" to the "how", exchanging knowledge to solve real problems. The WHO European Region's solidarity is a precious asset to be nurtured and preserved and, through the EPW, WHO/Europe supports countries as they work together to serve their citizens, learning from their challenges and successes.

## The European Observatory on Health Systems and Policies

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The European Observatory on Health Systems and Policies supports and promotes evidence-based health policy-making so that countries can take more informed decisions to improve the health of their populations. It brings together a wide range of policy-makers, academics and practitioners, drawing on their knowledge and experience to offer comprehensive and rigorous analysis of health systems in Europe. The Observatory is a partnership hosted by WHO/Europe. Partners include the governments of Austria, Belgium, Finland, Ireland, Norway, Slovenia, Spain, Sweden, Switzerland, the United Kingdom, and the Veneto Region of Italy (with Agenas); the European Commission; the French National Union of Health Insurance Funds (UNCAM), the Health Foundation; the London School of Economics and Political Science (LSE) and the London School of Hygiene & Tropical Medicine (LSHTM). The Observatory is based in Brussels with hubs in London (at LSE and LSHTM) and at the Berlin University of Technology.