

Ukraine

Last update:
July 2022

Public Health Situation Analysis

(PHSA) – Long-form

EXTERNAL VERSION

Typologies of emergency	Main health threats	WHO grade	Security level	INFORM risk (rank)
	Trauma COVID-19 NCDs/MHPSS Infectious diseases	3 (for regional crisis)	5 (High)	5.1/10 (43) mid-2022



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The spelling of Ukrainian place names is following the recommendations of the Ministry of Foreign Affairs of Ukraine.¹ When referring to administrative levels, *oblast* and *region* are used interchangeably. It is acknowledged that *war* and *conflict* have different connotations. Where *conflict* is used, reference is made to the ongoing war following the Russian invasion of Ukraine on 24 February 2022.

Some data are repeated in more than one section in order to facilitate quick reference.

Health Cluster Ukraine is the Lead Agency for this report.

¹ [Ministry of Foreign Affairs of Ukraine, #CorrectUA, 19 December 2019.](#)

Executive Summary

Note: This update to the Public Health Situation Analysis (PHSA) builds upon the rapidly-developed document published on 3 March 2022 and the update published on 29 April 2022. This update adds depth to the information presented in the previous version, tracks changes in the situation, considers additional threats, and incorporates data from assessments.

Health Cluster Ukraine continues to serve as the coordinating link between over 149 partners engaged in humanitarian health activities in Ukraine. This Public Health Situation Analysis (PHSA) is one of the resources developed by the Health Cluster secretariat to promote a common understanding of the public health situation in Ukraine.

The invasion of Ukraine on 24 February 2022 has caused massive civilian displacement and casualties. An estimated 6.6 million people are internally displaced,² and approximately 6.2 million have fled from the conflict and registered as refugees across Europe.³ As of 24 July 2022, 12 272 civilian casualties were recorded, with a reported 5237 killed and 7035 injured.⁴ The number of attacks against health facilities and the use of heavy weapons to commit the incidents is extremely high given the short period of time. As of 27 July 2022, there were verified 414 attacks on health care, which took the lives of 85 people and injured 100 people.⁵

Health status and threats

With large population movements, increased social mixing, and disruption of vaccination services and surveillance, there is an increased risk of outbreaks of vaccine-preventable and other outbreak-prone diseases. Prior to the war, vaccination coverage was particularly low for polio, measles and hepatitis B (HBV), and COVID-19 vaccine uptake was among the lowest in Europe.⁶ Tuberculosis (TB), HIV and viral hepatitis programmes have been disrupted, impeding access to medicines and potentially interrupting testing and delaying treatment. In 2020, Ukraine had the second highest rate of newly diagnosed HIV infections in the WHO European Region⁷ and had been identified as one of the top 20 countries with the highest estimated number of drug-resistant TB cases.⁸

Ukraine also has a very high prevalence of non-communicable diseases (NCDs) and their behavioural and biological risk factors, especially in men.⁹ Access to essential health services and medications are crucial for the treatment of NCDs, particularly prevalent in older persons, many of whom have been unable to flee due to reduced mobility.

There have been increasing reports of gastrointestinal infections and bacterial diseases;¹⁰ in the first six months of 2022, there has been a 40% increase in the number of cases of acute intestinal infections compared to the same period in 2021.¹¹ Botulism cases, linked to the consumption of contaminated meat and fish, have been reported in several oblasts. In addition, waterborne diseases are likely to become widespread in conflict zones, particularly over the summer months. A lack of access to water due to disruption to services and damage to distribution systems has

² [IOM, Ukraine - Internal Displacement Report - General Population Survey Round 7 \(17-23 July 2022\), 29 July 2022.](#)

³ [UNHCR, Operational Data Portal, 28 July 2022.](#)

⁴ [UNHCR, Ukraine: Civilian Casualty Update, 25 July 2022.](#)

⁵ [WHO, Surveillance System for Attacks on Health Care, accessed 28 July 2022.](#)

⁶ [European Centre for Disease Prevention and Control, Operational considerations for the prevention and control of infectious disease in the context of Russia's aggression towards Ukraine, March 2022](#)

⁷ [European Centre for Disease Prevention and Control, Operational considerations for the provision of HIV continuum of care for refugees from Ukraine in the WU/EEA, July 2022](#)

⁸ [WHO, Global Tuberculosis Report 2021, 14 October 2021.](#)

⁹ [WHO, Steps Prevalence of Noncommunicable disease risk factors in Ukraine 2019, 2020.](#)

¹⁰ [Public Health Center, In Ukraine, cases of acute intestinal infections increased by 40%, 29 July 2022.](#)

¹¹ [Ibid.](#)

resulted in increased reliance by the population on well water, rainwater, and water run-off.¹² As a result, thousands of civilians are at risk of contracting illnesses such as cholera and dysentery, due to damaged water and sanitation systems, especially in areas around the Azov Sea.

Ukraine's maternal mortality ratio remains among the highest levels compared to neighbouring countries, nearly 10 times that of neighbouring Poland, and the war is likely to worsen the situation.¹³ It is estimated that there were around 265 000 women pregnant in Ukraine at the time of the invasion, and that roughly half (132 500) of these pregnant women will deliver by the end of July 2022.¹⁴

Vulnerable groups affected

Vulnerable groups are disproportionately impacted by health threats and barriers to accessing health care. Vulnerable groups in the conflict-affected regions include people over the age of 60, people with disabilities, children and youth, women and girls, victims of human trafficking, Roma, health care workers, and internally displaced persons (IDPs). The majority of the displaced population are women and girls, increasing the need for woman-, adolescent- and child-specific services. However, men both on and off the battlefield are at a high risk of war-related injury and death, as well as psychological trauma, increasing the need for, among others, rehabilitation as well as mental health and psychosocial support.

Infrastructural damage

The war has caused significant infrastructural damage, leaving hundreds of thousands of people without electricity or water.¹⁵ Around six million people either have limited or no access to safe water, with active hostilities preventing repair teams from fixing damaged systems and restoring access.

The ongoing hostilities continue to disrupt local supply chains. Nationally, one third of households were found to be food insecure.¹⁶ Oblasts in the eastern and southern parts of the country recorded the highest level of food insecurity, with one in every two households being food insecure.

Health system needs

According to the Ukrainian Ministry of Health (MOH), as of 24 July, more than 746 health care facilities are in need of restoration, and more than 123 destroyed, since the beginning of the war.¹⁷ WHO's/Health Cluster's Attacks on Health Care Team has verified 414 attacks on health care, including 350 reports of attacks affecting health facilities, as of 27 July.¹⁸ Many health care workers have had to leave their health facilities due to the conflict.

The supply chains for medicines and medical supplies have been disrupted, creating urgent need in conflict-affected areas. The availability of pharmacies has improved across the country, but regional differences remain, particularly in places where there is active conflict on the ground.

¹² [UNICEF, 1,4 million people without water access across war-affected eastern Ukraine, April 2022](#)

¹³ [World Bank, Maternal mortality ratio \(modelled estimate, per 100,000 live births\) – Ukraine, accessed 11 March 2022.](#)

¹⁴ [UNFPA, UNFPA Appeal for Ukraine, April 2022.](#)

¹⁵ [Ukrainian News, 40,000 people left without electricity and food over Russia's aggression in Ukraine's East- Ministry of Interior Affairs, March 2022](#)

¹⁶ [World Food Program, External Situation report #16, May 2022.](#)

¹⁷ [Ministry of Health of Ukraine, Facebook: Five months of fighting full-scale Russian aggression. 150 days of resistance, unbreakable on the way to victory, 24 July 2022.](#)

¹⁸ [WHO, Surveillance System for Attacks, accessed 28 July 2022.](#)

Humanitarian response

The Health Cluster, led by WHO, currently links 149 partners (NGOs, UN agencies, national authorities, donors, and observers) engaged in the humanitarian health response in Ukraine. The majority of implementing partners are national NGOs.

Meeting health needs and ensuring that reconstruction efforts are successful will continue to be shaped by the duration and nature of the war. Maintaining and strengthening strategic- and operational-level awareness of the various support networks at national, regional and global level remains vital, including within the context of identifying and addressing gaps and synergies in a timely and effective manner.

Key completed assessments – health-related findings

International Organization for Migration (IOM)

General population survey. Representative assessment of internal displacement and needs. Telephone survey, representative at macro-region (Kyiv, Centre, North, East, South, West).

Latest round: Round 7 (17 – 23 July 2022)¹⁹

Key findings of latest round:

- Estimated 6.6 million people displaced internally (15% of the population), an increase of 370 000 people (12%) since 23 June 2022.
- Number of estimated returns has grown to over 5.5 million returnees from locations within Ukraine and from abroad.
- Majority of IDPs located in Eastern region (~1.9 million), Western Region (~1.3 million), and Central region (~1.1 million).
- The majority of IDPs are women (64%). More than a third (38%) of respondents indicated that at least one member of the family currently with them is an older person, a third (33%) have a chronically ill family member, and a fifth (20%) of IDPs have at least one family member with a disability.
- Top needs nationally of IDPs: cash/financial support (78%), clothes and shoes, other NFI (36%), food (28%), hygiene items (27%), medicines and health services (26%).

REACH

A series of data collection rounds has been conducted as part of Humanitarian Situation Monitoring over April, May, and June 2022. These rounds were completed via telephone interviews with NGOs and other key informants in selected towns and villages. The latest round was conducted in May and June via 639 telephone interviews with key informants (comprising representatives of NGOs, local government, and civil society) in 213 towns or villages. This fourth round was focused on government-controlled areas (conflict affected and IDP host areas).²⁰

Latest Round: Round 4 (30 May – 11 June 2022)²¹

Key findings²²:

- Concerns were reported across almost all indicators in Blahodatne and Bakhmut (Donetska oblast), Pryvillia (Luhanska), Kurortne (Kharkivska) and Orikhiv (Zaporizka)
- The most common concern reported in nearly all assessed areas (99%) was disruption to transportation and fuel.
- Further concerns frequently reported across assessed areas were access to financial services (cash, ATMs, banks) (41%) and access to food (including items for children and babies) (44%).
- The presence of displaced persons was reported by key informants in 203/213 assessed areas, increasing the need for food, employment, and accommodation.
- Other reported concerns included disruption to work/livelihoods and access to medicines (38%).
- Key informants reported older persons (aged 60 and above) and people living with disabilities/chronic conditions to be more vulnerable in terms of their ability to meet daily needs and access to information.

¹⁹ [IOM, Ukraine - Internal Displacement Report - General Population Survey Round 7 \(17-23 July 2022\), 29 July 2022.](#)

²⁰ [REACH, UKRAINE: Humanitarian Situation Monitoring July 2022, 15 July 2022.](#)

²¹ [Ibid.](#)

²² [Ibid.](#)

A second briefing published in July 2022,²³ which focused on feedback on the effectiveness of humanitarian assistance highlighted the following key areas:

- Food, medicines, and multi-purpose cash assistance are the most useful types of support.
- Concerns were raised over the targeting of aid distribution, reduction in aid flow, and need to include certain basic items in packages.
- Barriers to accessing aid included overcrowded distribution sites resulting in long queues and distance to distribution sites particularly affected people with mobility issues. Older people were also affected by the level of reliance on technology to release information on available assistance.

WFP

Ukraine Food Security Report. Phone survey of 4700 respondents interviewed from 10 March to 12 April 2022.²⁴

Key findings:

- One third of households were found to be food insecure (28% moderate food insecurity, 5% severe food insecurity). Food insecurity is higher in Eastern areas, with the Luhanska region standing out as the worst-off oblast in terms of food insecurity and unmet basic needs (almost half of households there are experiencing food insecurity).
- A third (29%) of adults restricted their food consumption so children could eat.
- Food insecurity is higher among IDPs, large families or separated families.
- Over a third of respondents reported having no income or depending on assistance as the main income source.

International Labour Organization (ILO)

Initial assessment of the impact of the Ukraine crisis on the world of work. 11 May 2022.²⁵

Key findings:

- Nearly 5 million jobs have been lost compared to the pre-conflict situation, equal to 30% of employment prior to 24 February 2022.
- In a scenario of further military escalation, employment losses would increase further to reach 7 million until mid-August 2022.
- Due to the disruption of economic activity, the most imminent need is for humanitarian assistance, including food, shelter, health and access to cash and in-kind transfers.

²³ [REACH, Ukraine Humanitarian Situation Monitoring: Briefing note: Focus on accountability to affected populations \(AAP\) and information needs, July 2022.](#)

²⁴ [World Food Programme, Ukraine Food Security Report May 2022, 12 May 2022.](#)

²⁵ [ILO, Ukraine crisis: Nearly 5 million jobs have been lost in Ukraine since the start of the Russian aggression, says ILO, 11 May 2022.](#)

Key health threats

Table 1 (below) summarizes the key anticipated or known health threats. This assessment is based on the known epidemiological and disease profile of the population, and crisis-related factors known to drive mortality and morbidity.

Table 1: Key health risks for conflict-affected population over the next three months

Red: Very high risk. Could result in high levels of excess mortality/morbidity.
Orange: High risk. Could result in considerable levels of excess mortality/morbidity.
Yellow: Moderate risk. Could make a minor contribution to excess mortality/morbidity.
Green: Low risk. Unlikely to make a contribution to excess mortality/morbidity.
Grey: No plausible assessment can be made at this time.

Key health risks over the coming 3 months			
Public health threat	Level of risk		Rationale
	Aug	Sep-Oct	
Unknown pathogen	Grey	Grey	Current surveillance is limited in many areas; unknown pathogens may arise given factors such as compromised sanitation and hygiene conditions, and disturbances in the environment.
COVID-19	Yellow	Orange	Current surveillance is limited. Decreasing trends prior to the war, but from very high level of incidence and bed occupancy for ICU care. Limited oxygen supplies substantially impact capacity to treat severe patients. Unsanitary, crowded living conditions with poor ventilation. Low vaccination coverage in vulnerable groups and waning immunity of immunised. Current high circulation of SARS-CoV-2 elsewhere in Europe is also starting to impact Ukraine. Omicron BA.5 has been confirmed in Ukraine. Seasonality: possible increase in incidence in autumn and winter, as with other respiratory diseases.
Influenza and other acute infectious respiratory diseases	Green	Green	Poor hygiene and sanitation, overcrowding, poor shelter, H3 dominant – with low potential for increased vaccine uptake in priority groups in Ukraine. Seasonality: incidence generally increases in autumn and winter.
Poliomyelitis	Yellow	Yellow	Ongoing outbreak of circulating vaccine-derived poliovirus type-2 (cVDVp2), and low uptake mass immunization campaign (22%). Risk of spread into surrounding countries.
Measles	Orange	Orange	Increased risk of transmission in areas with high concentrations of IDPs living in crowded conditions with poor ventilation; prior endemicity; and reduced vaccine coverage in recent years, particularly in new-borns. Seasonality: higher incidence in late winter and spring.
Mumps	Yellow	Yellow	Recent low incidence. Increased risk of transmission in areas with high concentrations of IDPs living in crowded conditions with poor ventilation; reduced vaccine coverage in recent years, particularly in new-borns; further disruptions in vaccination since escalation of conflict.

Key health risks over the coming 3 months			
Public health threat	Level of risk		Rationale
	Aug	Sep-Oct	
Rubella	Yellow	Yellow	Increased risk of transmission in areas with high concentrations of IDPs living in crowded conditions with poor ventilation; reduced vaccine coverage in recent years, particularly in new-borns; further disruptions in vaccination since escalation of conflict. Risk of congenital rubella syndrome to infants born to women infected during pregnancy.
Pertussis	Yellow	Yellow	Increased risk of transmission in areas with high concentrations of IDPs living in crowded conditions with poor ventilation; vaccination coverage below targets in some oblasts; further disruptions in vaccination since escalation of conflict. May require isolation of patients. Adults in Ukraine not routinely vaccinated for pertussis.
Tetanus	Yellow	Yellow	Conflict-related injuries, unvaccinated infants, and vaccination coverage below targets in some oblasts; further disruptions in vaccination since escalation of conflict. Antitoxin supplies now widely available in health facilities.
Diphtheria	Orange	Orange	Confirmed case in an IDP. DTP3 coverage in Ukraine was among the lowest in the Region in recent years (2016-2020) at 19-81%; further disruptions in vaccination since escalation of conflict. Potential for high mortality.
Pneumococcal disease	Yellow	Yellow	Increased risk of transmission in areas with high concentrations of IDPs living in crowded conditions with poor ventilation. Vaccine not part of national schedule.
Meningococcal infection	Yellow	Yellow	Increased risk of transmission in areas with high concentrations of IDPs living in crowded conditions with poor ventilation. Vaccine not part of national schedule.
Varicella	Yellow	Yellow	Increased risk of transmission with poor hygiene and in areas with high concentrations of IDPs living in crowded conditions; mixing of vulnerable populations (e.g., children and elderly). The varicella vaccine is not part of the vaccination schedule.
Monkeypox	Light Green	Light Green	Main risk of transmission with direct skin-to-skin contact, primarily to date amongst men who have sex with men; no cases of Monkeypox yet identified in Ukraine.
Rabies	Yellow	Yellow	Many stray animals, interruption to vaccination programs for domestic and agricultural animals, and inadequate vaccine stock for post-exposure prophylaxis.
Leptospirosis	Yellow	Yellow	Confirmed cases and deaths in 2022. Poor hygiene and sanitation, overcrowding, untreated water. Seasonality: increased incidence in summer – during a hot, rainy period.
Tularaemia	Light Green	Light Green	Rare disease, but exposure to flies and ticks may be increased due to increased contact with rodents.

Key health risks over the coming 3 months			
Public health threat	Level of risk		Rationale
	Aug	Sep-Oct	
Anthrax	Yellow	Yellow	Increased risk of transmission from infected carcasses of livestock and wild animals. Seasonality: increased risk in summer. ²⁶
Hepatitis A and Hepatitis E	Yellow	Yellow	Some levels of endemicity have been observed in Ukraine and surrounding countries for hepatitis A; no known endemicity of hepatitis E. Increased risk of outbreaks in confined places, including collective centres and military barracks. Potentially large impact on health system.
Shigellosis	Light Green	Light Green	Poor hygiene and sanitation, overcrowding, untreated water. Seasonality: increased incidence in summer.
Typhoid	Yellow	Yellow	Lack of access to safe water and appropriate sanitation, poor hygiene, and overcrowding. Prior outbreaks in Odeska and Donetsk oblasts in 2015.
Cholera (and acute watery diarrhoea syndrome)	Orange	Orange	Lack of access to safe water and appropriate sanitation, poor hygiene, and overcrowding. A cluster of cholera was identified in Ukraine in 2011. Risk in Mariupol and surrounding areas is very high; risk is lower in rest of Ukraine. Non-toxigenic <i>Vibrio cholerae</i> strains have been detected in environmental samples; no evidence of strains typically associated with human infection.
Vector-borne diseases (CCHF, WNF, epidemic typhus, tick-borne encephalitis)	Yellow	Yellow	Crimean Congo haemorrhagic fever cases have been reported in southern affected areas in the past. Risk of West Nile fever increases in late spring in the bordering countries. Epidemic typhus may spread in crowded, unsanitary conditions and was a cause of high mortality in Eastern Europe during WWII. Low surveillance capacity. Increased exposure risk of persons fleeing to wooded areas and military personnel in the field.
TB	Orange	Orange	High prevalence of MDR-TB. Interruption of access to diagnostic services and treatment in active conflict areas – likely worsening of disease and development of resistance if treatment interrupted resulting in increased mortality and morbidity. Risk higher in NGCAs/TOTs.
HIV	Orange	Orange	Interruption of access to diagnostic services and treatment – increase of viral load and disease if treatment interrupted – likely increasing morbidity/mortality. Viral load testing has been severely restricted. Injuries, blood transfusions and sexual violence have increased the risks for HIV infection. Risk higher in NGCAs/TOTs.

²⁶ Walsh MG, de Smalen, AW, Mor, SM. Climatic influence on anthrax suitability in warming northern latitudes. *Sci Rep* 8, 9269 (2018).

Key health risks over the coming 3 months			
Public health threat	Level of risk		Rationale
	Aug	Sep-Oct	
HBV			Risk of exposure increases in conflict situations due to increased contact with blood and lack of infection control, under field conditions HBV vaccination coverage does not meet targets. Interruption to access to diagnostic services and treatment; low levels of surveillance; increase in long-term morbidity/mortality with increase in prevalence; increased risk to health work force. Risk higher in NGCAs/TOTs.
HCV			Risk of exposure increases in conflict situations due to increased contact with blood and lack of infection control, under field conditions. Interruption to access to diagnostic services and treatment; low levels of surveillance; increase in long-term morbidity/mortality with increase in prevalence; increased risk to health work force. Risk higher in NGCAs/TOTs.
STIs			Lack of access to condoms, interrupted or limited access to treatment, insufficient diagnostic capacity, crowded social conditions, and increase in sexual and gender-based violence.
Sexual & reproductive health			Reduced access to health care may reduce screening rates, and thereby delay early diagnosis and treatment of disease (e.g., cancers affecting the reproductive tract, infertility) and cause treatment interruptions for those already under care.
Maternal and neonatal health			Caesarean deliveries accounted for roughly one quarter of all deliveries in 2019; access is likely to be limited. Facilities reported an increase in the c-section rate (average 30% of all deliveries) due to stress of pregnant women and temporary interruption of access to prenatal service of IDPs, especially from occupied areas, and increases in percentage of pre-term births, complicated deliveries and miscarriages. Substantial risk for perinatal health in the immediate term, including unsafe deliveries in active conflict areas. Reports of unattended and ill-equipped births in shelters. Reduced access to abortion care may contribute to increased risk of maternal deaths.
Malnutrition			Interruptions to supply chains and population displacement may impact food security, both in terms of reduced production and limited access. Risk expected to be higher in regions under siege and in populations recently evacuated.
Cardiovascular disease (CVD) (e.g., heart attack, stroke)			Interruption in supply of medicines and limited access to health care; critical for people with uncontrolled blood pressure and/or people at higher risk of stroke.
Chronic non-infectious respiratory diseases (e.g., COPD, asthma)			Reduction in medical supplies, limited oxygen availability, and potential stressors from increased risk of respiratory infections due to the living conditions (overcrowding, cold, poor hygiene).

Key health risks over the coming 3 months			
Public health threat	Level of risk		Rationale
	Aug	Sep-Oct	
Cancer	Yellow	Yellow	Disruption of screening, treatment and health care capacity leading to increased risk of negative outcome for oncology patients. Particularly high risk for individuals under immunosuppressive therapy given increased risk of infection in the context of the crisis.
Diabetes	Yellow	Yellow	Disruption to essential services and supplies of medicines, particularly insulin. High risk for people in kidney failure requiring dialysis. Supplies of insulin and other medicines are expected to stabilize.
Mental health and psychosocial support	Red	Red	Exacerbation of chronic mental health problems and high levels of acute psychological effects among affected populations of all ages.
Injury/trauma and sequelae (wound infections, anti-microbial resistance)	Red	Red	Increase in injuries and trauma from violence in areas of active conflict, particularly in the East. Increase in number of injured; short and long-term rehabilitation support needs, including assistive technologies, likely to be extensive. Antimicrobial resistant infections likely to increase due to challenges in adherence to treatment exacerbated by scarcity of medicines and difficult socioeconomic conditions.
Sexual and gender-based violence (SGBV)	Yellow	Yellow	Increasing numbers of reports; unaccompanied children, women travelling alone, interim care arrangements, limited access to protection/treatment/support, and many vulnerable populations (including men, elderly). Insufficient clinician training in health sector. Physical injury, psychological distress and long-term mental health problems, pregnancy, STIs, and negative coping strategies, such as addictions.
Biological hazards	Yellow	Yellow	Low risk of accidental exposures to biological hazards, as country not known (not likely) to have collections of high consequence pathogens. High risk if biological weapons deployed.
Chemical hazards	Yellow	Yellow	High risk if sites are damaged or chemical weapons are deployed during conflict. Higher risk in East due to higher concentration of industrial sites and intense conflict.
Radio-nuclear hazards	Red	Red	High risk (low probability, severe impact) if radio-nuclear facilities are significantly damaged or nuclear weapons are deployed during conflict.

Red: **Very high risk.** Could result in high levels of excess mortality/morbidity.

Orange: **High risk.** Could result in considerable levels of excess mortality/morbidity.

Yellow: **Moderate risk.** Could make a minor contribution to excess mortality/morbidity.

Green: **Low risk.** Unlikely to make a contribution to excess mortality/morbidity.

Grey: No plausible assessment can be made at this time.

Notes:

The levels of risk for the above health threats were arrived at through considering the extent to which each threat could have an impact on the health of the population in Ukraine (i.e., the magnitude of crisis-attributable excess mortality and/or excess mental health problems). Parameters, such as the baseline and increases to the burden of disease, the probability and extent risk factors will have an impact, current access to preventive and curative health services, and the impact of disruptions to health services. The projections on the level of risk are estimated given the current situation remains relatively constant. Further details on the methods used for this risk assessment are available [here](#).

Disruptions and challenges to key health system components

Various disruptions and challenges impact the local health system and continue to affect delivery of preventive and curative health services (Table 2). There is considerable geographic variability in these disruptions.

Table 2: Disruptions and challenges impacting the health system

DISRUPTION/CHALLENGE			
Months starting now	Aug	Sep-Oct	Rationale
Access to health care	Orange	Orange	Security concerns, movement restrictions, damage to infrastructure especially in conflict-affected areas.
Health system management	Yellow	Yellow	MOH and NHSU continue to operate and perform their roles, but workforce relocation and infrastructure damage impact management in conflict-affected areas.
Supply (including pharmaceutical) chain disruption	Orange	Orange	Production reduced/halted at many facilities; delivery physically impeded by damage to infrastructure, increased costs of transportation, lack of fuel and depreciation of UAH.
Degraded alert and response	Orange	Orange	Disruptions to health care and laboratory testing capacity, particularly in areas of active conflict.
Health workforce shortages	Yellow	Yellow	Many health workers have changed their place of residence (relocating mainly from the East and South), some have left Ukraine; many have not yet returned.
Damage to health facilities	Orange	Orange	350 verified reports of attacks on health care impacted health facilities (27 July); ²⁷ MOH reported 123 hospitals were destroyed and 746 need restored (24 July). ²⁸
Attacks against health	Orange	Orange	414 verified reports of attacks on health care (27 July). ²⁹

Red: The majority of the health system feature / health service has been or could be rendered non-functional. Most people / patients do not have access to health care. A major reduction in health service coverage or quality could occur.

Orange: A substantial minority of the health system feature / health service has been or could be rendered non-functional. A substantial minority of people / patients do not have access to health care. A moderate reduction in health service coverage or quality could occur.

Yellow: A small minority of the health system feature / health service has been or could be rendered non-functional. A small minority of people / patients do not have access to health care. A small reduction in health service coverage or quality could occur.

Green: The vast majority or entirety of the health system feature / health service is very probably still as functional as before the crisis. No risk factors for reduction in health service coverage or quality have been identified

Grey: No plausible assessment can be made at this time.

²⁷ [WHO, Surveillance System for Attacks on Health Care, accessed 28 July 2022.](#)

²⁸ [Ministry of Health of Ukraine, Facebook: Five months of fighting full-scale Russian aggression. 150 days of resistance, unbreakable on the way to victory. 24 July 2022.](#)

²⁹ [WHO, Surveillance System for Attacks on Health Care, accessed 28 July 2022.](#)

Acronyms and abbreviations

AFP	acute flaccid paralysis
Ag-RDT	antigen-based rapid diagnostic test (for SARS-CoV-2)
ART	antiretroviral therapy
CVD	cardiovascular disease
DOT	directly observed therapy
DR-TB	drug-resistant tuberculosis
EECP	entry/exit crossing point
EHS	essential health services
ERW	explosive remnants of war
FAO	Food and Agriculture Organisation
GBV	gender-based violence
GCA	government-controlled area
HIV	human immunodeficiency virus
IDP	internally displaced person
ILI	influenza like illness
IPC	infection prevention and control
LGBTI	lesbian, gay, bisexual, transgender, intersex
LoC	line of contact
MDR-TB	multi drug-resistant tuberculosis
MHPSS	mental health and psychosocial support
MICS	multiple indicator cluster survey
MoH	Ministry of Health
NCD	non-communicable disease
NGCA	non-government-controlled area
NGO	non-governmental organization
NSDC	National Security and Defence Council
OCHA	Office for the Coordination of Humanitarian Affairs of the United Nations
OHCHR	United Nations Office of the High Commissioner for Human Rights
OSCE	Organization for Security and Co-operation in Europe
PHCF	primary health care facility
PHSA	public health situation analysis
PLHIV	people living with HIV
Polio	poliomyelitis
PPE	personal protective equipment
PTSD	post-traumatic stress disorder
PwD	people with disabilities
SHCF	secondary health care facility
SMM	Special Monitoring Mission to Ukraine
SSS	State Statistics Service
STI	sexually transmitted infection
TOT	temporarily occupied territories
TB	tuberculosis
UNFPA	United Nations Population Fund
UNHCR	Office of the United Nations High Commissioner for Refugees
UNICEF	United Nations Children's Fund
WASH	Water, sanitation and hygiene
WHO	World Health Organization

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Preface

Public health threats represent a significant challenge to those providing health-care services in a crisis. The health issues and risk factors addressed in this document have been selected through secondary data review, based on the known burden of disease in this context, crisis-emergent health issues, and their potential impact on morbidity, mortality, response and recovery. The aim of this document is to create a common understanding of the public health situation in Ukraine and facilitate the evidence-based coordination of activities among all agencies working with the populations affected by the crisis. The PHSA contains a short summary of the crisis, health status of and threats to the affected population, health system needs, humanitarian health response, and information gaps. This update builds upon the rapidly-developed PHSA for Ukraine published on 3 March 2022 and the update published on 29 April 2022. The document adds depth to the information presented in the previous versions, tracks changes in the situation, considers additional threats, and incorporates data from assessments. This update presents the best available data at the time of publication, and may be updated, as needed.

1. Summary of the crisis

Key features

**Location
(country, region):** Ukraine (Eastern Europe)

Start date of crisis: Feb/Mar 2014; Invasion: 24 Feb 2022

Typology: Conflict, displacement, Insecurity

Brief description of event:

Since the invasion of Ukraine on 24 February 2022, there have been devastating effects to the country, including massive civilian displacement and casualties. Attacks have occurred across Ukraine, including in the capital, Kyiv. The fighting continues to be concentrated in the eastern and southern oblasts of Ukraine (Donetska, Kharkivska, Luhanska, Mykolaivska, Zaporizka and Khersonska oblasts), causing damage and civilian casualties and driving humanitarian needs. Rockets strikes were also reported in central, western and northern Ukraine.³⁰ As of 24 July 2022, at least 12 272 civilian casualties were recorded: 5237 killed (348 children) and 7035 injured (560 children).³¹ More than 6.2 million people have registered as refugees in Europe and 9.9 million border crossings into neighbouring countries have been recorded, with only 4.0 million recorded into Ukraine.³² As of 23 July 2022, the number of internally displaced persons (IDPs) is estimated at 6.6 million individuals (15% of the total population), an increase of nearly 370 000 IDPs (6%) since 23 June.³³ According to the latest estimates from OCHA, 15.7 million people are in need of humanitarian assistance, of whom 12.1 million are in need of humanitarian health care.³⁴ The COVID-19 pandemic continues to pose a threat, given the low vaccination coverage among vulnerable populations. Non-communicable diseases (NCDs) are the leading cause of death in Ukraine, while infectious disease outbreaks are also a source of concern: recent outbreaks of polio and measles are reminders of the epidemic threat, and the prevalence of HIV and TB/MDR-TB are among the highest in Europe.

The Ministry of Health (MoH) and National Health Services of Ukraine (NHSU) continue to operate. Health facilities suffer from lack of maintenance and ageing medical equipment, shortages of medicines and medical supplies, displacement of their workforce, and disruptions to management due to recent health reforms and decentralization.³⁵

Shortages of medicines and medical supplies, combined with challenging access to health care facilities and pharmacies, will exacerbate the burden of chronic disease. Despite the large-scale displacement, and in some cases, poor shelter and overcrowded living conditions, large outbreaks of infectious disease have not yet been reported. At the start of the war, limited oxygen supplies compromised the clinical management of patients with severe respiratory distress, including patients with COVID-19; however, oxygen production and supply chains have been largely re-established and oxygen concentrators provided through humanitarian aid. To help cope with this crisis, the conflict-affected population remains in urgent need of mental health and psychosocial support services (MHPSS).

Operational constraints:

Active conflict continues to prevent humanitarian actors from accessing vulnerable populations, particularly in the East, where negotiations for safe passage are attempted on a daily basis to facilitate the safe movement of supplies and personnel. Martial law, curfews and damage to infrastructure (e.g., roads, public transport) also impose movement restrictions, limiting access to health services, essential medicines, and market goods.

³⁰ [OCHA, Ukraine: Humanitarian Impact Situation Report, 21 April 2022.](#)

Humanitarian profile

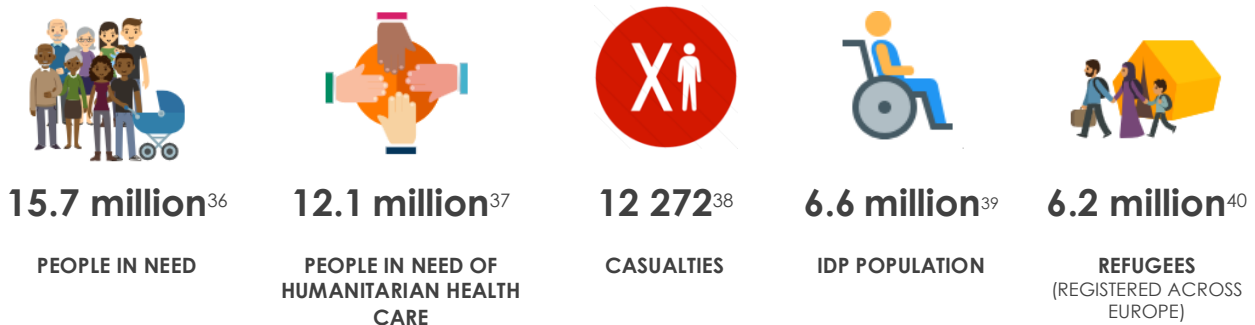


Fig. 1: Map of Ukraine highlighting population displacement and hostilities, as of 27 July 2022. Source: OCHA⁴¹



- 31 [OHCHR, Ukraine: civilian casualty update, 25 July 2022.](#)
- 32 [UNHCR, Operational Data Portal, accessed 28 July 2022.](#)
- 33 [IOM, Ukraine - Internal Displacement Report - General Population Survey Round 7 \(17-23 July 2022\), 29 July 2022.](#)
- 34 [OCHA, Ukraine - Situation Reports, accessed 14 July 2022.](#)
- 35 [Médicos del Mundo, Impact of Health Reform on the Primary Healthcare Level in Conflict-Affected Areas of Donetsk and Luhansk Oblasts, June 2021.](#)
- 36 [OCHA, Ukraine - Situation Report \(as of 6 July 2022\), accessed 12 July 2022.](#)
- 37 [OCHA, Ukraine - Situation Overview Map \(as of 27 July 2022\), accessed 31 July 2022.](#)
- 38 [UNHCR, Ukraine: Civilian Casualty Update, 25 July 2022.](#)
- 39 [IOM, Ukraine - Internal Displacement Report - General Population Survey Round 7 \(17-23 July 2022\), 29 July 2022.](#)
- 40 [UNHCR, Operational Data Portal, accessed 28 July 2022.](#)
- 41 [OCHA, Ukraine - Situation Overview Map \(as of 27 July 2022\), accessed 31 July 2022.](#)

2. Health status and threats

Life expectancy and mortality rates

Life expectancy

Life expectancy at birth in Ukraine is significantly lower than in comparator countries like Poland and lower than in the WHO Europe region. In addition, life expectancy at birth also differs widely between women and men, with male life expectancy at birth being almost 10 years lower (Table 3).

Table 3: Life expectancy at birth, 2015. Source: WHO European Health Information Gateway⁴²

	Ukraine	Poland	WHO Europe region
Male	66.3	73.6	73.8
Female	76.1	81.3	80.5
All	71.3	77.5	77.1

Mortality rates

The national crude mortality rate (number of deaths per 1000 people) for 2020 was 15.9.⁴³ The under-5 mortality rate in Ukraine has been gradually decreasing from 20 deaths per 1000 live births in 1990 to 8.1 deaths per 1000 live births in 2020.⁴⁴

Conflict-related drivers of mortality and morbidity

Conflict-related mortality

As of 24 July 2022, the Office of the UN High Commissioner for Human Rights recorded at least 12 272 civilian casualties since 24 February 2022: 5237 killed (343 children) and 7035 injured (533 children).⁴⁵ The current number of internally displaced persons (IDPs) is estimated at 6.6 million⁴⁶ and more than 6.2 million Ukrainian people have registered as refugees across Europe, fleeing the ongoing hostilities.⁴⁷ The real toll is likely higher. Most of the civilian casualties recorded have been caused by the use of explosive weapons with a wide impact area, including shelling from heavy artillery and multiple launch rocket systems, and missile and air strikes.⁴⁸ Prior to the outbreak of the war in February 2022, the majority of recent casualties were due to mines, unexploded ordnance (UXO) and other explosive objects.⁴⁹

Disruption to medical services and supplies

The war is impacting access to medical services and supplies in several ways. There are reports, both verified and under investigation, of health facilities being damaged or destroyed. As of 27

⁴² [WHO, European Health Information Gateway, accessed 19 June 2022.](#)

⁴³ [State Statistics Service of Ukraine, Databank, accessed 14 March 2022.](#) Note: Estimates do not include data from Donetsk and Luhansk oblasts.

⁴⁴ [UNICEF, Country Profile: Ukraine, accessed 14 March 2022.](#)

⁴⁵ [OHCHR, Ukraine: civilian casualty update, 25 July 2022.](#)

⁴⁶ [IOM, Ukraine - Internal Displacement Report - General Population Survey Round 7 \(17-23 July 2022\), 29 July 2022.](#)

⁴⁷ [UNHCR, Operational Data Portal, 27 July 2022.](#)

⁴⁸ [OHCHR, Ukraine: civilian casualty update, 25 July 2022.](#)

⁴⁹ [Marcantonio R, Hook K, The Environment in Warfare-Related Policy Making: The case in Ukraine, Small Wars Journal, 2020, accessed July 2022.](#)

July 2022, 350 attacks on health care had impacted health facilities and been verified through WHO's Surveillance System for Attacks on Health Care.⁵⁰ According to MoH reports as of 24 July, more than 123 hospitals have been destroyed since the start of the war.⁵¹ Stock ruptures have occurred due to supply chain disruption. Health services throughout Ukraine have been disrupted, with closures of facilities for security reasons; and many health care workers have been displaced, either internally or to neighbouring countries. Lack of medicines in health care centres or pharmacies was the most commonly reported barrier to health care and the most common concern in recent assessments.^{52,53,54} Finally, accessibility to health services continues to be severely disrupted within areas experiencing active conflict, as well as due to physical and geographical barriers. For trauma patients in particular, first aid in the field and rapid transfers to hospitals are vital to avoiding excess morbidity and mortality.

Population displacement

At the time of writing, over 6.2 million refugees from Ukraine have registered across Europe, and another 6.6 million people have been internally displaced within Ukraine. The majority (64%) of IDPs are women. Over a third of IDPs are accompanied by an elderly person (age 60+), while another 30% report that at least one household member is chronically ill, for example, suffering from heart disease, diabetes or cancer.⁵⁵ Population displacement may increase for the risk of disease for vulnerable groups, due to closer and more intense social mixing, poor quality shelter and WASH (water, sanitation, and hygiene) conditions, greater exposure to the elements, and exacerbating factors such as nutritional stress. Discontinuation of treatment during displacement may increase morbidity and mortality from communicable and noncommunicable diseases.

Water, sanitation and housing

The war has caused significant infrastructural damage, leaving at times millions of people without electricity or water; dilapidated water and sanitation infrastructure will be a further impediment to reconstruction. In addition to individual consumption and hygiene, water is also an essential resource for electricity production and centralised heating.

Frequent attacks have forced many people to seek temporary shelter in basements, bomb shelters, and metro stations underground with poor ventilation, heating, provisions, and access to sanitation. Many people have left their homes and travelled to other parts of the country; most are sheltering in private accommodations and/or with families.

⁵⁰ [WHO, Surveillance System for Attacks on Health Care, accessed 28 July 2022.](#)

⁵¹ [Ministry of Health of Ukraine, Facebook: Five months of fighting full-scale Russian aggression. 150 days of resistance, unbreakable on the way to victory, 24 July 2022.](#)

⁵² IOM, Ukraine Internal Displacement Report [Round 1](#), [Round 2](#), [Round 3](#), 2022.

⁵³ [REACH/OCHA, Rapid Needs Assessment of Conflict-Affected Areas, 22-25 March - Eastern Oblasts 6 April 2022.](#)

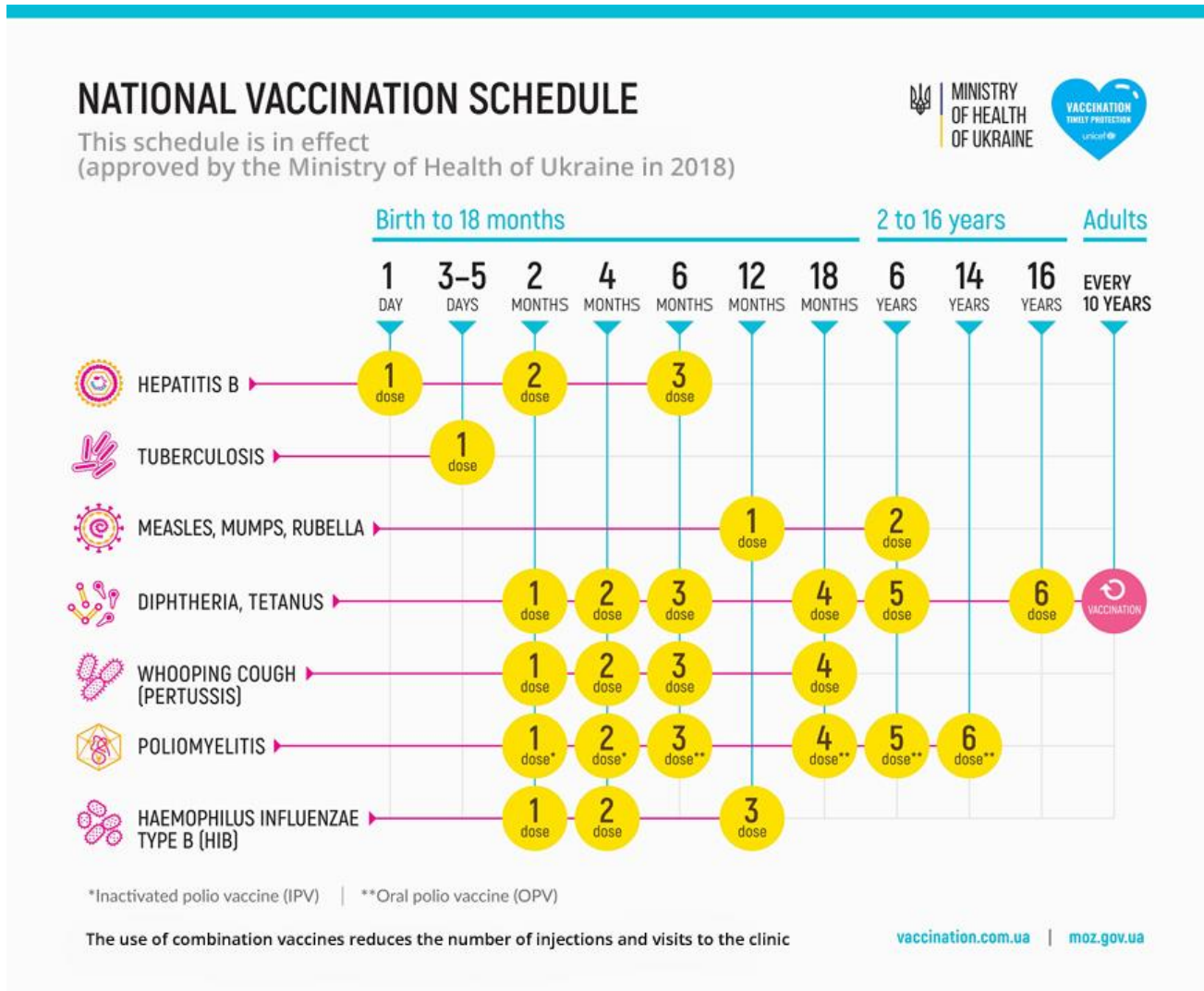
⁵⁴ [REACH/OCHA, Rapid Needs Assessment of IDP-hosting Areas, 22-25 March - South and East Oblasts, 21 April 2022.](#)

⁵⁵ [IOM, Ukraine - Internal Displacement Report - General Population Survey Round 7 \(17-23 July 2022\), 29 July 2022.](#)

Childhood vaccination coverage

Under the National Vaccination Schedule, children are protected against ten infectious diseases: pertussis, diphtheria, tetanus, measles, mumps, rubella, tuberculosis, *Haemophilus type b* (HIB infection), hepatitis B and polio (Figure 2).⁵⁶ Rotavirus vaccine is not included in the routine vaccination schedule; 3533 cases of rotavirus have been reported between January and June 2022.⁵⁷

Fig. 2: Ukraine National Vaccination Schedule⁵⁸



Vaccination coverage in Ukraine is among the lowest in the WHO Europe Region⁵⁹. Despite a substantial increase in routine vaccination coverage from 2017 (e.g., DTP3 – 50%) to 2021 (e.g., DTP3 – 78%) the country has not yet reached the regional target of 95% coverage rate for any antigen under routine vaccination (Table 4) and has not implemented at the required scale the supplementary immunization activities on measles, polio, and hepatitis.

⁵⁶ [UNICEF, Vaccination is a superpower against diseases. Make time to vaccinate children before the start of the school year!, 25 August 2021.](#)

⁵⁷ [Public Health Center, In Ukraine, cases of acute intestinal infections increased by 40%, 29 July 2022.](#)

⁵⁸ [Ministry of Health of Ukraine, Recommended immunization schedule \(moz.gov.ua\), accessed July 2022.](#)

⁵⁹ [European Centre for Disease Prevention and Control, Operational considerations for the prevention and control of infectious disease in the context of Russia's aggression towards Ukraine, March 2022](#)

Table 4: Estimates of national Ukraine immunisation coverage in per cent, 2017-2021. Unless stated otherwise WHO/UNICEF and Ministry of Health estimates are identical. Source: WHO⁶⁰

	2017	2018	2019	2020	2021*	Target**
BCG (Tuberculosis)	84	90	84	93	87	>79
DTP1 (Diphtheria, Tetanus, Pertussis - 1st dose)	65	87***	89	93	91	
DTP3 (Diphtheria, Tetanus, Pertussis - 3rd dose)	50	69	80	81	80	>79
Pol3 (Polio - 3rd dose)	48	71	78	84	80	>89
IPV1 (Inactivated Polio - 1st dose)	43	92	83	87	84	
MCV1 (Measles - 1st dose)	86	91	93	85	89	
MCV2 (Measles - 2nd dose)	84	90	92	82	87	>95
HepB BD (Hepatitis B - birth dose)	49	60	60	69	56	
HepB3 (Hepatitis B - 3rd dose)	52	67	76	81	79	>90
Hib3 (Haemophilus influenzae type b - 3rd dose)	39	58	80	85	87	>79
RCV1 (Rubella - 1st dose)	86	91	93	85	89	>79

* Values for 2021 based on Ukraine Ministry of Health data; WHO/UNICEF estimates not yet available.⁶¹

** Coverage needed for immunity sufficient to likely confer either herd (community) protection or a high level of individual protection.⁶²

*** MoH estimate for DTP1 in 2018: 65%.

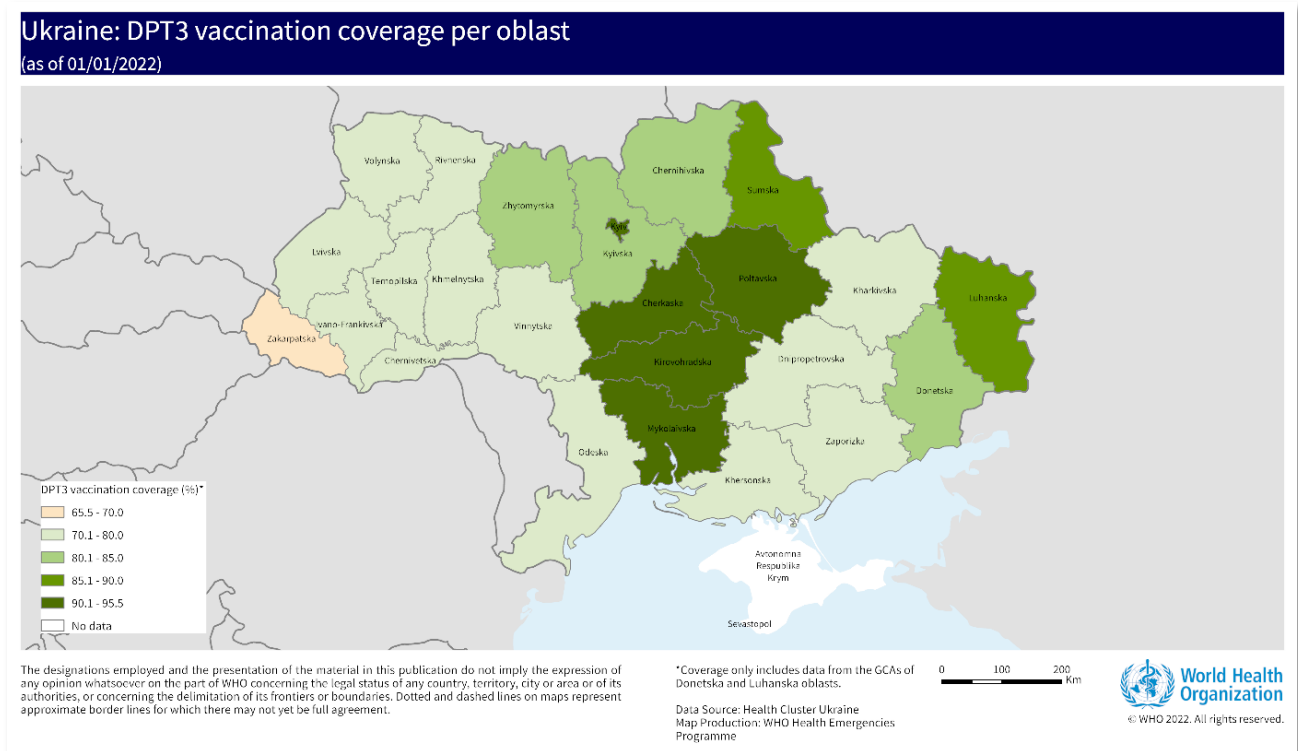
⁶⁰ [WHO, Immunization Data portal, accessed July 2022.](#)

⁶¹ [Ukraine Ministry of Health, Implementation of vaccination volumes in 2021 according to the UKRVAC database, 1 January 2022.](#)

⁶² [WHO, Vaccination in acute humanitarian emergencies, 2017.](#)

Insufficient vaccine coverage at the national level has been further compromised by inequities observed at sub-national level, and particularly low routine vaccination coverage rates reported in western regions (Figure 3).

Fig. 3: Ukraine DPT3 Vaccination Coverage by oblast⁶³



Ukraine's vaccination coverage has been hindered by challenges on the demand side, with anti-vaccination disinformation spreading on social media and high vaccine distrust among the population in general.⁶⁴ A survey conducted by the Wellcome Trust in 2019 revealed that just 29% of Ukrainians thought vaccines are safe, and only 50% believed they are effective. According to UNICEF, vaccine hesitancy poses major challenges.⁶⁵ In addition, up to 40% of health care workers were found to be vaccine hesitant.^{66,67} However, with regard to COVID-19 vaccinations, almost all Ukrainian health care workers have now received at least one dose of a vaccine.

Routine vaccines are still available in areas away from active fighting, but there are many barriers to access. A nationwide vaccination campaign to protect 140 000 unvaccinated children throughout the country was disrupted just weeks after its launch on 1 February this year.⁶⁸

The current conflict is expected to impact negatively on routine vaccinations,⁶⁹ although a number of NGOs are providing vaccination services for IDPs in western Ukraine through mobile clinics.

⁶³ [Centre for Public Health, Vaccination coverage, accessed July 2022.](#)

⁶⁴ [Kelland K, Polityuk P. Measles and mistrust in Ukraine weaken world's defences, 4 November 2019.](#)

⁶⁵ [UNICEF, Vaccination is a superpower against diseases. Make time to vaccinate children before the start of the school year!, 25 August 2021.](#)

⁶⁶ [Fenn A, Ukraine's anti vaccine crisis: '40% of healthcare workers are sceptical', CGTN, 14 Feb 2021.](#)

⁶⁷ [Holt E. COVID-19 vaccination in Ukraine. Lancet Infect Dis. 2021 Apr; 21 \(4\): 462.](#)

⁶⁸ [UNICEF, Vaccines – a vital support for long life and the good of all, 24 April 2022.](#)

⁶⁹ [Okwo-Bele JB, et al. Tackling inequalities in immunization outcomes in conflict contexts, December 2018.](#)

In addition, the European Centre for Disease Prevention and Control (ECDC) has recommended the administration of a number of vaccines as early as possible after registration in a host country in the absence of documented evidence of prior vaccination. Among the recommended priority vaccinations are MMR, diphtheria, tetanus, and poliomyelitis.⁷⁰

Epidemic-prone diseases

Surveillance/early warning, alert, and response capacity

In Ukraine the public health surveillance system is unified. Surveillance is primarily coordinated through the Ukraine Public Health Centre (UPHC) and Regional Centres for Disease Control (RCDCs). The Ukrainian government has a list of “dangerous and especially dangerous infectious diseases” that are subject to immediate notification when only one case is registered; in addition, there is a list of infectious diseases to be registered for routine reporting.⁷¹ Additionally, there are separate surveillance procedures for selected vaccine-preventable infections (polio, diphtheria, measles, rubella, hepatitis B, pertussis), enteroviruses, influenza, HIV, and TB. The Ministry of Defence of Ukraine, the Ministry of Internal Affairs, the Security Service of Ukraine, and other law enforcement agencies are not connected to the reports of UPHC, but rather report directly to the Ministry of Health. The UPHC regularly publishes reports for the public (weekly reports on health risks, influenza infection bulletins; monthly reports on disease morbidity, vaccination coverages; annual HIV and TB bulletins, etc.).⁷²

Priority list of diseases and conditions for EIDSS reporting

The Public Health Response Monitor (PHRM), a tool launched in October 2020 as part of the country’s COVID-19 response, is used to assess the epidemiological situation across the different regions of the country. The PHRM collects data on regional management and coordination, funding, planning of services, case management and supporting essential health services. Public health data are supplemented with data on the epidemiological situation in each specific region and are accessible through an electronic portal.⁷³

Key diseases

COVID-19

COVID-19 surveillance

On 26 July 2022, it was reported that weekly COVID-19 cases had increased by 47% over the previous week, from 1431 to 2098 cases, possibly indicating another wave, coinciding with the rest of Europe.⁷⁴ However, case rates have become increasingly hard to interpret due to the marked reduction in testing since the start of the war. For example, on 3 February 2022 the 7-day average number of tests (both PCR and Ag-RDT rapid diagnostic tests) was around 141 000,

⁷⁰ [ECDC, Prevention and control of infectious diseases in the context of Russia's aggression towards Ukraine, 8 March 2022.](#)

⁷¹ [Government of Ukraine, The Law of Ukraine on Protection of Population against Infectious Diseases, 2000.](#)

⁷² WHO, Public Health Surveillance in Ukraine – National Surveillance System – presentation to National Health Cluster Meeting on 13 April 2022.

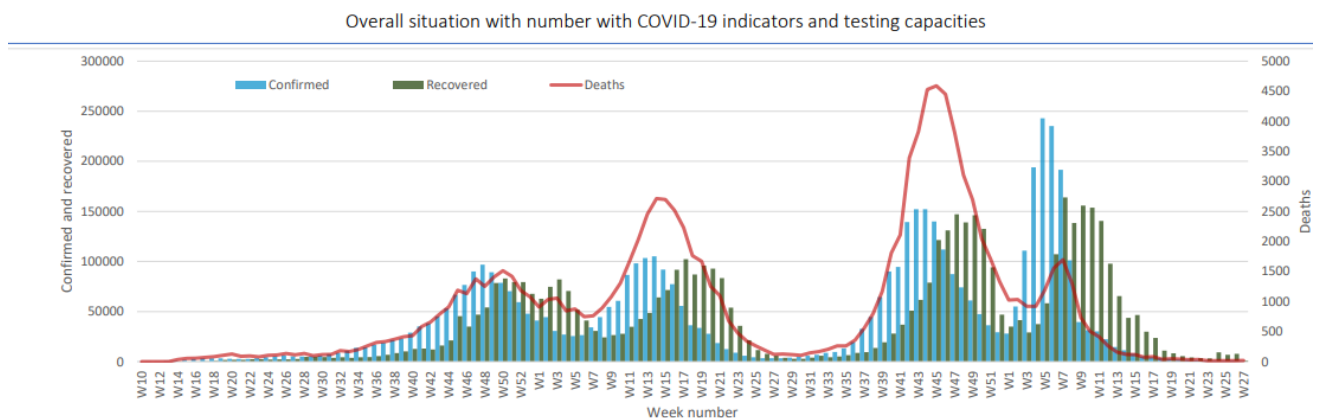
⁷³ [WHO EURO, WHO analytical tool helps Ukraine monitor how regions respond to COVID-19, 17 December 2020.](#)

⁷⁴ [UNN, The number of people infected with COVID-19 in Ukraine increased by almost half in a week, 26 July 2022.](#)

whereas on 10 July 2022 this number had dropped to just 4195, meaning testing reduced by about 97%.⁷⁵

As of 25 July, there have been 5 023 710 confirmed cumulative cases and 108 713 deaths. A further 4 911 788 people recovered from a confirmed COVID-19 infection.⁷⁶ There was a spike in confirmed cases in late January/early February 2022 (Figure 4), likely due to the spread of the Omicron variant; SARS-CoV-2 BA.5 has been detected in Ukraine.⁷⁷ Cases and deaths appear to have fallen since, however, this is highly likely influenced by the reduction in testing discussed above.

Fig. 4: Ukraine COVID-19 cases, deaths, recoveries. Week 10, 2020 to week 27, 2022. Source: Ukraine weekly COVID-19 Situation Report⁷⁸



COVID-19 Vaccination

On 27 September 2021, Ukraine's National Immunization Technical panel recommended vaccinations for those aged 12 and older.⁷⁹ Despite this recommendation, vaccination roll-out before the war had been slow and services have since been disrupted. Vaccination data were last reported to WHO on 27 February 2022, when Ukraine had the seventh lowest rate of vaccine uptake in Europe, with 36% uptake of at least one dose and 34% uptake of a complete vaccine series (Figure 5). Only 1.7% had received a booster dose, thus increasing the likelihood of waning immunity.⁸⁰ These proportions are unlikely to have changed much. In some parts of the country, vaccination has completely stopped, and where vaccination efforts continue, they do so at a much lower pace. According to MOH figures, about 90 000 people were vaccinated in April 2022, but the COVID-19 pandemic is no longer the top priority of Ukraine's health care system; the purchase of COVID-19 vaccines has stopped, and funds have been redirected to other

⁷⁵ WHO, Ukraine Ministry of Health, Ukraine Public Health Centre, Ukraine COVID-19 Weekly Situation Report, accessed 14 July May 2022.

⁷⁶ Centre for Public Health, Coronavirus infection COVID-19, accessed 28 July 2022.

⁷⁷ Ukraine Ministry of Health, It's about a type of Omicron which is called the type "BA.5", 28 July 2022.

⁷⁸ Ukraine Public Health Centre, Weekly Report on Public Health Risks 29 week of 2022 (July 18-24). 25 July 2022.

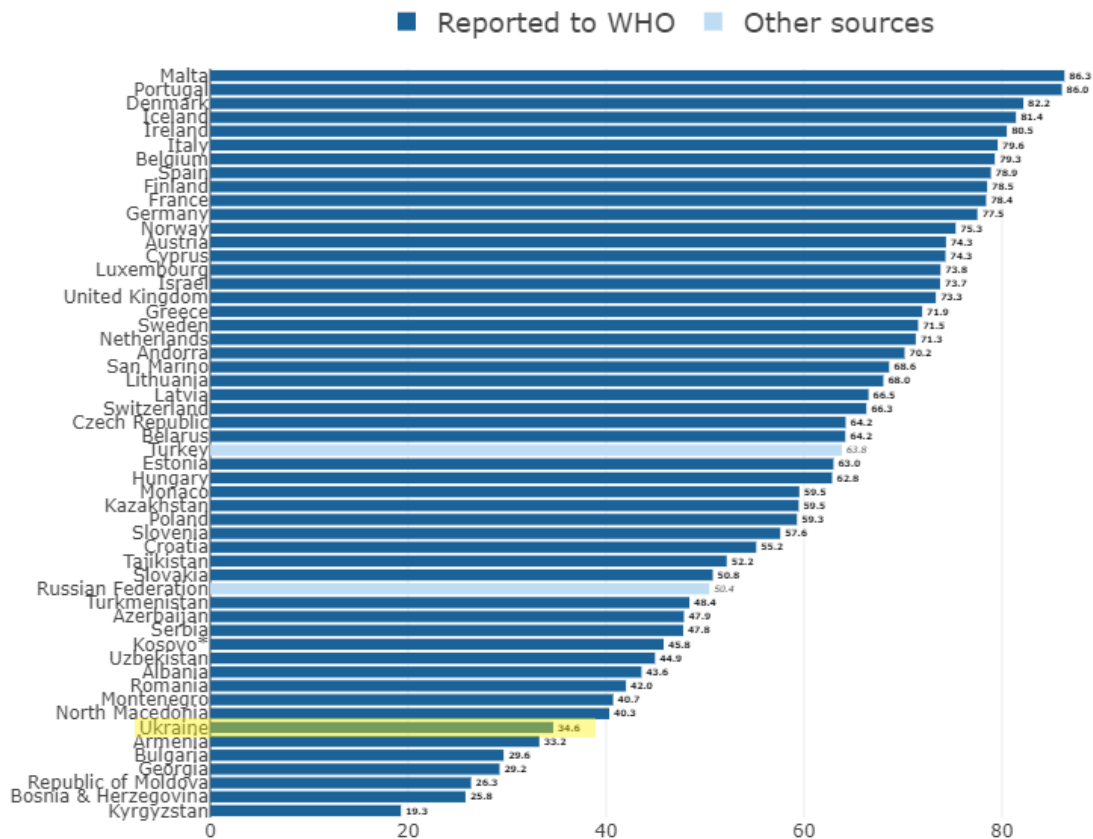
⁷⁹ Racurs, First, we will vaccinate half of the adults - Lyashko on the beginning of vaccination of adolescents, 30 September 2021.

⁸⁰ WHO, WHO/Europe Covid-19 vaccine programme monitor (shinyapps.io), accessed July 2022

medical supplies.^{81,82} The low COVID-19 vaccine uptake increases the risk of severe disease and death, particularly given the high burden of comorbidities in the population.⁸³

The ECDC has recommended to refugee hosting countries the administration of a SARS-Cov-2 mRNA vaccine to eligible children, adolescents, and adults, as well as offering a booster dose to all adults.⁸⁴

Fig. 5: Population vaccine uptake with a complete dose series (%). Data complete to 24 May 2022. Source: WHO Vaccine Programme Monitor⁸⁵



Vaccinations are voluntary and free. As of 1 February 2022, the following vaccines against COVID-19 are currently in use in Ukraine: Moderna – mRNA - 1273, AstraZeneca - Vaxzevria, Pfizer BioNTech - Comirnaty, and Sinovac - CoronaVac.⁸⁶ Mass vaccination centres and vaccination points (e.g., medical clinics) provided immunisations before the war.⁸⁷ Mobile immunization teams were also available to vaccinate professional groups (doctors, educators, military, social workers, government officials, etc.), organized teams with more than 50 people, and low-mobility

⁸¹ [Interfax Ukraine, Health Ministry refuses purchase of COVID vaccines due to war - Liashko, 20 April 2022.](#)

⁸² [Chumachenko D, Chumachenko T, Impact of war on the dynamics of COVID-19 in Ukraine - Ukraine, accessed July 2022.](#)

⁸³ [WHO, EURO COVID-19 Monitor, accessed 26 May 2022.](#)

⁸⁴ [ECDC, Prevention and control of infectious diseases in the context of Russia's aggression towards Ukraine, accessed July 2022](#)

⁸⁵ [WHO, EURO COVID-19 Monitor, accessed 26 May 2022.](#)

⁸⁶ [Ukraine Ministry of Finance, Vaccination against coronavirus in Ukraine, accessed 1 February 2022.](#)

⁸⁷ [Ukraine Ministry of Health, List of vaccination points and mass vaccination centers, accessed 1 February 2022.](#)

communities. Prior to the escalation of the conflict, NGCA residents could be vaccinated at vaccination points in GCA, but the procedure for crossing the LoC limited access, resulting in a slow uptake.⁸⁸

Ukraine's COVID-19 vaccination rollout has been hindered by challenges on the demand side, with "anti-vax" disinformation spreading on social media and high vaccine distrust among the population in general⁸⁹, linked to a number of intertwined factors.⁹⁰

COVID-19-related mortality

The low vaccination rate described above and the high prevalence of non-communicable diseases (see, for example, Table 16 for an overview of NCD risk factors) have contributed to a relatively high COVID-19-related mortality, that is, the number of confirmed deaths per 100 000 population. Excess mortality from 2020 to the end of 2021 is estimated to be around 160 000 to 170 000.⁹¹ While Ukraine's CFR of 2.2% was similar to that of neighbouring countries, it was substantially higher than in most countries in Western Europe, as of 24 February.⁹²

Health system management

Twelve dashboards track COVID-19 and related health system data in Ukraine. The MoH operates [ten dashboards](#) in Ukrainian, including one which maps cases and deaths.⁹³ The Office of the National Security and Defence Council (NSDC) of Ukraine has created a health care system dashboard that maps [medical services](#), [pharmacies](#), [hospitalizations](#), [hospital bed type and occupancy](#) and [vaccinations](#).⁹⁴ The MOH and NSDC dashboards were removed from public use at the end of February. The WHO Regional Office for Europe continues to operate a dashboard with MoH data on [regional bed occupancy and oxygen availability](#).⁹⁵

At the national level, as of 12 July 2022, 1073 hospital beds (3% of the beds allocated for COVID-19 patients) were occupied with cases of confirmed or suspected COVID-19; 910 (32%) of the 38 919 beds supplied with oxygen were occupied; 47 ICU beds were occupied (1%); and 104 mechanical ventilators were occupied (2%).

Following the invasion, as of 12 July 2022, there has been an 96% decrease in the number of beds occupied by patients with confirmed or suspected COVID-19 from 24 551 to 1073.⁹⁶ However, these numbers might not accurately reflect the state of the pandemic as COVID-19 testing behaviours have changed, lab capacity for the processing of PCR tests is limited and several million people have fled the country. The number of available beds has decreased by around 8000 (from 48 825 on 24 February 2022 to 40 158 on 12 July 2022) at the same time as the number of COVID-19 patients decreased, which to some degree reflects the repurposing of wards in anticipation of trauma cases.

⁸⁸ [Ukraine Ministry of Health, About COVID-19 vaccination in Ukraine, accessed 2 February 2022.](#)

⁸⁹ [UNICEF, 'Infodemic' of COVID-19 disinformation bad for Ukrainians health, study for UN finds, 3 March 2021.](#)

⁹⁰ [Holt E, COVID-19 vaccination in Ukraine, the Lancet, April 2021.](#)

⁹¹ [OECD, COVID-19-CRISIS-IN-UKRAINE, 25 February 2022.](#)

⁹² [Johns Hopkins Coronavirus Resource Center, Mortality Analyses, accessed 1 July.](#)

⁹³ [National Health Service of Ukraine, Analytical panels, accessed 1 February 2022.](#)

⁹⁴ [National Security and Defense Council of Ukraine, Health system of Ukraine, accessed 2 February 2022.](#)

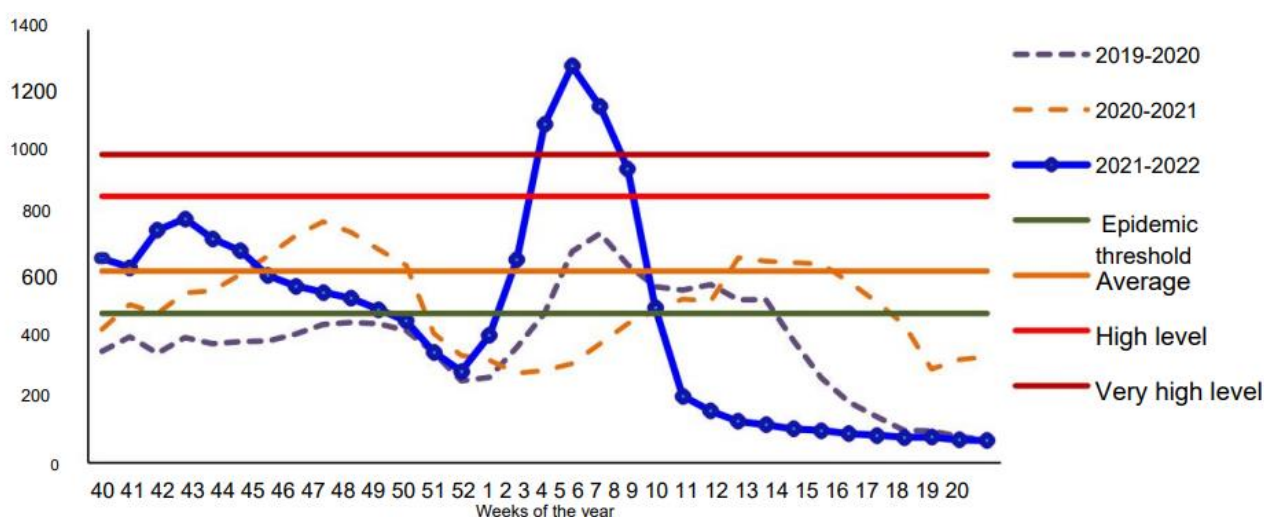
⁹⁵ [WHO EURO/Ukraine Ministry of Health, Information on bed occupancy and oxygen availability in the regions of Ukraine, accessed 2 February 2022.](#)

⁹⁶ [WHO EURO/MoH Ukraine, Information on bed occupancy and oxygen availability in the regions of Ukraine, accessed 13 April 2022.](#)

Influenza

As of week 20, 2022 (ending 22 May 2022) the incidence rate of severe acute respiratory infection (SARI) stood at 72.5 per 100 000 population, below the epidemic threshold for Ukraine and less than at the same time last year (Figure 6).⁹⁷ No fatalities due to influenza have been reported. Around 175 000 people have been vaccinated against influenza since the beginning of the epidemic season. In neighbouring countries, influenza activity is seasonably low, too.

Fig. 6: Incidence of influenza and SARI, Ukraine. Source: Ukraine Centre for Public Health. Influenza and SARI newsletter, Week 20, 2022.



Despite current low levels of SARI, an increased risk of contracting and transmitting influenza remains for IDPs and refugees due to current crowded conditions. This, combined with very low levels of influenza vaccination in groups that are vulnerable, suboptimal match of the vaccine and potential reduced access to health care, increases the potential risk of adverse health outcomes. Rapid identification of suspect cases at increased risk of severe disease will allow early triage and appropriate clinical management.

Poliomyelitis

On 26 April 2022, the national reference laboratory in Kiev has resumed routine testing of cases of acute flaccid paralysis (AFP), the clinical syndrome associated with poliomyelitis, and transportation of samples from provinces to Kiev has resumed. Routine immunization is continuing, though exact coverage and monitoring data are currently difficult to verify⁹⁸ and some regions are experiencing a shortage of polio vaccines due to disrupted supply routes.⁹⁹ The total number of reported AFP cases during weeks 1-12 (latest available data) of 2022 was 35; all cases are pending final classification.¹⁰⁰

An outbreak of polio occurred in 2021. Two cases of poliomyelitis (polio) were reported and confirmed; both were caused by circulating vaccine-derived poliovirus type 2 (cVDPV2).¹⁰¹ In September 2021, the virus was isolated from an unvaccinated 17-month-old girl with acute flaccid paralysis from Rivnenska oblast in north-west Ukraine.^{102,103} In December 2021, the virus

⁹⁷ [Center for Public Health, The incidence of influenza and SARS in Ukraine, accessed July 2022.](#)

⁹⁸ [The Global Polio Eradication Initiative, Ukraine – GPEI, accessed July 2022](#)

⁹⁹ [Radio KalushFM, In Prykarpattya – shortage of vaccines for children \(PHOTOS\), accessed July 2022.](#)

¹⁰⁰ [Polio Eradication Program, Situation Report #23: Ukraine cVDPV2 Outbreak, 4 April 2022.](#)

¹⁰¹ [WHO EURO, Catch up polio immunization campaign to begin in Ukraine, 27 January 2022.](#)

¹⁰² [Kyiv Post, Ukraine officially confirms case of polio in child, 7 October 2021.](#)

¹⁰³ [WHO Euro, One case of polio detected in Ukraine, 13 October 2021.](#)

was isolated from an unvaccinated 2-year-old boy with acute flaccid paralysis in Zakarpatska oblast in western Ukraine. Both sets of parents had refused vaccinations.¹⁰⁴ A total of 21 individuals residing in two oblasts (Rivnenska and Zakarpatska) had isolation of cVDPV2 in stool specimens; all specimens were closely genetically related.¹⁰⁵

Overall vaccination coverage (3rd dose) for 2021 was reported as 78% by WHO/UNICEF and 80.1% by the PHC, both below the recommended target of at least 89% to reach community immunity (see Tables 4 & 6). In Rivnenska and Zakarpatska, where the cases were identified, vaccination coverage (3rd dose) in 2021 was 80.8% and 68.5%, respectively (Table 6). Supplemental vaccination in the community where the first case was detected was conducted from 11-22 October 2021 with inactivated polio vaccine (IPV) for children aged less than 5 years of age, regardless of previous vaccination history. A nationwide vaccination campaign (IPV) targeting all under-vaccinated children (those having only zero or one dose) aged between 6 months and 6 years began on 1 February 2022. Achieving high uptake of this vaccination campaign has been challenging, with only 22% coverage after three weeks of the campaign. The improved oral polio vaccine, nOPV2, with improved efficacy against cVDPV2, was not utilized.^{106,107,108,109}

Country level coordination of the outbreak response is ongoing between the Ministry of Health Public Health Centre and the Global Polio Eradication Initiative (GPEI) partners, including WHO, UNICEF and the US Centers for Disease Control and Prevention. Surveillance of cases of AFP is ongoing.

The current crisis in Ukraine increases the risk for spread of VDPV2 both within and outside of the country, with mass displacement including transit through areas in which VDPV2 is believed to be currently circulating in Ukraine. The overall risk is currently assessed as moderate.

Table 5: Administrative coverage estimates for polio immunization administered in 2021 for Ukraine, and Rivnenska and Zakarpatska oblasts¹¹⁰

Region	Pol3 (up to 1-year old) %	Pol4 (18 months) %	Pol5 (6 years) %	Pol6 (14 years) %
Ukraine	80.1	80.5	78.4	76.1
Rivnenska oblast	80.8	82.1	89.4	87.2
Zakarpatska oblast	68.5	67.7	67.8	75.5

Measles

Measles is circulating in Ukraine. In 2021, 16 measles cases were reported, the second highest number in Europe¹¹¹. The country experienced a nationwide epidemic between 2017-2020,

¹⁰⁴ [Public Health Center, A second case of polio has been confirmed in Ukraine: in a two-year-old boy, 24 January 2022.](#)

¹⁰⁵ GPEI Ukraine Polio Outbreak Situation Report 11, 17 December 2021.

¹⁰⁶ [WHO EURO, Catch up polio immunization campaign to begin in Ukraine, 27 January 2022.](#)

¹⁰⁷ GPEI Ukraine Polio Outbreak Situation Report 14, 10 January 2022; [Ministry of Health of Ukraine, Action Plan for Response to Outbreaks of Circulating Vaccine-Related Poliovirus Type 2, 30 December 2021.](#)

¹⁰⁸ [Public Health Center, A second case of polio has been confirmed in Ukraine: in a two-year-old boy, 24 January 2022.](#)

¹⁰⁹ [Global Polio Eradication Initiative, cVDPV2 Outbreaks and the Type 2 Novel Oral Polio Vaccine \(nOPV2\), 13 January 2022.](#)

¹¹⁰ [Ukrainian Public Health Centre, Immunization Coverage, 29 March 2022.](#)

¹¹¹ [ECDC, Communicable disease threat report, February 2022.](#)

during which the MOH reported 115 543 measles cases and 40 measles deaths to WHO.¹¹² For 2018 and 2019, Ukraine had the highest measles incidence rates in the whole WHO European Region, at over 1200 and 1300 per million population, respectively.¹¹³ In 2016, national vaccination coverage for measles was reported as 45%, attributed to challenges in vaccine procurement and antivaccination campaigns.¹¹⁴ Vaccination coverage in 2021 was higher, at 87%, but still fell below the desired 95% population threshold (Table 4) to reach community immunity.

WHO surveillance indicators collected in 2017 highlighted poor laboratory testing rates.¹¹⁵ Although surveillance systems and laboratory capacity have been improved and expanded during the COVID-19 pandemic, laboratories have been overwhelmed with testing for SARS-CoV-2.¹¹⁶

With large population movements, increased social mixing, disruption of vaccination services and clinical and laboratory surveillance, and seasonality increase in incidence in late winter/spring,¹¹⁷ there is a risk of increasing the spread of measles in the coming weeks, which could result in substantial morbidity and mortality.

Mumps

In April 2021, 13 cases of mumps were registered, while in April 2022, this number fell to only two cases.¹¹⁸ The decrease is indicative of a longer-term decrease in cases of mumps: while there were 0.9 cases per 100 000 population (382 cases) in 2019, in 2021 there were only 0.42 cases per 100 000 population (175 cases).¹¹⁹ As with measles, vaccination coverage falls below targets, increasing the risk of outbreaks, particularly among IDPs in collective centres and infants.

Rubella

Cases of rubella have decreased from 0.33 cases per 100 000 population (138 cases) in 2019 to 0.05 cases per 100 000 population (20 cases) in 2021.¹²⁰ As with measles, vaccination coverage falls below target, increasing the risk of outbreaks, particularly among IDPs in collective centres and infants. There is also a risk of congenital rubella syndrome in infants born to women infected during pregnancy.

Pertussis

Cases of pertussis have decreased from 5.5 cases per 100 000 population (2314 cases) in 2019 to 0.2 cases per 100 000 population (91 cases) in 2021.¹²¹ Vaccination coverage falls below target,

¹¹² [WHO EURO, Reported measles cases for the period January-December 2017, 2 February 2018; WHO EURO, Reported measles cases for the period January-December 2019, 7 February 2020; WHO EURO, Reported measles cases for the period January-December 2020, 3 February 2020;](#)

¹¹³ [WHO EpiData, A monthly summary of the epidemiological data on selected Vaccine-preventable diseases in the WHO European Region, 1 February 2019.](#)

¹⁰⁵ [Rodyna R, Measles situation in Ukraine during the period 2017-2019. The European Journal of Public Health 29\(Supplement 4\), November 2019.](#)

¹¹⁵ [WHO EURO, Reported measles cases for the period January-December 2017, 2 February 2018.](#)

¹¹⁶ [Habicht J, Piven N, COVID-19 Health System Response Monitor, European Observatory on Health Systems and policies, December 2020.](#)

¹¹⁷ [Martinez ME, The calendar of epidemics: Seasonal cycles of infectious diseases, PLoS Pathog, 2018 14\(11\): e1007327.](#)

¹¹⁸ [Ukraine Public Health Centre, Infectious disease of the population of Ukraine, accessed July 2022](#)

¹¹⁹ [Ukraine Public Health Centre, Infectious morbidity of the population of Ukraine December 2020 - December 2021.](#)

¹²⁰ [Ukraine Public Health Centre, Infectious morbidity of the population of Ukraine December 2020 - December 2021.](#)

¹²¹ [Ukraine Public Health Center, Infectious morbidity of the population of Ukraine December 2020 - December 2021.](#)

increasing the risk of outbreaks, particularly among IDPs in collective centres and infants. Adults in Ukraine are not generally vaccinated for pertussis.

Tetanus

Tetanus is a serious illness contracted through exposure to the spores of the bacterium, *Clostridium tetani*, which live in soil, saliva, dust, and manure. The bacteria can enter the body through deep cuts, wounds or burns affecting the nervous system. The infection leads to painful muscle contractions, particularly of the jaw and neck muscle, and is commonly known as “lockjaw.”

People of all ages can get tetanus, but the disease is particularly common and serious in newborn babies and their mothers when the mother is unprotected from tetanus by the vaccine, tetanus toxoid. Tetanus occurring during pregnancy or within six weeks of the end of pregnancy is called maternal tetanus, while tetanus occurring within the first 28 days of life is called neonatal tetanus.¹²²

The risk of tetanus in conflict-related injuries is high, particularly in injured, unvaccinated children.¹²³ This poses a substantial risk where vaccination coverage is low, there is exposure to high intensity military attacks, and access to tetanus antitoxin is difficult; this includes Kharkivska, Dnipropetrovska, Zaporizka, Donetska, and Kyivska. Vaccination coverage is below targets in many oblasts, and many infants are also insufficiently vaccinated with three doses of the vaccine, instead of the commonly administered five doses.¹²⁴ Tetanus has been reported in the past three years with seven to 15 cases reported per year.¹²⁵

Diphtheria

There is a risk of a diphtheria outbreak in Ukraine due to insufficient stock of antitoxin and low rate of vaccination among the population in recent years.¹²⁶ The regions with the lowest DTP3 coverage (50-79%) during the last three years are Lvivska, Zakarpatska, Ivano-Frankivska and Ternopil'ska in the West of Ukraine, Kharkivska, Dnipropetrovska, Zaporizka, and Donetska in the East, and Kherson'ska in the South.

Two cases of diphtheria have been recorded in 2022. One case of diphtheria in an IDP was confirmed by laboratory testing in Ternopil on 5 April 2022. The case was a 29-year-old female, internally displaced from Donetska Oblast with unknown vaccination status. As of 21 April, 79 contacts had been identified; all contacts tested negative for *Corynebacterium*. Laboratory investigation, clinical observation, antibiotic prophylaxis and terminal disinfection were implemented.¹²⁷ A second case was recorded in Lviv.¹²⁸

The number of reported cases increased from five in 2012 to 23 in 2019;¹²⁹ no cases were reported in 2020 and 2021.¹³⁰ By the end of 2019, 1 542 650 adults were vaccinated against diphtheria, just

¹²² [WHO, Tetanus, accessed 10 July 2022.](#)

¹²³ [WHO, Tetanus, 9 May 2018.](#)

¹²⁴ [Ukraine Ministry of Health, Implementation of vaccination volumes in 2021 according to the UKRVAC database, 1 January 2022.](#)

¹²⁵ [Ukraine Public Health Center, Infectious morbidity of the population of Ukraine, December 2020 – December 2021.](#)

¹²⁶ [World Health Organization. Diphtheria vaccine: WHO position paper, August 2017 – Recommendations. Vaccine. 2018 Jan 4;36\(2\):199–201.](#)

¹²⁷ [24TV, A case of diphtheria has been recorded in Ternopil region: more than 70 people are in contact, 6 April 2022.](#)

¹²⁸ LMN, Diphtheria in the Lviv region: doctors recorded a case of a dangerous disease, [7 July 2022.](#)

¹²⁹ [Pikul KV, Syzova LM, Ilchenko VI, Zvyagolska IM. Diphtheria: Current public health challenge in Ukraine and Worldwide, Wiad Lek. 2021;74\(1\):137-143.](#)

¹³⁰ [Ukraine Public Health Center, Infectious morbidity of the population of Ukraine – December 2020 – December 2021.](#)

52% of the planned number. The last epidemic of diphtheria in Ukraine was reported in 1991-1998, during which there were 5277 cases reported in 1995 alone.¹³¹

Varicella

An outbreak of chicken pox (varicella), was registered in the Chernivtsi region between 30 June – 4 July 2022; 20 pupils of the Mykolaiv regional children's home, evacuated from Mykolaiv in March 2022, fell ill.¹³² Chicken pox, also known as varicella, is an acute, highly contagious disease caused by varicella zoster virus, usually during childhood. It is a self-limiting disease, but severe complications may arise, such as secondary bacterial infections in children, and pneumonia in adults.¹³³ Vaccines against varicella are not currently part of Ukraine's vaccination schedule.

Monkeypox

As many countries report cases of monkeypox as part of a multi-country outbreak, as of 27 June 2022, no cases of monkeypox have been detected in Ukraine. To date the majority of cases have occurred in men who have sex with men.¹³⁴ As close physical contact can lead to transmission, in Ukraine, there is a risk of introduction and spread to other groups, particularly in areas with poor hygiene and/or a high concentration of IDPs living in crowded conditions.

The risk is considered to be high in the European Region due to a geographically widespread outbreak involving many newly-affected countries, as well as a somewhat atypical clinical presentation of many cases. In newly-affected countries, this is the first time that cases have mainly, but not exclusively, been confirmed among men who have had recent sexual contact with a new or multiple male partners.¹³⁵ WHO continues to provide situation updates and various guidance documents, including clinical management, RCCE, laboratory testing, surveillance, etc.¹³⁶

Furthermore, there is the potential for greater health impact with wider spread to vulnerable population groups, as deaths among cases in previous outbreaks have been reported to occur more often among children, and immunocompromised individuals, including persons with poorly controlled HIV infection, who may be especially at risk of more severe disease.¹³⁷

Rabies

Rabies is endemic in Ukraine.¹³⁸ In May 2022, 12 settlements in Kyiv oblast were quarantined because of a confirmed case of rabies in a cat that infected at least one person.¹³⁹ In June, a second case of rabies was registered in Kyiv. Only seven cases were recorded in Kyiv in 2021.¹⁴⁰ With many homeless animals due to the conflict and interruption to vaccination programs for domestic and agricultural animals, there is increased risk to transmission.

¹³¹ [Nekrassova LS, Chudnaya LM, Marievski VF, Oksiuk VG, Gladkaya E, Bortnitska II, Mercer DJ, Kreysler JV, Golaz A. Epidemic diphtheria in Ukraine, 1991-1997. J Infect Dis. 2000 Feb;181 Suppl 1:S35-40.](#)

¹³² [Interfax, Outbreak of chickenpox in children reported among IDPs in the Chernivtsi region, 7 July 2022.](#)

¹³³ [WHO, Health partners responding to chicken pox outbreak in Cox's Bazar, 15 January 2022.](#)

¹³⁴ [WHO, Multi-country monkeypox outbreak: situation update, 27 June 2022.](#)

¹³⁵ [WHO, Multi-country monkeypox outbreak: situation update, 27 June 2022.](#)

¹³⁶ [WHO/EURO, Emergency in Ukraine: external situation report #15, reporting period: 2–15 June 2022, 16 June 2022.](#)

¹³⁷ [WHO, Multi-country monkeypox outbreak in non-endemic countries: Update, 29 May 2022.](#)

¹³⁸ [Polupan I, et al. An Analysis of Rabies Incidence and Its Geographic Spread in the Buffer Area Among Orally Vaccinated Wildlife in Ukraine From 2012 to 2016. Front Vet Sci. 2019 Sep 10;6:290.](#)

¹³⁹ [Vgorode, In the Kiev region, 12 settlements were closed for quarantine because of the cat, 21 May 2022.](#)

¹⁴⁰ [State Consumer Services State Department Kyiv, State Consumer Services State Department in m. Kyiv informs about a registered case of rabies in the kunići in the straw area of Kiev. 24 June 2022.](#)

Leptospirosis

In the first six months of 2022, 32 cases of leptospirosis were reported at the national level; compared to 17 for the same period in 2021.¹⁴¹ Since the beginning of 2022, two deaths have occurred due to leptospirosis. One case of severe leptospirosis leading to death was registered in Kirovohradska oblast; the infection was linked to rodents and likely transmission occurred through a hand injury.¹⁴² On 17 July, a 15-year-old boy from Brovarskyi died in Kyiv due to leptospirosis after swimming in a pond.¹⁴³ Between 1 January and 31 March 2022, local authorities of Khmelnytska oblast, western Ukraine reported three confirmed cases of leptospirosis, all of which were in IDPs.^{144,145}

Between 2006 and 2018, high incidences of leptospirosis were reported in Ukraine, with more than 0.5 cases per 100 000 population on average per year.¹⁴⁶ Lower incidences were reported in 2020 and 2021: 0.29 cases per 100 000 population (approx. 120 cases per year) – a reduction by half on 2019 (0.7 per 100 000 population: 295 cases).¹⁴⁷

Population displacement, with people living in poor shelter, coupled with risk of flooding, are potential risk factors. The seasonal peak of leptospirosis in Ukraine is during the summer months¹⁴⁸ when the risk of flooding is high.¹⁴⁹ The increase in the number of rodents due to the destruction of infrastructure and population migration is likely to contribute to the spread of leptospirosis in the affected areas.

Hepatitis A and Hepatitis E

Some levels of endemicity of hepatitis A have been observed in Ukraine; 103 cases have been reported so far this year.¹⁵⁰ In May, two outbreaks of hepatitis A were recorded in Kharkiv, totalling seven cases.¹⁵¹ Although data have not been reported every year, the highest prevalence was reported in 2008 with 5135 cases. Hepatitis A has been well-documented to spread in displacement settings.¹⁵² No data on hepatitis E are available; the same mitigation measures apply as for hepatitis A.

¹⁴¹ [Ukraine Public Health Center, Infectious morbidity of the population of Ukraine, June 2021 – June 2022.](#)

¹⁴² [0522.ua, Leptospirosis in Kirovohrad region, 11 June 2022.](#)

¹⁴³ [Zakharchenko A, Leptospirosis: a student from Brovary died in the hospital, 25 July 2022.](#)

¹⁴⁴ [TCH, Since the beginning of the year, five cases of leptospirosis have been detected in the Khmelnytsky region: two of them among migrants, 5 April 2022.](#)

¹⁴⁵ [Yampil community, Leptospirosis: What is the danger and how to prevent the disease, 4 April 2022.](#)

¹⁴⁶ [WHO, Public Health Situation Analysis – Refugee-hosting countries, 17 March 2022.](#)

¹⁴⁷ [Ukraine Public Health Centre, Infectious morbidity of the population of Ukraine December 2020 - December 2021.](#)

¹⁴⁸ [Zubach O, Telehina T, Zinchuk A. Seasonality of Leptospirosis in the Western Region of Ukraine. Int J Infect Dis. 2019 Feb 1;79:124.](#)

¹⁴⁹ [Paprotny D., Sebastian A., Morales-Nápoles O, et al. Trends in flood losses in Europe over the past 150 years. Nat Commun 9, 1985 \(2018\).](#)

¹⁵⁰ [Public Health Center, in Ukraine, Cases of acute intestinal infections increased by 40%, 29 July 2022.](#)

¹⁵¹ [Public Health Center, Weekly Report on Health Risks – May 16-23, accessed 2 July 2022.](#)

¹⁵² [Kaddoura M, Allaham R, Abubakar A, Ezzeddine A, Barakat A, Mala P, Zaraket H. Hepatitis A Virus Genotype 1B Outbreak among Internally Displaced Persons, Syria. Emerg Infect Dis. 2020 Feb;26\(2\):369-371.](#)

Food-borne illnesses

In the first six months of 2022, 51 cases of botulism were recorded.¹⁵³ In June 2022, botulism cases were reported in several regions, for example, in Dnipropetrovska¹⁵⁴ Volynska¹⁵⁵ and Odeska¹⁵⁶. Botulism is caused by the consumption of foods contaminated with the botulinum toxin. It is often linked to dried fish and homemade canned meats. In addition, the Odesa Health Department reported an increase in the weekly incidence of intestinal infections from 5% to 13%, none of them linked to water transmission but rather associated with the consumption of ready-made home meals and meat and dairy products purchased in local markets.¹⁵⁷ The MOH is collaborating with WHO and other humanitarian partners to receive botulism anti-toxin, as it may not be available at every hospital.¹⁵⁸

From January to June,¹⁵⁹ 1028 cases of salmonellosis were reported to the Ukraine Public Health Center. Two outbreaks of salmonellosis occurred in the Darnytskyi district of Kyiv, connected with the consumption of street food. As of 27 June 2022, 25 cases, including three children, had been registered. In the second outbreak, as of 4 July, 2022, seven cases, including one child, were recorded.¹⁶⁰

Typhoid

There is a low reported incidence of typhoid fever in Ukraine (from 0.012 to 0.14 per 100 000 people). There were prior outbreaks in Odeska and Donetsk oblasts in 2015. Lack of access to safe water and appropriate sanitation, poor hygiene, and overcrowding can all increase the risk of outbreaks.

Cholera

WHO has warned that an outbreak of cholera in Mariupol is imminent due to the extensive damage to the water systems that has mixed water with sewage.¹⁶¹ Media have reported cases of cholera¹⁶², however, these have not been confirmed by the MOH; there appears to have been no confirmation that the identified *Vibrio cholerae* were of a toxigenic strain. The situation is similar in a number of conflict-affected areas. For example, in April the main water pipeline supplying water to the city of Mykolaiv was damaged by shelling, resulting in no centralized water for six days in a row and according to media reports is still not considered fit for consumption even after purification and filtration. In Zaporizka oblast, due to the lack of chlorine reserves, the regional water utility stopped the supply of drinking water.¹⁶³

Ukraine was the most recent European country to declare a cholera epidemic, with 33 cases in 2011 in Mariupol (Donetska oblast), a city currently under siege. The risk of outbreak is heightened due to the disruption and destruction of water supplies and WASH infrastructure and the warmer climatic conditions of spring and summer being favourable to transmission. Due to the lack of

¹⁵³ [Public Health Center, in Ukraine, Cases of acute intestinal infections increased by 40%, 29 July 2022.](#)

¹⁵⁴ [State Enterprise "Dnipropetrovsk JCCPX of the Ministry of Health" \(dolc.dp.ua\), Botulism and its danger, 13 June 2022.](#)

¹⁵⁵ [Rayon.in.ua, In Manevichchina hospitalized a man with botulism, accessed July 2022.](#)

¹⁵⁶ [Izbirkom, In the Odessa region registered a case of botulism, 16 June 2022.](#)

¹⁵⁷ [Facebook, OOLC.OD, Odesa Health Department, accessed July 2022.](#)

¹⁵⁸ [RBC Ukraine, Is there a lack of serum from botulism: what they say in the Ministry of Health, 18 June 2022.](#)

¹⁵⁹ [Public Health Center, in Ukraine, Cases of acute intestinal infections increased by 40%, 29 July 2022.](#)

¹⁶⁰ [Public Health Center, Weekly Report on Health Risks, accessed 2 July 2022.](#)

¹⁶¹ [Twitter, Dr. Margaret Harris, The war in #Ukraine raised the risk of infectious diseases, OCHA, 18 May 2022.](#)

¹⁶² [Korrespondent.net, The epidemic has begun: in Mariupol recorded cases of cholera, accessed July 2022.](#)

¹⁶³ [IZ, Oblvodokanal stopped supplying drinking water to the occupied territories due to lack of chlorine reserves, 25 May 2022.](#)

water, the city residents drew untreated water from rivers and lakes. In 2017, UPHC reported *Vibrio cholerae* in the open waters of Mykolaiv city. In addition, the risk from soldiers with recent exposure in cholera-endemic countries should be considered.

Waterborne diseases

Due to the deteriorating WASH situation (unsanitary & crowded conditions, disruption of water systems), there is an increased risk of waterborne diseases, such as viral and bacterial diarrhoea, which would exacerbate existing health conditions. In the first six months of 2022, 97 cases of shigellosis were recorded.¹⁶⁴

Currently, surveillance of these conditions is limited, however, in late May 2022 there were a number of media reports on the worsening water supply in eastern and southern areas of Ukraine. For example, the water from the centralized supply in Mykolaiv oblast was deemed unfit for consumption even after purification and filtration; water in Zhytomyr oblast contained coliforms; and due to the lack of chlorine reserves, the regional water utility stopped the supply of drinking water to Zaporizka oblast.¹⁶⁵

UNICEF estimates that children under the age of 15 living in countries affected by protracted conflict are almost three times more likely to die from diarrhoeal diseases caused by a lack of safe water, sanitation and hygiene, than by direct violence.¹⁶⁶

Vector-borne diseases

Cases of Lyme disease were reported to have almost doubled in Poltava oblast during the first half of 2022, compared to the same period in 2021; 88 cases were reported in the first half of 2022.¹⁶⁷

Crimean Congo haemorrhagic fever cases have been reported in southern affected areas.¹⁶⁸ Risk of West Nile fever increases in late spring in the bordering countries. Epidemic typhus was a major public health problem in World War 2, including in Russia, Ukraine, and Poland. Ukraine has an estimated 1.8 million people aged 80 years and above, some of whom may have contracted *R. prowazekii* during the 1940s and are at risk of Brill-Zinsser disease (recrudescence of epidemic typhus). Body lice infestations among displaced and sheltering populations, living in overcrowded and unsanitary conditions, risks epidemics of *R. prowazekii*; the most recent outbreak in the region was in 1997 in Russia.¹⁶⁹ There is low surveillance capacity to detect these diseases.

¹⁶⁴ [Public Health Center, in Ukraine, Cases of acute intestinal infections increased by 40%, 29 July 2022.](#)

¹⁶⁵ WHO Health Emergencies Programme. Public Health Media Monitoring Summary. 23 – 25 May 2022.

¹⁶⁶ [UNICEF, Children living in protracted conflicts are three times more likely to die from water-related diseases than from violence, 22 March 2019.](#)

¹⁶⁷ [Vechkanova O, An outbreak of Lyme disease in one of the regions of Ukraine: what it is and how dangerous it is, \(Telegraf\), 17 July 2022.](#)

¹⁶⁸ [WHO, Geographic distribution of Crimean-Congo Haemorrhagic Fever, 2017.](#)

¹⁶⁹ [ECDC, Facts about epidemic louse-borne typhus, accessed 26 April 2022.](#)

Tuberculosis & HIV

Tuberculosis (TB)

Tuberculosis is a serious concern in Ukraine; TB was the cause of 2927 deaths in 2020 (7.0 per 100 000).¹⁷⁰ Generally, there has been a rise in the incidence of TB across Ukraine when comparing 2020 to 2021, especially in children (Table 7).

Table 6: New cases of TB per 100 000 population¹⁷¹

	2021	2020	% Change
Total	44.0	42.2	4.3
Children aged 0-14 years	7.4	5.9	25.4
Adolescents aged 15-17 years	12.5	14.2	-1.7
TB/HIV coinfection	6.5	6.9	-0.4

Escalation in the conflict and active hostilities has made deliveries of medicines and commodities extremely challenging, due to the difficulty in securing access corridors across active conflict zones. Access to diagnostic services and treatment has been maintained in other areas and territories with few immediate threats of treatment interruption. Damage to some health care facilities providing care to people with tuberculosis has been reported.

When access to diagnostic and treatment programmes is reduced or interrupted, as with the conflict, infections go undetected and untreated, and drug resistance can develop, increasing morbidity and mortality. WHO already identified Ukraine as one of the top 20 countries with the highest estimated number of incident drug-resistant cases (DR-TB) in 2020: 4257 (24% of bacteriologically confirmed cases).¹⁷²

DR-TB is more difficult and expensive to treat and is associated with a higher mortality than TB infections that are not drug-resistant. Access barriers, including disruptions in services, in 2020 due to the COVID-19 pandemic, led to a drop in the number of people newly diagnosed with TB compared to 2019, and subsequently those tested and treated for DR-TB. Ukraine made the fourteenth largest contribution to the global shortfall of TB notifications in 2020 compared to 2019. It is predicted that when access to TB diagnostics and services improves, there will be a rise in diagnosed and reported cases of TB, and that a higher proportion will be drug resistant.¹⁷³

In 2019, Ukraine committed to the 2020–2023 State Strategy for Development of Anti-Tuberculosis Care for the Population, aimed at establishing a new model for the prevention, early detection and provision of medical care for TB patients by 2023. Ukraine is also committed to achieve the targets set out in the WHO Global End TB Strategy by 2035.¹⁷⁴ Progress made towards reaching those targets is now at risk of being lost due to the war.

HIV/AIDS

In 2020, Ukraine had the second highest rate of newly diagnosed HIV infections (39 cases per 100 000) in the WHO European Region. The highest rate per 100 000 population was observed in Russia

¹⁷⁰ [Public Health Center of the Ministry of Health of Ukraine, Registered HIV infection, AIDS, and deaths 2020, 2020.](#)

¹⁷¹ [Ukraine Public Health Center, TB statistics, accessed July 2022.](#)

¹⁷² [WHO, Global Tuberculosis Report 2021, 14 October 2021.](#)

¹⁷³ [WHO, Global Tuberculosis Report 2021, 14 October 2021.](#)

¹⁷⁴ [WHO Euro, World Tuberculosis Day: supporting Ukraine in scaling up TB diagnosis and treatment, 23 March 2021.](#)

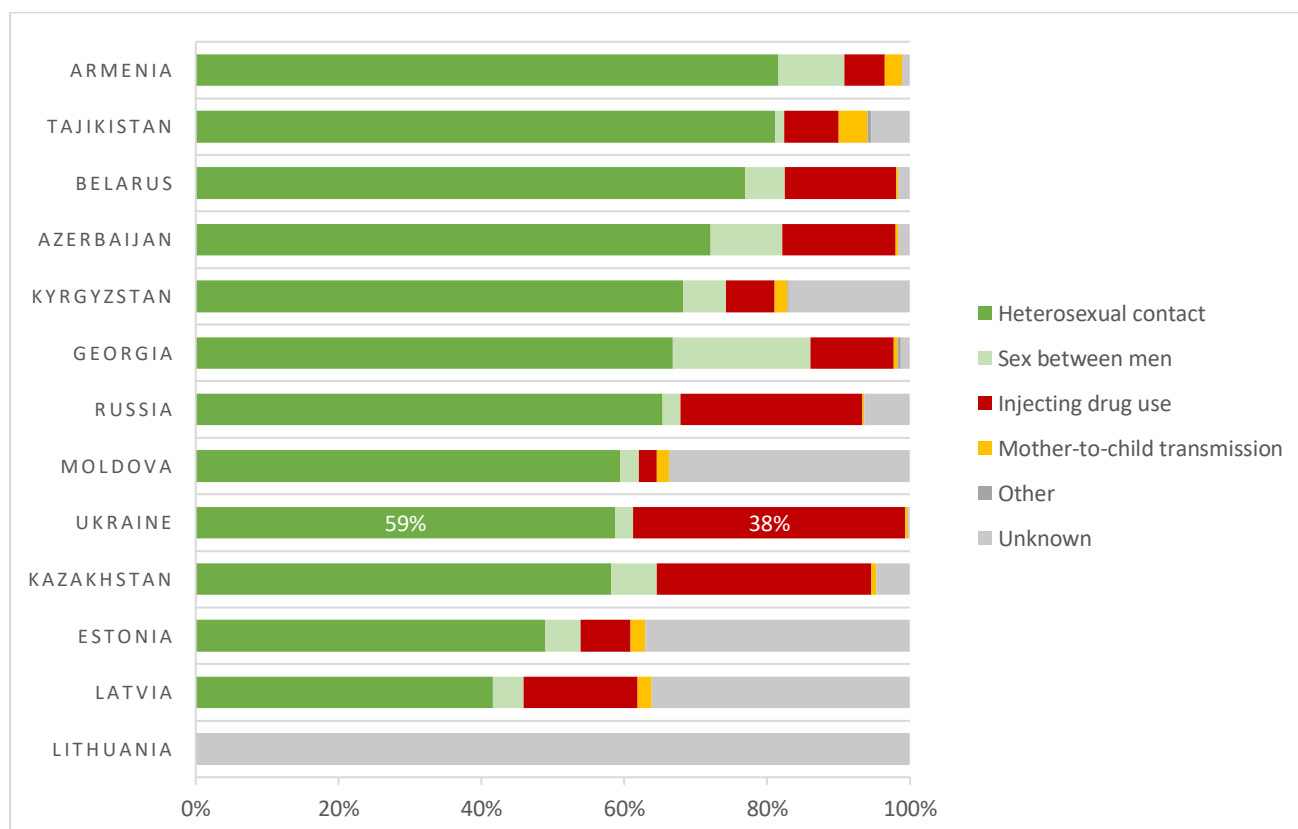
(40.8), followed by Ukraine (37.5), Kazakhstan (18.5), the Republic of Moldova (16.7), Malta (15.9) and Belarus (15.1).¹⁷⁵ According to MoH data, HIV incidence has increased in 2021 to 40.6 per 100 000 population (Table 8). Ukraine also had the highest rate of AIDS diagnosis (9.9 per 100 000) in the European Region in 2020.

Table 7: Incidence of HIV, AIDS and deaths, 2021. Source: Ministry of Health¹⁷⁶

	#	per 100 000
HIV infection	15 360	40.6
AIDS	4151	11.0
Deaths from AIDS	1928	5.1

While over half of the new HIV diagnoses in Ukraine were attributed to heterosexual transmission, injecting drug use (IDU) was the reported transmission mode in 38% of new diagnoses (highest in the region, Figure 7). The ratio of men to women with newly registered infections was approximately 1.75.¹⁷⁷

Fig. 7: New HIV diagnoses, by country and transmission mode, 2020. Source: ECDC¹⁷⁸



¹⁷⁵ [ECDC, WHO, HIV/AIDS surveillance in Europe 2021- 2020 data, 2021.](#)

¹⁷⁶ [Ukraine Public Health Center, Hiv aids statistics operinfo 2021, 2021.](#) note that deaths recorded as “caused by HIV” from the State Statistics Service databank for 2020 (2949 deaths; 7.0 per 100 000) differ slightly from those reported in PHC MoH publications.

¹⁷⁷ [ECDC, WHO, HIV/AIDS surveillance in Europe 2021 - 2020 data, 2021.](#)

¹⁷⁸ [ECDC, WHO, HIV/AIDS surveillance in Europe 2021 - 2020 data, 2021.](#)

Table 8: Patients registered in health care facilities that carry out medical supervision of people living with HIV (PLHIV), as of 1 January 2022¹⁷⁹

	#	per 100 000
HIV infection	150 005	397.5
AIDS	47 652	126.3

Table 9: UNAIDS Ukraine HIV and AIDS estimates 2020¹⁸⁰

Adults aged 15 and over living with HIV	260 000
Adult and children newly infected with HIV (2019)	9300
Adult and child deaths due to AIDS	3100
People living with HIV who are on ART	146 488
Coverage of adults and children receiving ART (%)	57%
Coverage of pregnant women who receive ARV for PMTCT (%)	95%
Early infant diagnosis (%)	73%

Table 10: HIV treatment cascade for Ukraine, 2019 and 2020¹⁸¹

Year	People living with HIV (PLHIV)	PLHIV who know HIV status	PLHIV receiving ART	PLHIV achieving viral suppression
2019	251 168	169 787	136 105	127 817
2020	257 548	176 871	146 488	137 698

Impact of the war on HIV surveillance and response

As with TB, when access to HIV diagnostic and treatment programmes is disrupted, resistance can develop to medications, making the disease more difficult and expensive to treat. Currently, the delivery of antiretroviral treatment in active conflict zones is proving difficult. Access issues created by the hostilities also affect HIV prevention services (including prevention of mother-to-child transmission, pre-exposure prophylaxis, opioid substitution therapy and harm-reduction services), laboratory testing, patient care, procurement and distribution of diagnostic materials and treatment. Access to diagnostic services and treatment have been maintained in areas not experiencing active conflict, with few immediate threats of treatment interruption. Viral load testing has generally been severely restricted. Early infant diagnosis, as well as patient retention and follow-up, are made more difficult by population displacement, movement restrictions and an overburdened health system.¹⁸²

Endemic infectious diseases

Hepatitis B and Hepatitis C

The Ukrainian government estimates that the prevalence of hepatitis C (HCV) may be as high as 5% of the population, of which 3.6% have chronic HCV. The prevalence of hepatitis B (HBV) is estimated at 1.5%; most do not know their status and, subsequently, are not on treatment. Incidence of HBV and HCV reported by the Ukraine Public Health Centre are outlined in Table

¹⁷⁹ [Public Health Center of Ukraine, Registered HIV infection, AIDS, and deaths 2021, 2022.](#)

¹⁸⁰ [UNAIDS, Ukraine, accessed March 2022.](#)

¹⁸¹ [UNAIDS, Ukraine, accessed March 2022.](#)

¹⁸² [Ukraine Ministry of Health, Global Fund Funding Request Form Allocation Period 2020-2022, June 2020.](#)

12. Given the lack of large-scale screening, it is difficult to estimate the incidence of HCV and HBV in Ukraine.

Table 11: New cases of HBV and HCV in Ukraine, 2020, 2021. Source: Ukraine Public Health Centre¹⁸³

	2021	Per 100 000	2020	Per 100 000
Acute hepatitis B	508	1.2	731	1.7
Acute hepatitis C	252	0.6	287	0.7
Chronic viral hepatitis	4183	10.0	4306	10.1

As of 1 January 2021, the number of people infected with HCV was estimated at 1 342 418, with only 92 591 (7%) under medical supervision. The number of individuals infected with HBV was estimated at 559 341, with 18 433 (3%) under medical supervision.¹⁸⁴ The MOH acknowledges that epidemiological surveillance for viral hepatitis is limited.¹⁸⁵ As vaccination coverage for hepatitis B does not meet population targets (see Table 4), diagnostics and treatments are limited.

The conflict may promote an increase in gender-based violence (GBV), which may lead to an increased risk of HBV and HCV incidence and morbidity. Impeded access to medicines and services may delay or disrupt the treatment of patients, allowing the diseases to progress and promoting the development of antiviral resistance. Access is severely limited to medicines and services in areas not under the control of the Ukrainian government. The risk for chronic HBV is higher among children compared to adults, and therefore vaccination is needed from birth to prevent mother-to-child transmission.

Sexual, reproductive and maternal health

Sexual and reproductive health

In 2021, for women aged 15-49 years, the contraceptive prevalence rate (women aged 15-49, any method) was 53%, while the rate of unmet needs for family planning was 6%.¹⁸⁶ The European Contraception Atlas 2020, a map that scores 46 countries throughout Europe on access to modern contraception, ranked Ukraine in the mid-range of all countries at 59.8%, above Poland (35.1%) and Hungary (44.9%), but below Moldova (65.8%) and Albania (68.1%) (Figure 8).¹⁸⁷ In particular, Ukraine scores poorly for policies related to supplies and counselling, and the war is highly likely to worsen contraceptive supply.

¹⁸³ [Ukraine Public Health Center, Infectious disease of the population of Ukraine.](#)

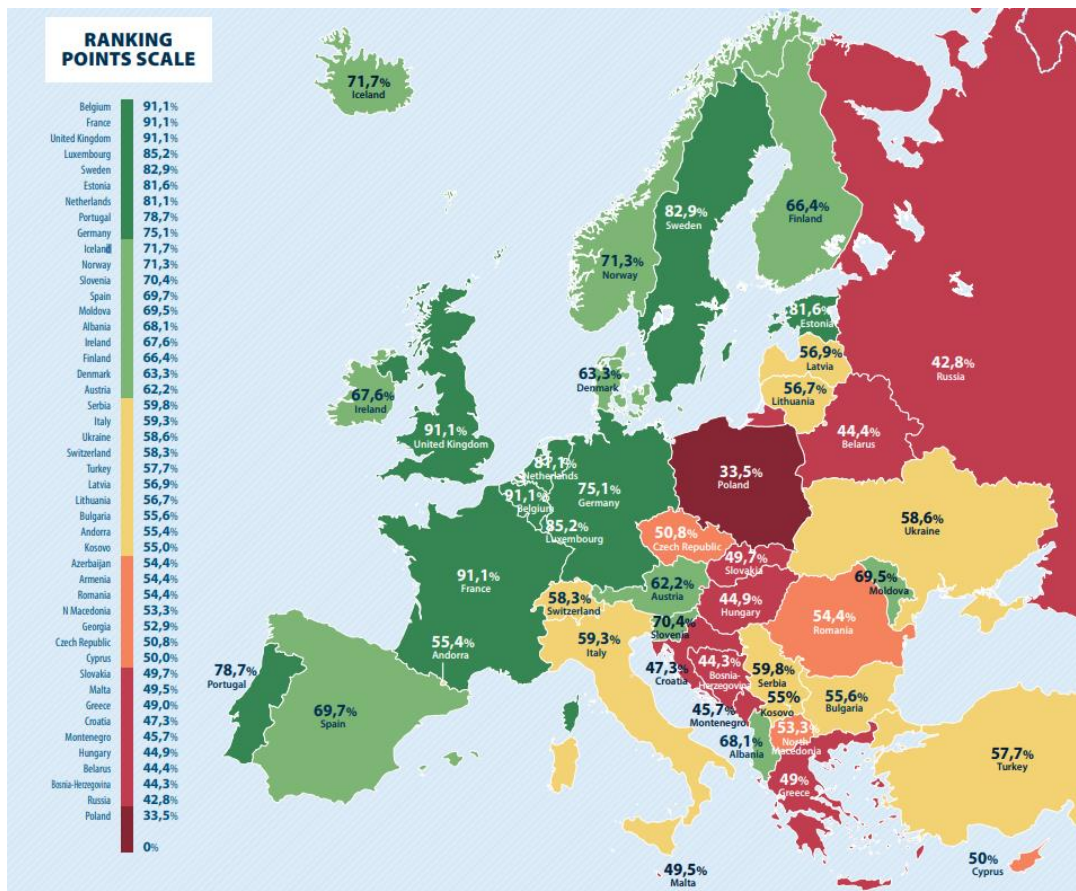
¹⁸⁴ [Public Health Center, Viral Hepatitis 2020, 2021.](#)

¹⁸⁵ [Cabinet Ministers of Ukraine, On approval of the State Strategy in the field of combating HIV / AIDS, tuberculosis and viral hepatitis until 2030, 27 November 2019.](#)

¹⁸⁶ [UNFPA, World population dashboard - Ukraine, accessed 1 March 2022.](#)

¹⁸⁷ [European Contraception Policy Atlas | EPF \(epfweb.org\), accessed July 2022](#)

Fig. 8: Contraception Policy Atlas Europe, 2020



Disruption to the national medical supply chain within the country is impacting the ability of health workers to deliver life-saving sexual and reproductive health services. Inconsistent access to hard-to-reach areas makes the last-mile distribution to health and protection facilities in some oblasts complex and unpredictable.

There are reports of contraception becoming unaffordable for parts of the population due to having to prioritise needs. Lack of contraceptive supplies places women who would want to postpone pregnancy during this crisis period at higher risk of unintended pregnancies, in a situation where safe abortion care might not be readily accessible.

Disruption of supply of drugs, contraception, suture materials, especially chemotherapy and gynaecological disposable materials, woman hygiene items. Radiotherapy (brachytherapy) is not available in many facilities, due to the risk of radiation contamination as a result of bombing.

The sexual and reproductive health needs of women, girls, boys, and men are mounting, matched against the diminished capacity of service providers, whose staff themselves are being displaced or conscripted. In addition, the healthcare workforce is comprised mostly of women, many of whom have care-taking roles in their own families and who are subject to other vulnerabilities.¹⁸⁸

¹⁸⁸ [OCHA, Ukraine Humanitarian Needs Overview, February 2021.](#)

Maternal health and neonatal health

Although the maternal mortality ratio declined from 32 to 19 deaths per 100 000 live births between 2003 and 2017, it remains among the highest levels of neighbouring countries, nearly 10 times that of neighbouring Poland.¹⁸⁹

UNFPA estimated that at the end of February, around 265 000 women were pregnant in Ukraine and that half (132 500) of these pregnant women would deliver within the next six months, needing pregnancy care and assistance during childbirth. At the same time, WHO estimates that around 15% of pregnancies require skilled medical care for potentially life-threatening complications, a particular concerning statistic given reports of women giving birth in underground shelters and subway stations without adequate medical support. Caesarean deliveries accounted for roughly one quarter of all deliveries in 2019. Recently, facilities have reported an increase in caesarean deliveries (on average 30% of all deliveries) due to stress in pregnant women and disruption to prenatal services, especially for IDPs from non-government-controlled areas, as well as an increase of complicated deliveries and miscarriages. There are substantial risks of unsafe deliveries in the short and medium term.

Multiple media reports¹⁹⁰ have noted that the increase in infections, the lack of medical care, poor nutrition and stress brought on by the war have increased the risk of premature birth. On 18 July, the MOH affirmed an increase in premature births.¹⁹¹ In the maternity hospitals in Kharkiv and Lviv, doctors report that premature births had doubled or tripled. UNICEF has also highlighted the importance of providing appropriate medical care and improving the hygiene conditions for premature babies in shelters, which are not equipped for such purposes.¹⁹²

Table 12: Maternal health indicators Ukraine. Source: UNICEF¹⁹³

Maternal Mortality ratio (deaths per 100 000 live births), 2017	19 (UNICEF) / 14.5 (MoH)
Antenatal care coverage 4+ visits, 2012	87%
Adolescent birth rate (number of live births to adolescent women per 1000 adolescent women), 2018	18
Births attended by skilled health personnel, 2014	100%
C-section rate, % of deliveries by caesarean section	12% (UNICEF, 2012) / 24% (MoH, 2019)
Postnatal care for mothers - women (aged 15-49) who received postnatal care within two days of giving birth, 2012	96%

Child mortality and malnutrition

Child Mortality

The infant mortality rate (IMR) in Ukraine has been declining from 17 deaths per 1000 live births in 1996 to seven deaths per 1000 live births in 2020.¹⁹⁴ By comparison, the highest infant mortality

¹⁸⁹ [World Bank, World Development Indicators, accessed 9 April 2022.](#)

¹⁹⁰ [BBC, Ukraine war: Incubator appeal to support premature babies, 23 April 2022.;](#)

¹⁹¹ [MOH, Due to the severe stress caused by war, we have an increase in premature births in pregnant women., 18 July 2022.](#)

¹⁹² [CARE/UN Women, Rapid Gender Analysis of Ukraine, 4 May 2022](#)

¹⁹³ [UNICEF, UNICEF data warehouse, accessed March 2022.](#)

¹⁹⁴ [UNICEF, Country Profile: Ukraine, accessed 14 March 2022.](#)

rates in the EU in 2019 were registered in Malta (6.7 deaths per 1000 live births), Romania (5.8) and Bulgaria (5.6).¹⁹⁵ Ukraine's IMR is approximately double that of neighbouring Poland.¹⁹⁶

The under-5 mortality rate has been gradually decreasing from 20 deaths per 1000 live births in 1990 to eight deaths per 1000 live births in 2020.¹⁹⁷ In the EU, the under-5 mortality rate in 2020 was less than half of Ukraine's at 3.9 deaths per 1000 live births.¹⁹⁸

Table 13: Child mortality rates for Ukraine and the WHO European Region, 2020. Source: UN Inter-Agency Group for Child Mortality Estimation¹⁹⁹

	Under-5 mortality rate	Infant mortality rate	Neonatal mortality rate
Ukraine	8.1	6.9	4.8
Europe	4.6	3.8	2.5

It is highly likely that the ongoing conflict will lead to a prolonged disruption of essential services and further limit access to healthcare, thereby making Ukrainian child mortality rates – already among the highest rates in Europe – worse.

Malnutrition

Ukraine is a major producer of important food staples, including cereal crops such as wheat, maize and barley, and sunflower oil. Interruptions to supply chains and population displacement may impact food security, both in terms of reduced production and limited access.

Prior to the humanitarian crisis, stunting and acute malnutrition rates were perceived to be low.²⁰⁰ In a small cross-sectional study in Ukraine, published in 2014, the prevalence of iron-deficiency anaemia was 4.8%. A statistically significant association was found between established nutritional deficiency, iron deficiency anaemia and morbidity from infectious causes.²⁰¹ Cases of anaemia reported to the MoH for 2020 are presented in Table 15.

Table 14: Cases of anaemia reported in children in Ukraine, 2020. Source: MOH

Cases ²⁰²	# of Children ²⁰³	% of Children (0-17)
14 476	7 533 930	0.19

Unlike many middle-income countries, Ukraine has no policy on the distribution of micronutrient supplements; there is therefore no distribution of micronutrient supplements for children or iron

¹⁹⁵ [Eurostat, Infant mortality sharply declined over the past decades \(europa.eu\)](https://ec.europa.eu/eurostat/tgm/table.do?tab=table&init=1&code=sdg-8-8.2&plugin=1), 4 June 2022.

¹⁹⁶ [World Bank, World Development Indicators, accessed 9 April 2022.](https://data.worldbank.org/SH.UVMRVS)

¹⁹⁷ [UNICEF, Country Profile: Ukraine, accessed 14 March 2022.](https://data.unicef.org/country-profile/ukraine)

¹⁹⁸ [UNICEF, Country Profile: Ukraine, accessed 14 March 2022.](https://data.unicef.org/country-profile/ukraine)

¹⁹⁹ [United Nations Inter-agency Group for Child Mortality Estimation, CME Info - Child Mortality Estimates, accessed July 2022](https://www.unicef.org/interagency-group-for-child-mortality-estimation)

²⁰⁰ According to the MICS survey conducted in Ukraine in 2000, 1.3% of children under the age of 5 in Ukraine were wasted. See [Global Nutrition Cluster, Report of the Global Nutrition Cluster scoping mission to Ukraine, 3-14 February 2015.](https://www.gnc.org.uk/reports/global-nutrition-cluster-scoping-mission-to-ukraine)

²⁰¹ [Nyankovskyy S, et al., Dietary habits and nutritional status of children from Ukraine during the first 3 years of life. August 2014; *Pediatrica Polska* 89\(6\).](https://doi.org/10.1186/s12874-014-0161-2)

²⁰² [Ukraine Ministry of Health, Report on medical care for children, 29 March 2021.](https://www.moh.gov.ua/en/press-releases/2021/03/29)

²⁰³ [State Statistics Service of Ukraine, Statistical Yearbook of Ukraine 2019, 2020.](https://www.ukrstat.gov.ua/en/statistical-yearbook)

and folic acid supplementation for pregnant women. UNICEF, the lead agency of the Ukraine Nutrition Cluster²⁰⁴, has, however, recently launched a micronutrient supplementation project in some parts of Ukraine.²⁰⁵

Prior to the war, Ukraine has been one of the world's largest contributors to the World Food Programme. WFP estimate that Ukraine provides 40% of its wheat.²⁰⁶ The war has now reversed this flow, with Ukraine relying on food supplies. Furthermore, the war has profound impacts on global food supplies. The halt in Ukrainian exports following the outbreak of the conflict pushed the Food and Agriculture Organization's (FAO) food price index, which tracks international prices of the most globally traded food commodities, to its highest point in March since records began in 1990. In developing and emerging market countries, the index change is even more dramatic, leaving consumers facing much higher prices for essential food staples.²⁰⁷

Noncommunicable diseases (NCDs)

NCDs are the leading cause of premature death (death occurring before the age of 70 years) in Ukraine, accounting for 91% of the total number of deaths.²⁰⁸ In 2020, cardiovascular disease (CVD) was the leading cause of death, accounting for two-thirds of all deaths. The next leading cause, cancer, accounted for approximately 13% of all deaths.²⁰⁹ Deaths from the five major NCDs (cardiovascular diseases, diabetes, cancers, chronic respiratory diseases, and mental health conditions) make up almost 84% of the total.²¹⁰

Table 15: Death rates for selected NCDs in Ukraine, 2020. Source: State Statistics Ukraine²¹¹

	Ukraine	% of all deaths	Per 100,000
All deaths	616 835	100	1620
CVD	408 163	66	1072
Cancer	77 880	13	204
Diabetes	2122	<1	6
Mental health disorders	971	<1	3

Access to essential health services, particularly primary health care and medications, are crucial for the treatment of NCDs, particularly prevalent in older persons, many of whom have been unable to flee due to reduced mobility and means; before the war, there were an estimated 10 million older persons in Ukraine.

In a survey conducted between 11-17 April 2022 by IOM, 22% of respondents indicated that they or someone within their family had to stop using their medication because of the war. Among those, 85% indicated they were not able to secure the medicines due to availability and 44% stated they could not afford to buy the medicines (respondents could indicate multiple reasons).

²⁰⁴ [Humanitarian Response, Nutrition.](#)

²⁰⁵ [Global Nutrition Cluster, Report of the Global Nutrition Cluster scoping mission to Ukraine, 3-14 February 2015.](#)

²⁰⁶ [Basley O, Opinion: The Ukraine war could leave hundreds of millions hungry around the world, The Washington Post, 8 March 2022.](#)

²⁰⁷ [Bankova D, Kumar Dutta P, Ovaska M, The war in Ukraine is fuelling a global food crisis, Reuters, 30 May 2022.](#)

²⁰⁸ [United Nations Ukraine, STEPS survey reveals high prevalence of noncommunicable disease risk factors in Ukraine, 18 November 2020.](#)

²⁰⁹ [State Statistics Service of Ukraine, Databank, accessed October 2021.](#)

²¹⁰ [Dumcheva A, et al. Tackling noncommunicable diseases in Ukraine 2015–2019. Copenhagen: WHO Regional Office for Europe; 2020.](#)

²¹¹ [State Statistics Service of Ukraine, Databank, accessed March 2022.](#)

Compared to the general population, among IDPs, a higher share (28%) indicated they or their household members stopped taking their medication due to the war.²¹²

Diabetes

Official data suggest that about 242 000 individuals have a diagnosis of diabetes in Ukraine. The International Diabetes Foundation estimates the prevalence of diabetes as 7.1%, amounting to as many as 2.3 million people, with only 60% of the population already diagnosed.²¹³ Many living with diabetes will already be living with one or more of the complications of diabetes, and will face extreme difficulty managing in the current circumstances.

The official number of patients provided with haemodialysis is nearly 9000, which might not represent the entire population in need, with estimates much higher. In such conflict settings, the number of patients with acute kidney failure requiring dialysis will likely increase.

Cancer

Many cancer drugs require a complex service delivery setup and are often administered over days through a parenteral (e.g., intravenous) route in hospital. In Ukraine, the emergency has affected many cancer care capacities.²¹⁴ In addition, broken supply chains and limited resources have reduced access to medicines. According to preliminary results of a rapid cancer capacity assessment of 32 cancer facilities in Ukraine, 88% of facilities reported diminished ability to provide services for patients.

NCD Risk factors

Ukraine has a very high prevalence of the behavioural and biological risk factors for NCDs, especially in men. A third of the population are smokers (half of all men and roughly a sixth of all women), nearly a third of all men engage in heavy episodic drinking (six or more drinks on one occasion), more than half of the population are classified as overweight and a quarter as obese (Table 17).²¹⁵ There is a strong correlation between these NCD risk factors and mortality related to COVID-19; the current conflict is highly likely to exacerbate this link, especially given the low COVID-19 vaccination rate (Figure 5).

²¹² [IOM, Ukraine Internal Displacement Report General Population Survey – Round 3, 17 April 2022.](#)

²¹³ [International Diabetes Federation, IFD Statement on the ongoing situation in Ukraine, 21 March 2022.](#)

²¹⁴ [Russia's war in Ukraine is killing cancer care in both countries, BMJ 2022;376:o70.](#)

²¹⁵ [WHO, Steps Prevalence of Noncommunicable disease risk factors in Ukraine 2019, 2020.](#)

Table 16: NCD risk factors, Ukraine, 2019. Source: WHO STEPS survey²¹⁶

NCD Risk Factor	% Overall population	% of Male	% of Female
Current smokers	33.9	50.3	16.7
Current drinkers of alcohol	55.6	66.1	44.6
Heavy episodic drinking (>6 drinks per occasion)	19.7	29.5	9.4
Low intake of fruits and vegetables	66.4	73.2	59.4
Salt intake of 5g or more per day	86.9	N/A	N/A
Insufficient physical activity	10	9.1	10.8
Overweight	59.0	58.0	60.2
Obesity	24.8	20.1	29.8
Raised blood pressure	34.8	34.5	35.0
Raised fasting plasma glucose	7.1	6.7	7.4
Raised total cholesterol	40.7	40.6	40.9
Multiple risk factors – Three or more NCD risk factors	32.8	39.9	25.2

Hypertension

Among the adult population in Ukraine, there is a high percentage of undiagnosed and untreated hypertension (high blood pressure). Among those diagnosed, only 55% of the adult population took anti-hypertensive medication prescribed by a health worker. Raised total cholesterol was reported in 41% of the population.²¹⁷

Raised Fasting Glucose

7.4% of the adult population were reported as having raised fasting blood glucose or being on medication for raised blood glucose.

Without antihypertensive medications, patients are at greater risk of heart attacks and stroke; without insulin, some diabetic patients risk death from diabetic ketoacidosis (DKA); and without bronchodilators and oxygen, patients with chronic respiratory diseases may have difficulty breathing and risk death.

Trauma

Conflict-attributable casualties

As the war enters its fifth month, fighting remains focused on eastern Ukraine, while there continue to be daily reports of airstrikes and shelling in many other regions. Humanitarian conditions are worsening in both eastern and southern Ukraine, with ongoing, wide-scale disruptions in electricity, water and gas supplies.²¹⁸

War-related injuries, in particular amputations, burns, spinal cord injuries and complex limb injuries, are causing a surge in limb-saving and other advanced surgeries, as well as acute and ongoing rehabilitation needs, including assistive technologies; these needs are placing enormous strain on the health system. Since the beginning of the war, legislative changes were applied so that

²¹⁶ [WHO, Steps Prevalence of Noncommunicable disease risk factors in Ukraine 2019, 2020.](#)

²¹⁷ Ibid.

²¹⁸ [OCHA, Ukraine Situation Reports, accessed 1 May 2022.](#)

assistive products (prothesis, wheelchairs, etc.) can be prescribed by hospital commissions without patients having to pass additional medical exams to gain official invalidity status.²¹⁹

Antimicrobial resistant infections are likely to increase as adherence to antimicrobial treatment is exacerbated by scarcity of medicines and difficult socioeconomic conditions. Vaccination against tetanus is also an essential preventive measure in wound treatment but depends on the availability of limited vaccine stocks. The health workforce requires more training in war-related injuries and mass casualty situations.

Sexual, gender-based, and domestic violence

Ukrainian authorities have reported conflict-associated cases of rape and sexual violence in the country. The UN Secretary-General and UN High Commissioner for Human Rights have called for an independent investigation of these reports.²²⁰

While Ukraine had made progress on women's rights in recent years despite the long-standing conflict in the East of the country, the current war is jeopardizing gains that have been made. There are many particularly vulnerable populations, including unaccompanied children and women travelling alone, the elderly, and people identifying as LGBTI+. Since the beginning of the war, a national hotline on domestic violence has received more than 3000 calls and online requests, with around 79% of them related to sexual and gender-based violence (SGBV); 78% are from women.²²¹ Reported and unreported incidents of SGBV are likely to continue to increase with the psychological impact of trauma, limited access to protection, treatment, and support, as well as crowded, confined shelter conditions.

Prior to the outbreak of war, the COVID-19 pandemic had already worsened the SGBV situation; the hotline received a 23% increase in calls during the first month of quarantine and a 72% increase in the second month of quarantine in spring 2020.²²² SGBV has long been a serious problem in Ukraine, with approximately 75% of women stating they had experienced some form of violence since age 15, and one in three having experienced physical or sexual violence.²²³ Table 18 highlights attitudes and beliefs and prevalence of violence against women in Ukraine.

Consequences of SGBV can include physical injury, psychological distress and long-term mental health problems, pregnancy, sexually transmitted infections, and negative coping strategies, such as addictions. Survivors have limited access to protection, treatment, and support. Humanitarian actors have reported difficulties in delivering emergency contraception to survivors, especially to the East.²²⁴ There is a particular lack of support available for victims of SGBV in the former NGCAs of Donetska and Luhanska oblasts. Throughout the country, professionals in medical and state institutions lack the specific knowledge and skills needed to deal with survivors of torture and conflict-related sexual violence.²²⁵ In addition to emergency services, access to MHPSS and sexual and reproductive health services is vital. An online "[Help Map](#)" highlights resources for psychosocial support for domestic violence survivors. UNFPA also recently launched

²¹⁹ [Zakon.Rada, Pro vnesennia zmin do deiakykh zakoniv Ukrainy shchodo zabezpechennia dopomizhnymy zasobamy rehabilitatsii osib, postrazhdalikh vnaslidok viiskovoi ahresii Rosiiskoi Federatsii proty Ukrainy, No 2168-IX, 1 April 2022.](#)

²²⁰ [Protection cluster, UNFPA, UNHCR, Ukraine: Gender-based violence: Secondary Data Review, 27 April 2022, 18 May 2022.](#)

²²¹ [UNFPA, Ukraine Emergency Situation Report #7, 20 April 2022.](#)

²²² [UNFPA, Ukraine steadfast in tackling gender-based violence, despite pandemic-related increases, 13 November 2020.](#)

²²³ [UNFPA, Ukraine steadfast in tackling gender-based violence, despite pandemic-related increases, 13 November 2020.](#)

²²⁴ [Guardian, Rush to get emergency contraception into Ukraine as reports of rape rise, 28 April 2022.](#)

²²⁵ [OHCR, Ukraine conflict: End impunity for sexual violence, UN report urges, 16 February 2017.](#)

Aurora, an online platform that provides specialised psychotherapy for survivors of gender-based violence, including conflict-related sexual violence.²²⁶

In 2017, Ukraine initiated a reform of its domestic and sexual violence legislation. Between 2003-2019, domestic violence was only classed as an administrative offence, punishable by a fine, public work, or by arrest.²²⁷ In 2019, the country's new domestic violence laws came into effect; the new laws aim to effectively combat GBV, addressing issues such as domestic violence, sexual violence, forced marriage, forced sterilization, and forced abortion.²²⁸ On 20 June 2022, the Ukrainian parliament voted to ratify the Istanbul Convention, laying the groundwork for the protection of survivors, the prevention of new cases of violence, the prosecution of perpetrators (including criminal liability), and strengthened policy coordination on all levels – from the national down to the community level.²²⁹

Table 17: OSCE-led GBV survey on violence against women, 2018²³⁰

	Totally agree/ Tend to agree	Totally disagree/ Tend to disagree
Views on whether or not domestic violence is a private matter	26%	63%

	Intimate partner	Non-partner
Prevalence of physical and/or sexual violence in the 12 months prior to the survey	7.6%	5.9%

	Since the age of 15	In the 12 months prior to the survey
Prevalence of all forms of sexual harassment	49%	16.9%

	Partner fought in an armed conflict	Partner had not fought in an armed conflict
Prevalence of physical and/or sexual violence, by current partner's involvement in conflict	31%	15%

The [GBV sub-cluster](#) is led by UNFPA.

Technological and environmental health risks

There are continued media and government statements and reporting concerning the nature of biological, chemical and radio-nuclear hazards in Ukraine, including with respect to intentions and capabilities of parties to the armed conflict to engage in chemical or biological warfare. A

²²⁶ [UNFPA Ukraine, Psychotherapeutic support for survivors of violence, including conflict-related sexual violence, 31 May 2022.](#)

²²⁷ [Zakon.rada, Kodeks Ukrainy pro administratyvni pravoporushennia, 26 May 2022.](#)

²²⁸ [Semchuk, K, Ukraine's legislation on domestic violence gets a reboot - but is it enough?, 4 March 2020.](#)

²²⁹ [Council of Europe, Secretary General welcomes Ukrainian Parliament's approval of Istanbul Convention, 20 June 2022.](#)

²³⁰ [OSCE, OSCE-LED survey on violence against women – Well-being and safety of women, 2019.](#)

proper consideration of the nature, type and responsibility for such reporting and associated motivations is outside the scope of this report.

Technological hazards

Civilians and combatants may be exposed to asbestos, due to its widespread use in buildings and military vehicles as fire retardants. An increased incidence of mesothelioma among civilians and military personnel is likely to develop in the coming years as a result of this conflict.

Biological

The risk of accidental exposures to biological hazards is low as the country is not known (is not likely) to have significant collections of high consequence pathogens. Ukraine has inactivated or taken steps to secure a number of its collections of serious pathogens.

Chemical

Ukraine has numerous active and formerly active industrial and mining sites, oil refineries and storage facilities of oil products and agro-chemicals across the country. This gives rise to the possibility of collateral damage at chemical storage sites.

The long history of mining and industrial production in the Donbas region has resulted in the accumulation of environmentally hazardous sites that contain pollutants ranging from heavy metal toxins to industrial chemical pollution. Prior to the current conflict, there were more than 4000 sites designated as hazardous by the Ministry of Ecology and Natural Resources (MENR).²³¹ With the Donbas area home to a large number of hazardous sites, the risk of ecological disaster as a function of the ongoing violent conflict is significantly higher than it might be in other conflict zones in less developed contexts.²³²

In the surrounding areas of Kyiv and in Lviv, several fires at oil or fuel depots have already been reported due to damage to structures. In addition, there were reports of an ammonia leak at an industrial site close to Sumy in the early morning of 21 March 2022.²³³ Two more chemical events have been reported: the leakage of ammonia from a pipeline in Donetsk oblast on 30 May,²³⁴ and nitric acid in Luhanska oblast on 31 May 2022.²³⁵ Although no reports of cases of exposure or death were documented in association with these events, these events highlight the risks posed by industrial chemical production, storage or transportation sites during the war. Damage to significant chemical sites could pose a major health risk. In June 2022, the Azot Chemical Plant in Severodonetsk was subjected to sustained Russian bombardment.²³⁶

Radionuclear

There are 15 nuclear reactors at four operational nuclear power plants (NPPs) in Ukraine, one decommissioned NPP in Chernobyl, and a research reactor in Kharkiv. In addition, numerous radioactive sources are used in industry and health care facilities nation-wide. As of the time of

²³¹ MENR, Donbas Ecological Risks: Internal data collections and assessments from the Ministry of Ecology and Natural Resources. Ministry of Ecology and Natural Resources, Kiev, Ukraine, 2018.

²³² [Marcantonio R, Hook K, The Environment in Warfare-Related Policy Making: The case in Ukraine, Small Wars Journal, 25 October 2022.](#)

²³³ [DSNS Ukraine, Ammonia leakage, Telegram, 21 March 2022.](#)

²³⁴ [Krylenko P, Important! Ammonia leak!, Telegram, 30 May 2022;](#) [OCHA, Daily noon briefing highlights: Horn of Africa, Mali, DRC, Ukraine, 31 May 2022.](#)

²³⁵ [Rowan C, Parekh M, Styllis G, Toxic fumes warning after airstrike on chemical plant, Telegraph, 31 May 2022.](#)

²³⁶ [Sauer P, Fighting in eastern Ukraine rages as Sievierodonetsk chemical plant hit, The Guardian, 12 June 2022.](#)

publication, Ukraine's operating NPPs are operating normally, however, the military conflict is putting Ukraine's NPPs and other facilities with radioactive material in danger.

WHO continues to closely monitor the nuclear safety and security situation in Ukraine, liaising with partners, providing technical support with regard to capacity building, managing potential health risks from technological hazards, conducting risk assessments, and supporting risk communication, as well as monitoring the International Atomic Energy Agency's regular updates.²³⁷

Water contamination risks

Generally, the greatest waterborne risk to health comes from the transmission of faecal pathogens as a result of inadequate sanitation, hygiene and protection of drinking water sources.

In Ukraine, the risk of water contamination remains high in conflict-affected areas. WHO has warned that an outbreak of cholera in Mariupol is imminent due to the extensive damage to the water systems that has mixed water with sewage.²³⁸ There are media reports of cases of cholera in Mariupol, however, these have not been confirmed by the MOH.²³⁹

In April the main water pipeline supplying water to the city of Mykolaiv was damaged by shelling, resulting in no centralized water for six days. According to media reports the water is still not considered fit for consumption even after purification and filtration. In Zaporizka oblast, due to the lack of chlorine reserves, the regional water utility stopped the supply of drinking water.²⁴⁰

Mental health, brain health, substance use disorders and psychosocial support

Mental health and psychosocial support problems are almost certainly going to increase as the conflict continues and more people experience acute psychological distress, exacerbations of chronic mental health issues, and the socioeconomic effects imposed by the war.

Mental health disorders are reported to affect one in five people in post-conflict settings,²⁴¹ while global prevalence is one in 14.²⁴² In a study of conflict-affected adults in Ukraine from before the war, the prevalence of depression and anxiety were 22% and 17%, respectively.²⁴³ Based on these estimates, out of the 18 million affected population, nearly four million adults and one million children are at risk of developing these mental health conditions. One particularly vulnerable group, health care workers, face overload and understaffing, and are at increased risk of psychological distress and mental health disorders.²⁴⁴

The 2019 Global Burden of Disease Study estimates a nationwide population prevalence of 0.35% for schizophrenia, 0.63% for bipolar disorder, 3.92% for major depressive disorder (MDD), 0.3% for

²³⁷ [IAEA, Nuclear Safety and Security in Ukraine, 2022.](#)

²³⁸ [OCHA Ukraine, The war in #Ukraine raised the risk of infectious diseases, Twitter, 18 May 2022.](#)

²³⁹ [Yuskiv K, The epidemic has begun: in Mariupol recorded cases of cholera, Korrespondent, 6 June 2022.](#)

²⁴⁰ [Reshetnyk K, Due to the war, more than two dozen settlements in the Zaporizhia region were left with only technical water, iz.com.ua, 25 May 2022.](#)

²⁴¹ [WHO, Mental health in emergencies, accessed 10 April 2022.](#)

²⁴² [Charlson F, et al. New WHO prevalence estimates of mental disorders in conflict settings: a systematic review and meta-analysis, *Lancet* 2019; 394: 240–48.](#)

²⁴³ [Roberts B, et al. Mental health care utilisation among internally displaced persons in Ukraine: results from a nation-wide survey. *Epidemiology and Psychiatric Sciences*, 2017.](#)

²⁴⁴ [OCHA, Ukraine Humanitarian Needs Overview, February 2021.](#)

epilepsy, 3.03% for alcohol use disorder and 0.83% for drug use disorders. Suicide accounts for 2.0% of all deaths (Table 19).

Ukraine has a similar prevalence to the Eastern Europe regional prevalence for each disorder except MDD, which has a 3.92% prevalence in Ukraine and 2.95% in the region. Ukraine has a higher estimated suicide rate (31.1 deaths per 100 000 population) than the Eastern Europe regional average (27.2 deaths per 100 000 population). The rate of suicide is particularly high among men (56.9 per 100 000 vs. 9 per 100 000 among women). Men also have a higher estimated prevalence of alcohol use disorders than women (4.65% vs 1.69%). Women have a higher estimated prevalence of MDD (4.78% vs 2.89%).

Table 18: Mental health, neurological disorders, substance use. Source: Global Burden of Disease Study²⁴⁵, WHO²⁴⁶ (for treatment estimates)

		Ukraine (2019)			Treated (2017)	Eastern Europe (2019)	
		Prevalence	Total			Prevalence	Total
Schizophrenia	Overall	0.35%	147 843	Combined severe mental disorders	Overall 9.4%	0.36%	710 847
	Female	0.34%	77 937			0.34%	369 738
	Male	0.37%	69 907			0.37%	341 109
	Young adults (20-24)	0.24%	4975			0.24%	23 658
	Older age (70+)	0.18%	8447			Female	0.19%
					8.1%		
Bipolar Disorder	Overall	0.63%	267 337		Male	0.62%	1 234 486
	Female	0.66%	152 561			0.64%	698 152
	Male	0.60%	114 776			0.59%	536 334
	Young adults (20-24)	0.76%	16 005			0.76%	73 902
	Older age (70+)	0.42%	19 743			0.42%	84 956
MDD	Overall	3.92%	1 653 297		Young adults*	2.95%	5 898 697
	Female	4.78%	1 102 212		6.7	3.47%	3 776 537
	Male	2.89%	551 085		Older age	2.32%	2 122 160
	Young adults (20-24)	2.97%	62 608	2.60%		254 439	
	Older age (70+)	6.48%	305 701	4.79%		980 502	
Epilepsy	Overall	0.30%	126 319	37.5%	0.29%	574 268	
	Female	0.27%	61 880	32.9%	0.27%	294 200	
	Male	0.34%	64 439	42.5%	0.31%	280 068	
	Young adults (20-24)	0.31%	6602	--	0.26%	25 294	
	Older age (70+)	0.38%	17 709	--	0.45%	92 183	
Alcohol use disorder	Overall	3.03%	1 277 625	20.9%	3.34%	6 677 214	
	Female	1.69%	390 786	19.6%	1.94%	2 110 946	
	Male	4.65%	886 839	17.1%	5.00%	4 566 268	
	Young adults (20-24)	2.27%	47 762	--	2.50%	244 422	

²⁴⁵ [GHDx, Global Burden of Disease Study 2019 \(GBD 2019\) Data Resources.](#)

²⁴⁶ [WHO, Ukraine - WHO Special Initiative for Mental Health, 19 March 2021.](#)

		Ukraine (2019)		Treated (2017)	Eastern Europe (2019)	
	Older age (70+)	1.87%	88 135	--	2.43%	497 539
Drug use disorder	Overall	0.83%	350 240	34.9%	1.01%	2 023 848
	Female	0.44%	102 120	13%	0.57%	616 466
	Male	1.30%	248 120	38.1%	1.54%	1 407 382
	Young adults (20-24)	2.60%	54 832	32.2%**	3.20%	312 609
	Older age (70+)	0.15%	7121	8.8%***	0.21%	43 016
Suicide deaths (rate per 100k population)	Overall	31.1	13 690	--	27.2	57 009
	Female	9.0	2138	--	9.2	10 384
	Male	56.9	11551	--	47.8	46 625
	Young adults (20-24)	36.6	811	--	28.4	2925
	Older age (70+)	34.1	1607	--	33.9	6937

*Treated age group includes age group 20-34 while prevalence age group includes 20-24

** Treated age group includes 18-35 while prevalence age group includes 20-24

*** treated age group includes 60+ while prevalence age group includes 70+

Mental Health System

Ukraine is one of the six countries in the WHO European Region with a stand-alone mental health policy. However, significant progress is required to broaden understanding of mental health among the population and move from the biological model of care offered by psychiatric hospitals towards more person-centred and community-based approaches.

Ukraine has a large number of psychiatrists (9.8 per 100 000) and psychologists (33.6 per 100 000). There are approximately 11 477 nurses working in mental health (25.7 per 100 000), though these are not technically classified as psychiatric nurses.²⁴⁷ However, there is relatively low mental health awareness in Ukraine and significant stigma associated with mental illness.²⁴⁸ Historically, the large centralized psychiatric system has been associated with human rights violations.²⁴⁹ Prior to 2021, mental health services were represented by in-patient and out-patient psychiatric services and day clinics which provided mostly pharmacological treatment, some leisure activities and assistance to access social benefits. Generally, psychiatric services were not designed to provide support for community integration, including assistance to access education, housing or employment. Primary healthcare staff receive limited training in mental health as a part of their formal education and often do not feel confident to provide care to people with mental health conditions.

In 2017, the Concept Note on Mental Health Development in Ukraine was developed with the support of WHO, followed by the adoption of the National Mental Health Action Plan in 2021. These policies aim to increase mental health awareness, integrate mental health services and development of out-of-hospital forms of specialized care, as well as address discrimination and human rights violations of individuals with mental health disorders.

Since 2019, WHO Mental Health Gap Action Programme has supported national efforts to build the capacity of PHC workers in the management of common mental health conditions. WHO and partners have trained and provided supervision to more than 500 primary health care workers, enabling access to mental health services for more than 500 000 people.²⁵⁰

As a result of a pilot project run by WHO between 2015-2021, a Community Mental Health Teams (CMHTs) service was established by the MoH and the NHSU in 2021 as part of the State Programme of Medical Guarantees. Starting from 1 July 2021, 61 CMHTs from different oblasts applied for the newly established service package and provided services to 4000 people with severe mental disorders.²⁵¹

The MHPSS Technical Working Group (MHPSS TWG) in Ukraine, chaired by WHO and the International Medical Corps, provides a platform for coordination and technical guidance for more than 260 partners carrying out MHPSS activities. Apart from the national coordination mechanism, the group has sub-national units in Zakarpatska, Chernivetska and Lvivska oblasts.

²⁴⁷ [Kemp CG, et al. \(2022\) Baseline situational analysis in Bangladesh, Jordan, Paraguay, the Philippines, Ukraine, and Zimbabwe for the WHO Special Initiative for Mental Health: Universal Health Coverage for Mental Health. PLoS ONE 17\(3\): e0265570.](#)

²⁴⁸ [Weissbecker I, Khan O, Kondakova N, Poole LA, Cohen JT. Mental health in transition: assessment and guidance for strengthening integration of mental health into primary health care and community-based service platforms in Ukraine \(English\). Washington, D.C.: World Bank Group, 2017.](#)

²⁴⁹ [WHO, Ukraine WHO Special Initiative for Mental Health Situational Assessment, January 2020.](#)

²⁵⁰ [WHO, Paving the way for quality mental health care in Ukraine, 30 November 2021.](#)

²⁵¹ [WHO, WHO Special Initiative for Mental Health: Updates and Achievements in 2021, December 2021.](#)

After three months of intensive work, partners started to notice a certain level of exhaustion among their staff volunteers and consider additional support for their wellbeing.

3. Vulnerable groups affected

Vulnerable groups in the conflict-affected regions include people over the age of 60, people with disabilities, children and youth, women and girls, victims of human trafficking, Roma, health care workers, and IDPs.

People over the age of 60

Before the war there were approximately 10 528 724 people 60 years of age and older living in Ukraine, roughly 20% of the total population.²⁵²

Older people present higher rates of disability, have more complex health needs, are more likely to be separated from their families, and are highly susceptible to economic insecurity.²⁵³ In IOM's latest round of its general population survey, 38% of internally displaced households reported one or more of their members was an older person.²⁵⁴

People with disabilities

According to the State Statistics Service of Ukraine, as of 1 January 2020, 2 703 006 people with certified disabilities status (PwD) were registered in Ukraine.²⁵⁵ Certified disability ("invalidity") status in Ukraine is determined by medical commissions: Medical and Social Expert Commissions (MSECs) for adults and Medical Advisory Commissions (LCCs) for children. Determination is currently based on the International Classification of Impairments, disabilities and handicaps²⁵⁶ and a bio-medical approach, including individual's history, medical documentation, physical examination and other tests.²⁵⁷ Since the beginning of the war, the Ukrainian government has simplified registration for and renewal of official disability status.²⁵⁸

In an IOM general population survey, 20% of IDP reported one or more disabled persons as part of their household.²⁵⁹

Key concerns for PwD include security concerns due to challenges in evacuating from places under shelling; lack of adequate health care, including access to rehabilitation support; higher risk of psychosocial distress; lack of accessibility and disability-friendly environments; lack of accessible information; and low socio-economic opportunity.²⁶⁰ Prior to the conflict, 12% of the population needed at least one assistive product (excluding eye glasses); for 5% of the

²⁵² [UNFPA, Ukraine subnational population statistics, 2020.](#)

²⁵³ [HelpAge, Ukraine: Rapid Needs Assessment of Displaced Older People, 6 June 2022.](#)

²⁵⁴ [IOM, Ukraine - Internal Displacement Report - General Population Survey Round 7 \(17-23 July 2022\), 29 July 2022.](#)

²⁵⁵ [OCHA, Ukraine Humanitarian Needs Overview, 11 February 2022.](#)

²⁵⁶ [World Health Organization. \(1980\). International classification of impairments, disabilities, and handicaps: a manual of classification relating to the consequences of disease, published in accordance with resolution WHA29.35 of the Twenty-ninth World Health Assembly, May 1976.](#)

²⁵⁷ [WHO, Situation assessment of rehabilitation in Ukraine, 2021.](#)

²⁵⁸ Cabinet of Ministers of Ukraine order #225 (8 March 2022) and #390 (30 March 2022).

²⁵⁹ [IOM, Ukraine - Internal Displacement Report - General Population Survey Round 7 \(17-23 July 2022\), 29 July 2022.](#)

²⁶⁰ [Protection Cluster Ukraine, Persons with Disabilities, October 2015.](#)

population, this need was unmet. Evidence from previous conflicts indicates this situation will have been further exacerbated by the war.²⁶¹ Since the beginning of the war, the Ukrainian government has simplified registration for and renewal of official disability status.²⁶²

Disability Rights International (DRI) and other stakeholders in Ukraine report that institutionalization of persons with disabilities, including older people, has been a long-standing protection concern in Ukraine. Abuses of rights, including neglect and multiple forms of physical and emotional abuse are of grave concern. The Age and Disability technical working group (TWG), under the Protection Cluster, is engaged in advocacy efforts with regional and local authorities to protect the rights of PwD and is working with local partners to ensure the delivery of supplies (food products, hygiene items, medicines) to institutions, including those located in hard-to-reach areas. Persons who reside in institutions and who have been left behind remain some of the most vulnerable, at risk of violence, injury and death. In coordination with the Camp Coordination and Camp Management Cluster, the TWG is also working to improve access to and the provision of services to persons with disabilities, including older persons in collective centres.²⁶³

People with severe mental health disorders and intellectual, cognitive and psychosocial disabilities residing in institutions which are under the health and social sector become particularly vulnerable due to attacks on these facilities and limited ability for independent movement and self-care. Their basic needs in water, sanitation, food, heating and medicines cannot be fully met by the usual supply chains and require special attention and support from humanitarian agencies.

Children and youth

In 2020, there were an estimated 8 764 042 children and youth living in Ukraine.²⁶⁴ Prior to the war, childhood vaccination coverage across Ukraine did not meet WHO targets (Table 4). Incomplete coverage increases the risks of outbreaks of vaccine-preventable diseases, such as measles or polio, especially among children.²⁶⁵ Nearly two-thirds of Ukrainian children have been displaced over the course of the conflict, especially in areas impacted by escalating hostilities in eastern and southern areas of the country.²⁶⁶

In addition, more than 1700 educational institutions are reported to have been damaged, with another 180 destroyed.²⁶⁷ Apart from the negative impact on education, the damage to schools can also have an impact on children's physiological wellbeing, for example, where children are now missing out on school meals or where routine vaccinations and health check-ups are administered via schools.

The MHPSS hotlines receive calls from children separated from their families and those facing problems accessing mental health services.

Women and girls

The majority of the displaced population are women and girls (64%)²⁶⁸, increasing the need for women, adolescent and child-specific services, including sexual and reproductive health

²⁶¹ [WHO, A situation assessment of rehabilitation in Ukraine, 2022.](#)

²⁶² Cabinet of Ministers of Ukraine order #225 (8 March 2022) and #390 (30 March 2022).

²⁶³ [Protection Cluster Ukraine, Ukraine Response Protection Snapshot, 27 March - 7 April 2022.](#)

²⁶⁴ [UNFPA, Ukraine subnational population statistics, 2020.](#)

²⁶⁵ [UNICEF, Humanitarian Action for Children 2021 - Ukraine, 20 November 2020.](#)

²⁶⁶ [OCHA, Ukraine Humanitarian Crisis, accessed 14 April 2022.](#)

²⁶⁷ [Saveschools.in.ua, 7 Million Children of War in Ukraine, accessed 27 July 2022.](#)

²⁶⁸ [IOM, Ukraine Internal Displacement Report: General Population Survey, Round 5, 23 May 2022.](#)

services, protection, GBV prevention and response services, and woman- and child-friendly spaces. Sexual and reproductive health (SRH) is particularly at risk, with millions facing disruption to lifesaving SRH services including contraception and emergency contraception; obstetric and new-born care; and providing abortion and postabortion care services to the full extent of the law, including for survivors of rape.²⁶⁹

Women's rights organisations report an increase in the level of domestic violence since the beginning of the war. The obligation of Ukrainian men to fight is highly likely to increase stressors and tensions in households, thereby increasing the risk of intimate partner violence.²⁷⁰

Media reports have noted that the increase in infections, the lack of medical care, poor nutrition and stress brought on by the war have increased the risk of premature birth. In the maternity hospitals in Kharkiv and Lviv, doctors report that premature births had doubled or tripled since the start of the war.²⁷¹

In terms of the workforce, four-fifths of all health care and social workers in Ukraine are female, meaning many women are likely struggling during this crisis to balance their professional and personal care-giving roles.²⁷² Women also represent over 70% of low-income earners in need of social assistance.²⁷³ Many likely do not have the financial reserves to help them overcome barriers to health care.

Roma

According to unofficial estimates of international and public organizations, before the start of the war there were between 200 000 and 400 000 Roma living in Ukraine. It is further estimated that 4% to 8% of them have no passports. Many Roma, for various reasons, do not have legal documents confirming their status with regard to birth registration, property rights, residence, etc. Lack of paid work and, as a consequence, pensions, create grounds for social insecurity and exacerbate barriers to obtaining public services, social guarantees, and benefits.²⁷⁴

Health care workers

Many health care workers are overburdened and overworked, placing them at increased risk of making medical errors. The MoH is creating teams to replace overworked surgeons and trauma specialists, in order to prevent medical errors from occurring from psycho-emotional and physical overload.²⁷⁵ Health staff are also at increased risk of contracting infectious diseases due to inadequate medical supplies or personal protective equipment. Additionally, witnessing and experiencing traumatizing events can also impact health care workers' mental health.²⁷⁶ Female health care workers, especially single mothers, carry a major burden due to their additional domestic and care responsibilities within their families.²⁷⁷

²⁶⁹ [UN Women, Rapid Gender Analysis of Ukraine: Secondary data review, 29 March 2022.](#)

²⁷⁰ [HIAS/VOICE, Ukraine Assessment Report - Waiting for the Sky to Close: The Unprecedented Crisis Facing Women and Girls Fleeing Ukraine, 26 May 2022.](#)

²⁷¹ [CARE/UN Women, Rapid Gender Analysis of Ukraine, 4 May 2022.](#)

²⁷² [OCHA, Humanitarian Response Plan at a Glance, 25 November 2020.](#)

²⁷³ [OCHA, Humanitarian Response Plan at a Glance, 25 November 2020.](#)

²⁷⁴ [UNHCR, Stateless persons, accessed 14 April 2022.](#)

²⁷⁵ [UKRinform, Almost two thousand foreign doctors are ready to help Ukraine – Lyashko, 15 April 2022.](#)

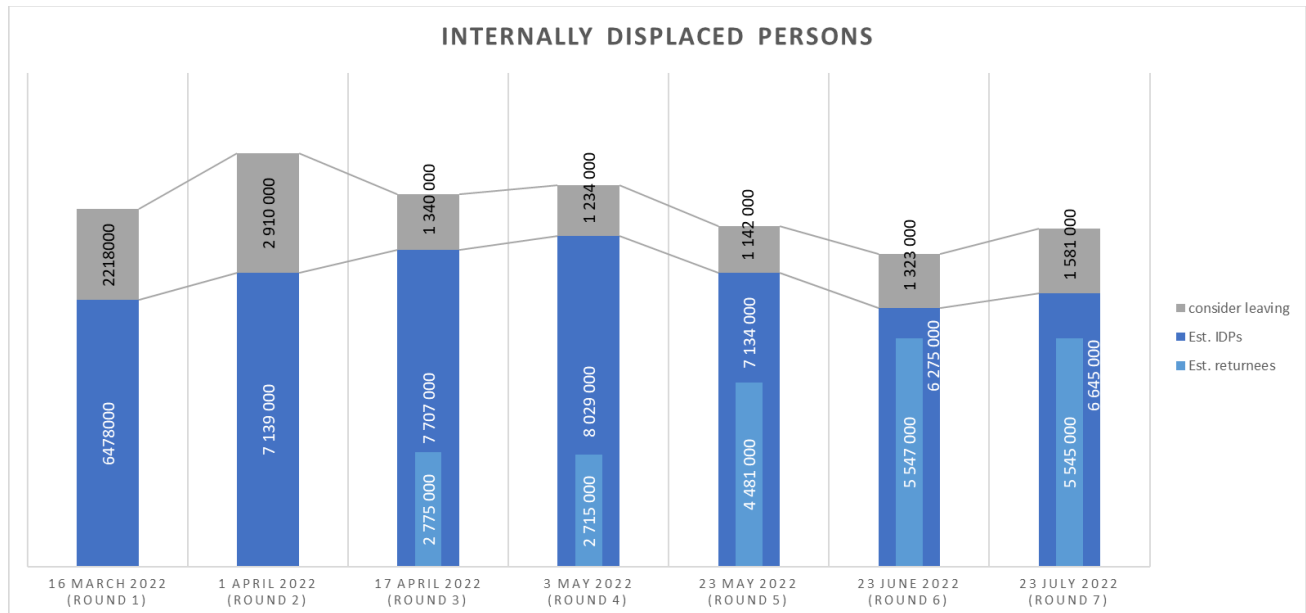
²⁷⁶ [OCHA, Ukraine Humanitarian Needs Overview, February 2021.](#)

²⁷⁷ [OCHA, Ukraine Humanitarian Needs Overview, February 2021.](#)

Internally displaced persons

According to latest IOM estimates, 6 645 000 people were internally displaced (IDPs) in Ukraine as of 23 July 2022, 15% of the general population (Figure 9). In addition to those already displaced, 1.6 million were actively considering leaving their place of habitual residence due to war. An estimated 5.5 million former IDPs have returned from within Ukraine, as well as self-reported returns from abroad (16%).²⁷⁸

Fig. 9: Internally displaced persons. Source: IOM²⁷⁹



IDPs from the East now represent 67% of all IDPs in Ukraine (61% the previous round of the IOM General Population Survey). The estimated numbers of IDPs originally from the East and South have sharply increased, while those from the North have decreased by 59%.²⁸⁰

The majority of IDPs are women (64%). Over a third (38%) of IDP households consist of at least one older person (age 60 and above), a third (30%) have at least one household member with a chronic illness and a fifth (20%) report that one or more household member is living with a disability.²⁸¹ These groups often have complex medical needs which are likely to not be fully met under current circumstances.

Financial support/cash is now the most pressing need among IDPs across Ukraine (78% of respondents). Access to health services and medicines remains an issue for many IDPs, with 28% country-wide reporting lack of access; 41% in the South and 34% in the East. Access to medicines and health services was particularly pressing for respondents over 60, 41% of whom reported a lack of medicines and health services.²⁸²

Displacement creates increased vulnerabilities, as IDPs often lack financial and material resources and lack documentation to secure accommodation and employment.²⁸³ Relocating also limits the continuity of care for IDPs; patients are not followed by the same doctor and medical team for their illnesses; nor do they have access to the same treatment centres, factors

²⁷⁸ [IOM, Ukraine - Internal Displacement Report - General Population Survey Round 7 \(17-23 July 2022\), 29 July 2022.](#)

²⁷⁹ [Ibid.](#)

²⁸⁰ [Ibid.](#)

²⁸¹ [Ibid.](#)

²⁸² [Ibid.](#)

²⁸³ [OCHA, Ukraine Humanitarian Needs Overview, February 2021.](#)

that are especially challenging for people living with HIV and TB, and those struggling with addictions who were registered in treatment programs.

4. Health determinants

Water, sanitation and hygiene (WASH)

The war has caused significant infrastructural damage, leaving hundreds of thousands of people without electricity or water; dilapidated water and sanitation infrastructure will be a further impediment to reconstruction. In addition to individual consumption and hygiene, water is also an essential resource for electricity production and centralised heating.

Water Supply

Around six million people either have limited or no access to safe water, with active hostilities preventing repair teams from fixing damaged systems and restoring access to water, while also hindering the delivery of water in the hardest-hit areas, like Donetska and Luhanska oblasts. UNICEF reports that water trucking services have come to a halt due to shelling in some parts of these eastern oblasts, where local authorities say that the water supply remains critical with little possibility to improve access to safe water as hostilities continue.²⁸⁴ It has been reported that more than 40 000 people around Horlivka remain without access to water.

As a result, ACAPS reports that people with limited or no access to water have resorted to boiling water, collecting rainwater, or walking to wells. In Mariupol, people must walk up to 3km, sometimes under heavy fire, to reach wells.²⁸⁵

Hygiene

The lack of access to water is also affecting people's ability to practise good hygiene. In Mariupol, people have a limited amount of water with which to wash their hands.²⁸⁶ Limited access to water supplies increases the risk of outbreaks of communicable diseases.²⁸⁷

The [WASH Cluster](#) is led by UNICEF.

Food security

The ongoing hostilities continue to disrupt local supply chains and access to food and other basic items. Nationally, one third of households were found to be food insecure. Oblasts in the eastern and southern parts of the country recorded the highest level of food insecurity, with one in every two households being food insecure. Households predominantly rely on cash purchases to access food, but over a third of all households have no income or rely on assistance as the main source of income.²⁸⁸

In eastern Ukraine, there are reports of food shortages in Kramatorsk (Donetska oblast) as supplies were mostly coming from Kharkiv. Even before 24 February 2022, the escalating tensions in Donetska oblast had already damaged roads and bridges, subsequently limiting access to markets for food. Food insecurity is projected to rise considerably, as more and more people are displaced, where access to food, and possibly even food supply, will continue to be a challenge.

²⁸⁴ [UNICEF, Ukraine Humanitarian Situation Report No. 5, 27 March 2022.](#)

²⁸⁵ [ACAPS, Ukraine: Pattern of movement, people's needs, and response, 27 March 2022.](#)

²⁸⁶ [MSF, Thousands of people flee bombings in south Ukraine and head west, 12 March 2022.](#)

²⁸⁷ [MSF, "There's an urgent humanitarian race against time in Ukraine," 11 March 2022.](#)

²⁸⁸ [WFP, Ukraine Food Security Report, 12 May 2022.](#)

The [Food Security Cluster](#) is led by FAO.

Shelter

Damage to residential and public infrastructure due to the conflict is now wide-spread across Ukraine, but the full extent is still unknown. Active hostilities, insecurity, damage to dwellings and disruptions to utilities, such as gas, central heating systems and electricity, are impacting their living conditions.

Frequent attacks have forced many people to seek temporary shelter in basements, bomb shelters, and metro stations underground with poor ventilation, heating, provisions, and access to sanitation. Many people have left their homes and travelled to other parts of the country; most are sheltering in private accommodation and/or with families. Across the borders in neighbouring countries, humanitarian partners and governments have set-up temporary shelters and are providing emergency supplies to refugees.

The [Shelter Cluster](#) is led by UNHCR.

Security

The escalating insecurity affects the capital, Kyiv, and at least eight oblasts and a vast area of Donetsk and Luhansk oblasts, as well as multiple new locations referred to as “newly impacted areas”, including but not limited to Kyivska, Kharkivska, Khersonska, Mykolaivska, Odessa, Sumy, and Zhytomyrska oblasts.

Security risks include systematic shelling close to or into civilian property and utility infrastructure, and heavy presence of military in densely populated areas. Additionally, Ukraine ranks fifth in the world for civilian landmine and explosive remnants of war (ERW) casualties, and in the top three for anti-vehicle landmine accidents; more than 10 000 landmines have been observed.

With around 300 health facilities situated in conflict areas and 1000 health facilities in changed areas of control, access to health care is disrupted.²⁸⁹

The [Protection Cluster](#) is led by UNHCR.

Restriction of movement

Active conflict continues to prevent humanitarian actors from accessing vulnerable populations. Safe passage is being negotiated daily to facilitate the safe movement of supplies and personnel. Martial law and curfews impose movement restrictions, limiting access to health services, essential medicines, and market goods. In certain areas, including the city of Mariupol, the population reportedly cannot leave the areas of active fighting, encircled by armed forces, as well as due to roads that are damaged or obstructed with unexploded ordnance.

A 427km-long line of contact (LoC) runs through Donetsk and Luhansk oblasts in eastern Ukraine, forming a border between Government-Controlled Areas (GCA) and those controlled by armed non-state actors, collectively known as Non-Government-Controlled Areas (NGCA), prior to the escalation of the conflict. This line is being redrawn. All entry-exit checkpoints (EECPs) are closed to humanitarian actors. The political separation of GCA and NGCA has caused significant constraints to the movement of people and goods for the past eight years.

Since the beginning of the war, access to the affected population has been subject to the dynamics of the conflict, the intensity of military confrontations, and political and diplomatic negotiations.

²⁸⁹ [WHO, Regional Director pledges WHO support to help Ukraine's health system build back better during visit to Lviv, 13 April 2022.](#)

In NGCA, access for the delivery of humanitarian assistance and for the movement of staff has been extremely limited since July 2015 when most aid agencies were asked to leave NGCA following the introduction of extensive bureaucratic restrictions for humanitarian operations.²⁹⁰

5. Health system needs

Availability / functionality of health resources

Health system status

The MOH and National Health System Service of Ukraine (NHSU) continue to operate.

Improvements in the provision of essential health services have stalled in Ukraine, with only modest improvements in recent years. The COVID-19 pandemic has made the health system more fragile and more inaccessible to patients. This has limited other essential medical services, including HIV/AIDS and tuberculosis programmes, safe delivery and new-born care, routine childhood vaccination programmes, dialysis and treatment of other chronic diseases requiring continuous care in health facilities.

Health workforce

Health workforce in 2020:²⁹¹

- Healthcare sector workforce: 735 000 (12/2020) (83% women)
- Doctors: 147 361 (276 per 100 000).
- Primary health care doctors: family doctors: 16 139; paediatricians: 5161; therapists: 3760
- Primary health care providers: 2200; 5.78 per 100 000 population.

According to the State Statistics Service of Ukraine, 735 000 workers were employed in the health care sector as of December 2020. Women represent 83% of health care workers. The density of the health workforce varies across Ukraine; for instance, the density of doctors varies from 27 to 50 per 10 000 population between the oblasts. Under martial law, students of all medical and pharmaceutical specialties received the right to work in pharmaceutical (pharmacy) institutions. The Ministry of Health also called on pharmacists who have changed their place of residence to go to work in pharmacies operating nearby.²⁹²

Health facilities

Number of hospitals: 1630

Primary health care facilities (PHCFs): 10 140; 6964 in rural settings.

As per a 2021 USAID study, Ukraine has 4.42 PHCFs per 100 000 population.²⁹³

On 17 June 2022, the Ministry of Health announced that 32 buildings damaged in the war have been fully restored, while another 188 medical facilities were partially restored.²⁹⁴

²⁹⁰ [OCHA, Ukraine Humanitarian Needs Overview, 11 February 2022.](#)

²⁹¹ [State Statistics Service of Ukraine, Data on medical staff of the Ministry of Health of Ukraine for 2020, 2021.](#)

²⁹² [MailBD, More than 80% of pharmacies operate in Ukraine – Ministry of Health, April 2022.](#)

²⁹³ [USAID, Ukraine: Assessment of Patient Barriers to Health Care in the Conflict-Impacted Areas of Eastern Ukraine, 1 September 2021.](#)

²⁹⁴ [Ministry of Health of Ukraine, More than 30 damaged by the occupiers of medical infrastructure have been fully restored, Cabinet of Ministers of Ukraine \(kmu.gov.ua\), 17 June 2022.](#)

Health facilities are now focused on treating trauma patients. PHCFs are not evenly distributed within oblasts, which results in uneven coverage of essential health care services, especially in the rural and remote areas.

Two public dashboards have tracked the health system status in Ukraine to aid in the COVID-19 response. The WHO Regional Office for Europe operates a dashboard with MOH data on regional bed occupancy and oxygen availability.²⁹⁵ Currently offline, the Office of the National Security and Defence Council of Ukraine Health Care System dashboard maps medical services, pharmacies, hospitalizations, hospital bed type and occupancy.²⁹⁶ Note that there were discrepancies between these two dashboards.

Table 19: Medical care institutions in Ukraine (COVID-19 designated facilities), as of 2 February 2022. Source: National Security and Defence Council²⁹⁷

Type of medical institution	#
Medical institutions	3149
Type of medical care	
Primary	1421
Specialized	1405
Emergency	24
Primary and specialized	297
Emergency and specialized	1
Ownership	
Communal	2517
Private – legal entities	231
Private - FOP	401
Provide assistance to patients with COVID-19	
Inpatient care	482
Emergency services	25
Mobile crews	799

Table 20: Medical institution capacity in Ukraine (COVID-19 designated facilities), as of 2 February 2022. Source: National Security and Defence Council²⁹⁸

Bed type	# Beds
Total beds	144 760
Beds allocated for COVID-19 (% total)	71 170 (49%)
ICU – total number of beds	7349
ICU – beds allocated for COVID-19	5345
Total number of beds supplied with oxygen	910 423
Total number of beds supplied with oxygen allocated to COVID-19	68 524

²⁹⁵ [WHO EURO/Ukraine Ministry of Health, Information on bed occupancy and oxygen availability in the regions of Ukraine, Microsoft PowerBI, accessed 2 February 2022.](#)

²⁹⁶ [currently offline] [National Security and Defence Council of Ukraine, Health system of Ukraine, accessed 2 February 2022.](#)

²⁹⁷ Ibid.

²⁹⁸ [WHO EURO/Ukraine Ministry of Health, Information on bed occupancy and oxygen availability in the regions of Ukraine, Microsoft Power BI, accessed 2 February 2022.](#)

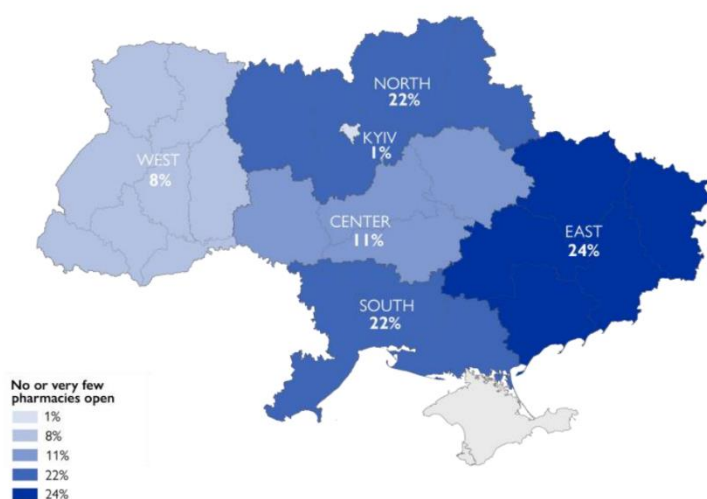
Table 21: Medical institution capacity in Ukraine. Source: WHO/MOH²⁹⁹

	2 Feb	14 Jul
Beds allocated for COVID-19	70 594	40 469
ICU – total number of beds	5395	3887
Total number of ventilators	6757	5994
Total number of beds supplied with oxygen	67 729	39 411

Pharmacies

The availability of pharmacies has improved across the country, but regional differences remain, largely as a result of armed conflict. In June, only around 1% of IOM survey respondents indicated that few or no pharmacies near them were operational, while in April 2022 roughly a quarter (23%) of pharmacies were reportedly not operating. However, in the East 17% of respondents were still reporting in June few or no operating pharmacies near them. Figure 10 below shows the reported availability of pharmacies in May 2022, as reported in the IOM General Population Survey.³⁰⁰

Fig. 10: Reported availability of pharmacies across regions of Ukraine, May 2022. Source: IOM



The boundaries and names shown and the designations used on this map do not imply official endorsement or acceptance by the United Nations.

The MOH and the State Medical Service are monitoring the cost of medicines in order to avoid unjustified price increases and ensure uninterrupted consumer access.³⁰¹ The MOH reports that the price of medicines has increased by 12%.³⁰²

²⁹⁹ [WHO EURO/Ukraine Ministry of Health, Information on bed occupancy and oxygen availability in the regions of Ukraine, Microsoft Power BI, accessed 31 July 2022.](#)

³⁰⁰ [IOM, Ukraine - Internal Displacement Report - General Population Survey Round 5 \(3 – 23 May 2022\), 30 May 2022.](#)

³⁰¹ [Ukraine Ministry of Health, In Ukraine, more than 80% of pharmacies operate – Alexander Komarida, 4 April 2022.](#)

³⁰² [Sokolenko E, The Ministry of Health told how much the prices of medicines have increased since the beginning of the war, UNIAN, 13 July 2022.](#)

Health services availability

Rehabilitation

The MOH announced the introduction of the International Classification of Functioning, Disability and Health (ICF) on 14 April 2022. In developing a new system of rehabilitation and disability classification in Ukraine, the national classifier will ensure the implementation of the Medical Guarantee Program for the provision of care during acute and long-term rehabilitation periods at all levels of medical care.³⁰³ Veterans and civilians affected by the conflict will be able to receive rehabilitation services, regardless of their disability status.³⁰⁴

In an assessment of rehabilitation in Ukraine capturing the situation in September 2020, WHO emphasises the positive advances in the rehabilitation sector, such as improvements to rehabilitation financing and the overall quality of rehabilitation services. Among the challenges the assessment highlighted were, among others, the lack of data on population functioning and the lack of consolidated information on rehabilitation spending within or across ministries.³⁰⁵

Disruptions and challenges to key health system components

Various disruptions and challenges impact the local health system and continue to affect delivery of preventive and curative health services especially in conflict affected regions. These are summarised in Table 2.

Access to health care

Access to health services, essential medicines, and market goods is limited by security concerns and movement restrictions related to the hostilities and the imposed martial law and curfews. Based on the shifting context, more than 200 health facilities have found themselves along conflict lines or in changed areas of control. Many rural settlements do not have pharmacies or medical centres. Barriers to care include: active hostilities, martial law (curfew), access to medicine (availability, access to pharmacies, cost), and access to health care facilities (distance, damage to roads, transportation, lack of mass transport, fuel shortages, restricted movement through military checkpoints, safety concerns in facilities, lack of specialized beds and equipment, few disability accommodations, limited telemedicine, health workforce shortages, inadequate information systems, and poor patient satisfaction).

USAID conducted an assessment of patient barriers to care from January-March 2021.³⁰⁶ From their study, the barriers they found that were similar throughout the country were: poor signage at health care facilities, low health literacy, lack of trust in health care providers, poor attitude of providers, lack of knowledge on health reforms and how to seek care, informal payments, lack of money to pay for healthcare, insufficient patient adherence, and low digital literacy.

During the time of martial law, the MOH has issued sub-legislative acts and took other measures to ensure the readiness of health care systems and health care providers to provide medical assistance to the wounded, injured, and ill, as well as to ensure continuity of care. The measures include suspension of planned hospitalizations to the state- and municipally owned health care providers if certain conditions are met, preparation of additional surgery teams, increased use of telemedicine, involvement of medical workers who reside in regions other than the regions of

³⁰³ [Ministry of Veterans Affairs of Ukraine, At the initiative of the First Lady, a new approach to rehabilitation is being introduced in Ukraine, 14 April 2022.](#)

³⁰⁴ [Open for Business, Cabinet of Ministers: Victims of Russia's military aggression will be able to receive rehabilitation means regardless of establishment of disability, 13 April 2022.](#)

³⁰⁵ [WHO/Europe, Situation assessment of rehabilitation in Ukraine, 2021.](#)

³⁰⁶ [USAID, Ukraine: Assessment of Patient Barriers to Health Care in the Conflict-Impacted Areas of Eastern Ukraine, 2021.](#)

active warfare in the provision of medical assistance to patients located in the active warfare zones, etc. The peculiarities of provision of medical care to military personnel were also determined.

Health system management

The MOH and National Health System Service of Ukraine (NHSU) continue to operate, funding of healthcare facilities has remained as planned before the war.

'The Decentralization Reform' was initiated in 2014 by the national government and has impacted health care management. The reform essentially passes numerous functional and managerial powers from the national government to the regional and local levels.³⁰⁷ Regional and local health authorities are now 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.³⁰⁸ Local authorities became the administrators of the network of medical institutions and in charge of the quality and availability of medical services.³⁰⁹

Other health care reforms have also been implemented that have impacted health care management in the region. In October 2017, a new health financing law was passed making a shift from financing a medical institution to financing (the services provided to) the patient.^{310, 311} On 1 April 2018, the Government of Ukraine established a new single purchasing agency, the National Health Service of Ukraine (NHSU). The NHSU is a national insurance agency providing coverage for a set of explicit benefits for the population within the available fiscal space. The NHSU was established to begin strategic purchasing with health care providers, meeting the requirements for services stipulated in the benefit package – the Programme of Medical Guarantees Programme (PMG). The PMG includes the following health care service packages: primary health care, including drug reimbursement; specialized and highly specialized care; emergency; palliative care; rehabilitation; and COVID-19.³¹²

People in NGCA are particularly hard to reach due to logistical constraints and administrative requirements imposed by separatist authorities.³¹³

The constitutional right to health care and medical assistance provided for by Article 49 of the Constitution of Ukraine has not been subject to limitation despite martial law. The Government of Ukraine and the Ministry of Health of Ukraine have taken measures to ensure the manageability of the health care sector during the period of martial law. Particularly, the functional sub-system of medical protection that is an essential component of the unified state system of civil protection of population and territories from emergency situations was placed on alert. The uninterrupted work of the Ministry of Health and other central executive bodies in the healthcare sector, as well as that of the enterprises, institutions and organizations belonging to the sphere of the MOH's management, was ensured.

At the same time, some challenges appeared while ensuring the proper functioning of the state organs and state-owned enterprises, institutions, and organizations in the time of martial law. Thus, in April 2022, the Cabinet of Ministers of Ukraine issued decrees according to which the state servants and employees of the state-owned enterprises, institutions, and organizations, who

³⁰⁷ [Médicos del Mundo, Role of the decentralization reform, June 2021.](#)

³⁰⁸ [Lekhan VN, Rudyi VM, Shevchenko MV, Nitzan Kaluski D, Richardson E. Ukraine: Health system review. Health Systems in Transition, 2015; 17\(2\):1–153.](#)

³⁰⁹ [Médicos del Mundo, Role of the decentralization reform June 2021.](#)

³¹⁰ [Netherlands Enterprise Agency, Health Care in Ukraine, March 2019.](#)

³¹¹ [Médicos del Mundo, Impact of Health Reform on the Primary Healthcare Level in Conflict-Affected Areas of Donetsk and Luhansk Oblasts, June 2021.](#)

³¹² [WHO Euro/World Bank, Ukraine review of health financing reforms 2016-2019, 2019.](#)

³¹³ [ACAPS, Ukraine Conflict in Donetsk and Luhansk, 4 November 2019.](#)

stayed abroad during working time (except for having been on a business trip) would be subject to disciplinary liability, including dismissal. Accounting for the above rules, many state servants and employees of the state-owned enterprises, institutions, and organizations who fled the war and could not come back to Ukraine terminated their employment (particularly, “on their own will” prior to being dismissed). The qualified staff outflow that happened because of the war is likely to persist and negatively affect the governance capacities, including those in the sphere of health care.

Under the conditions of martial law, the simplification of bureaucratic procedures has become the key regulatory trend. This, particularly, relates to the right to conduct medical practise, the accreditation of healthcare providers, etc.

Supply (including pharmaceutical) chain disruption

The supply chains for medicines, medical supplies, and common goods have been disrupted, creating urgent need. Many distributors are non-operational and many government and humanitarian stockpiles are inaccessible due to active hostilities.

Access to lifesaving and essential medicines, such as life-sustaining oxygen and insulin, personal protective equipment (PPE), surgical supplies, anaesthetics, safe blood products has improved since April, but is still very limited in areas of active combat.

During armed conflict, medical supply chains often break down, creating shortages of medicines, medical commodities, and basic medical equipment. This disruption in the medical supply chain leads to the use of sub-standard medicines and equipment.

Degraded alert and response

Ukraine already had weak systems for medical data collection and evidence generation before the conflict, including for early warning for potential public health events; and it has not improved. Without the necessary evidence and data, it is difficult to make decisions about where to target medical and outbreak response resources and which interventions to prioritize. Weaknesses in real-time health information also undermine the ability to monitor the quality and effectiveness of services provided to ensure health care actors are accountable to the people they assist.³¹⁴

Due to disruptions to health care and laboratory testing capacity, particularly in areas of active conflict, current surveillance systems may be delayed in reporting outbreaks of disease. At present, the surveillance system is fully functional in the central and western regions, and largely non-functional in occupied and recently liberated areas.

Health workforce shortages

Many health care workers have had to leave their health facilities due to the conflict. On 6 July 2022, the Ministry of Health reported that 3536 internally displaced medical workers have been employed in health facilities in other areas of the country. Among them:

- 1758 doctors
- 1170 specialists (nurses, midwives, paramedics, assistant pharmacists)
- 608 technical staff

³¹⁴ [Protection Cluster Ukraine/Health Cluster Ukraine, Exploring Access to health care services in Ukraine: a protection and health perspective, July 2019.](#)

The most doctors and other health care specialists are now registered in Dnipropetrovska oblast (460) and in Poltavvska oblast (318), the Lvivska oblast (312).³¹⁵

Prior to the conflict escalation, along the line of contact in Donetsk and Luhansk oblasts, there was a shortage of medical staff (from 20% to 40% depending on the settlement), and about 60% of available primary care physicians are of pre-retirement and retirement age.³¹⁶

The Ministry of Health of Ukraine has issued orders allowing the involvement of intern doctors and foreign health care workers in the provision of medical assistance for the period of martial law. At the same time, the legislation on the involvement of foreign healthcare workers still needs further improvement to ensure compliance with effective laws. The Ministry also set forth requirements to protect healthcare workers' right to proper remuneration for their work.

Damage to health facilities

The Ministry of Health reported that as of 24 July, 746 health care facilities, including primary health care centres, needed restoration and 123 had been completely destroyed.³¹⁷ As of 27 July 2022, 350 reports of attacks on health care had been verified by WHO that had impacted health facilities (see below).³¹⁸ Prior to the escalation of conflict, many facilities were in a degraded condition from a lack of maintenance and reported medical equipment in disrepair.³¹⁹

Attacks against health care facilities and workers

Attacks on health facilities and workers are verified and published through WHO's Surveillance System for Attacks on Health Care (SSA). An attack on health care is defined by the SSA as: "Any act of verbal or physical violence or obstruction or threat of violence that interferes with the availability, access and delivery of curative and/or preventive health services during emergencies."³²⁰

As of 27 July, 414 reports of attacks on health care had been verified by WHO³²¹:

- 389 "confirmed", 23 "probable", 2 "possible" events
- 85 deaths, 100 injuries
- 350 impacted health facilities
- 63 impacted transport
- 45 impacted health personnel
- 22 impacted patients
- 99 impacted the delivery of medical supplies
- 12 impacted medical warehouses

Most attacks (76%) were carried out with heavy weapons such as tanks, missiles, bombs or mortars.

³¹⁵ [Ministry of Health of Ukraine, Ministry of Health: More than 3,500 internally displaced doctors found employment in health care institutions, 6 July 2022.](#)

³¹⁶ [Médicos del Mundo, Impact of Health Reform on the Primary Healthcare Level in Conflict-Affected Areas of Donetsk and Luhansk Oblasts, June 2021.](#)

³¹⁷ [Ministry of Health of Ukraine, Facebook: Five months of fighting full-scale Russian aggression. 150 days of resistance, unbreakable on the way to victory, 24 July 2022.](#)

³¹⁸ [WHO, Surveillance System for Attacks on Health Care \(SSA\), accessed 27 July 2022.](#)

³¹⁹ [Protection Cluster Ukraine/Health Cluster Ukraine, Exploring Access to health care services in Ukraine: a protection and health perspective, July 2019.](#)

³²⁰ [WHO, Stopping attacks on health care, accessed 14 April 2022.](#)

³²¹ [WHO, Surveillance System for Attacks on Health Care \(SSA\), accessed 27 July 2022.](#)

Health system financing needs

According to the Ukrainian Ministry of Health, so far more than 746 health care facilities are in need of restoration, and more than 123 destroyed since the beginning of the war.³²² MOH estimates that over US\$1 billion will be needed to rebuild Ukrainian hospitals damaged during the war.³²³

In late May 2022, WHO launched an updated appeal for US\$147.5 million, to support Ukraine's worsening humanitarian need, provide immediate healthcare delivery and help the health system stay resilient for the longer term. Of this total, US\$80 million is needed for in-country support, such as distributing medicines and delivering vital healthcare services, and a further US\$67.5 million is required to assist refugee-receiving and hosting countries, including Poland, the Czech Republic, Moldova and Romania.³²⁴

Despite the on-going war, the Ukrainian government created the National Recovery Council in April 2022. A recovery plan was released on 23 July 2022,³²⁵ and a WHO policy note on health system recovery and transformation³²⁶ was one of the key documents feeding into the national recovery plan. Among the principles outlined in the WHO strategy are people-centredness and the alignment of the current humanitarian response with a longer-term transformational strategy for the health sector of Ukraine.

6. Humanitarian health response

Health response organization / coordination – 149 health partners

The Health Cluster, led by WHO, currently links 149 partners (NGOs, UN agencies, national authorities, donors, and observers) engaged in the humanitarian health response in Ukraine.^{327, 328} As of 19 July, Health Cluster partners are engaged in activities in 554 Ukrainian settlements in 24 oblasts, reaching 4.4 M people. The Health Cluster secretariat gathers and disseminates relevant information to guide partners' response; identifies and addresses gaps in technical knowledge to ensure global best practises and standards are followed; and promotes and advocates for humanitarian health action.

The Health Requests, Planning and Response (HRPR) tool³²⁹, developed by the Health Cluster, enables organizations and facilities to log requests for assistance from the humanitarian health sector. The Health Cluster Secretariat then engages with partners who are able respond and fulfil the request.

As of 19 July 2022, the majority of implementing partners in Ukraine were national (50%) and international (33%) NGOs (Figure 11).

³²² [Ministry of Health of Ukraine, Facebook: Five months of fighting full-scale Russian aggression. 150 days of resistance, unbreakable on the way to victory, 24 July 2022.](#)

³²³ [StroyObzor, 32 billion hryvnias needed to restore Ukrainian hospitals, May 2022.](#)

³²⁴ [WHO, One hundred days of war has put Ukraine's health system under severe pressure, 3 June 2022.](#)

³²⁵ [Ministry of Health of Ukraine, Gov't presents a draft Recovery Plan for Ukraine in healthcare sector, 23 July 2022.](#)

³²⁶ [WHO, Principles to guide health system recovery and transformation in Ukraine, 23 May 2022.](#)

³²⁷ [Health Cluster Ukraine, Bulletin #15 December 2021 - January 2022, 28 January 2022.](#)

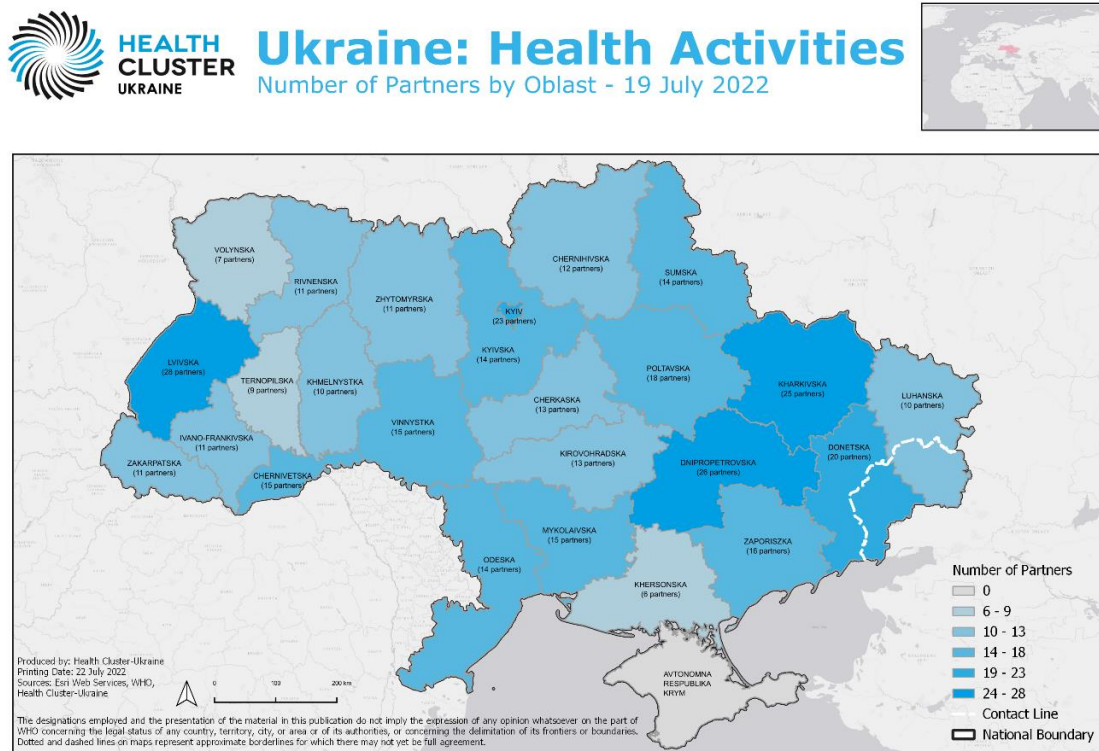
³²⁸ [WHO, Health Cluster: About Us, accessed April 2022.](#)

³²⁹ [HumanitarianResponse, Ukraine - Health Requests, Planning and Response / Форма для збору запитів про допомогу, планування та реагування у сфері охорони здоров'я в Україні.](#)

Fig. 11: Number of operational partners by organisation type, as of 19 July 2022. Source: OCHA³³⁰



Fig. 12: Number of operational partners by oblast as of 19 July 2022.



330 [OCHA, Ukraine 5W Operational Presence, accessed 28 July 2022.](#)

Fig. 13: Number of active and completed activities by oblast as of 19 July 2022.

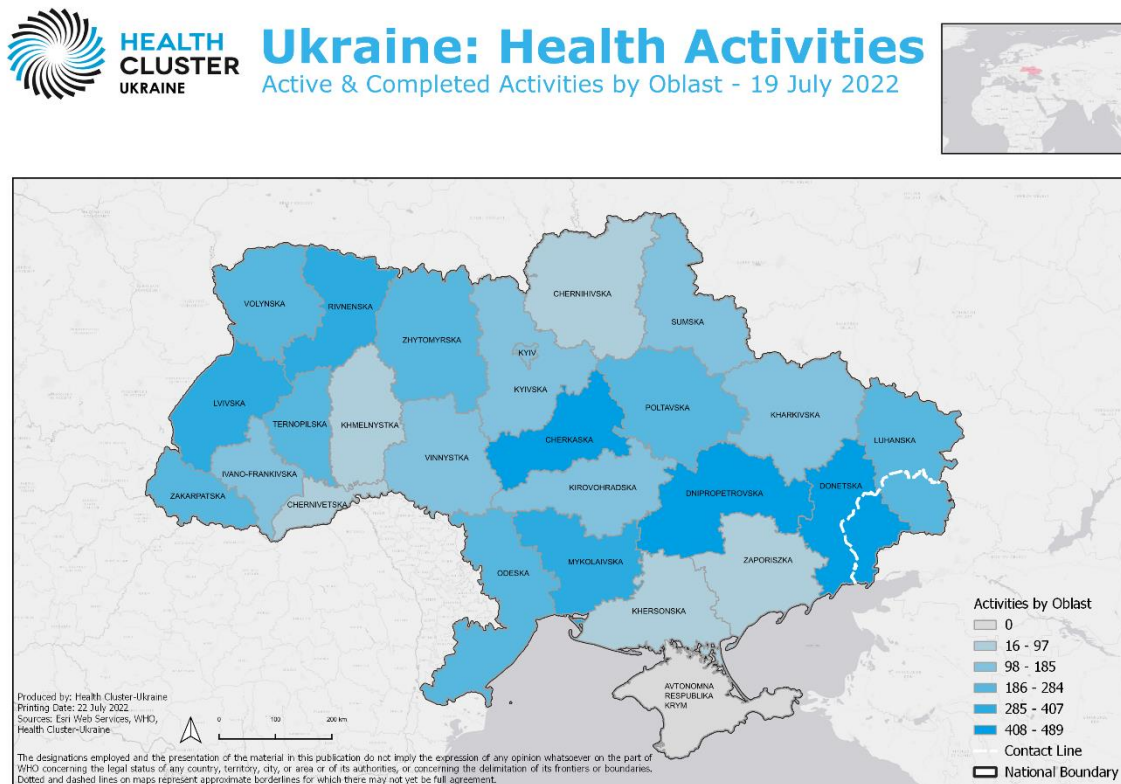
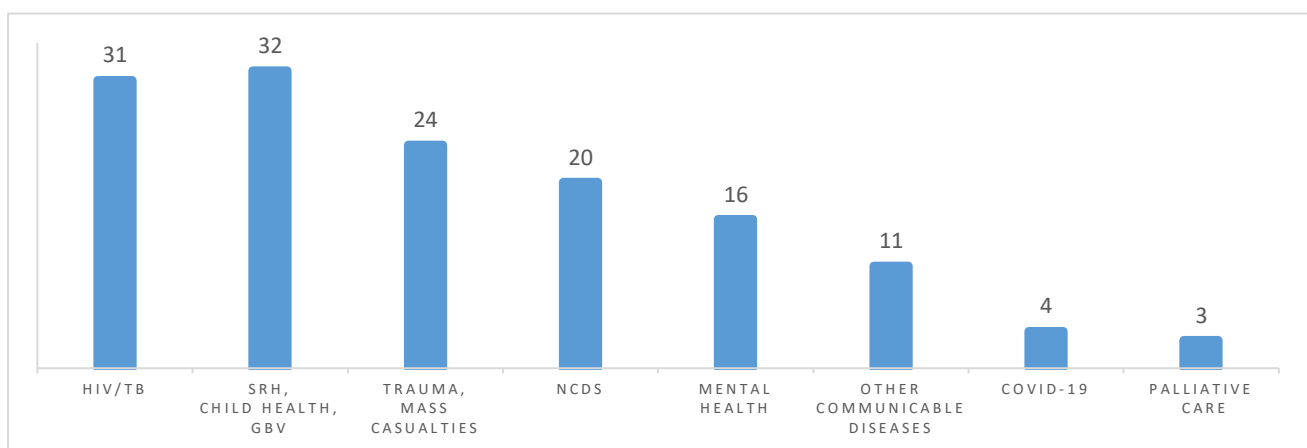


Fig. 14: Number of partners by health domain as of 19 July 2022. Source: Health Cluster³³¹



OCHA Ukraine maintains a dashboard and map of 5W Operational Presence detailing the humanitarian partners working in the country.³³² UN OCHA are mapping new capacity and partners. If you are working in Health Cluster Related activities, please register your humanitarian organization via this form to get connected with clusters and be part of the response ([form](#) available in English).

³³¹ [Health Cluster Ukraine, Ukraine Health Cluster 5W Dashboard, accessed 28 July 2022.](#)

³³² [OCHA, Ukraine 5W Operational Presence, Microsoft Power BI, 19 May 2022.](#)

7. Information gaps

Table 22: Information gaps and recommended tools for primary data collection

	Gap	Recommended tools / guidance for primary data collection
Health status and threats	Mortality data - disease-specific	Census; facility-based surveillance
	Sexual and reproductive health – expanded STI surveillance, updated maternal health indicators, SGBV capacity	Facility-based surveillance and/or assessments
	Child health - malnutrition data	Anthropometric survey, desk-based nutritional risk assessment
	Hepatitis B and hepatitis C – mortality data	Facility-based mortality data
	Waterborne diseases – incidence/prevalence data	Facility-based morbidity and mortality data; laboratory surveillance data; routine environmental monitoring
	NCDs - incidence/prevalence data	Survey to measure point prevalence of chronic diseases; facility-based morbidity and mortality data
	Environmental health - impact data	Facility-based morbidity and mortality data
	Mental health – updated incidence/prevalence/treatment data	Query mental health symptoms as part of facility-based surveillance and general health surveys, services mapping, participatory assessments
	People with disabilities – health data	Facility-based morbidity and mortality data
Health System Needs	Damage to facilities and equipment	Facility site assessments; monitoring and analysis of requests for assistance
	Medical equipment and supplies data	Facility audits and spot checks, monitoring and analysis of requests for assistance
Humanitarian health system performance	Workforce	Facility reports
	Utilisation of health services (post 24 February)	Facility-based morbidity data; coverage survey, comparison of actual programme outputs vs. target beneficiaries; focus groups, other qualitative methods for exploring service utilisation and barriers
	Quality of health services	Facility-based morbidity and mortality data; facility audits and spot checks, patient exit interviews
	Laboratory surveillance system	Laboratory assessments

8. Additional Resources

Key documents

1. [ECDC, Operational public health considerations for the prevention and control of infectious diseases in the context of Russia's aggression towards Ukraine, 8 March 2022.](#)
2. IOM, Ukraine Internal Displacement Report [Round 1](#), [Round 2](#), [Round 3](#), [Round 4](#), [Round 5](#), [Round 6](#), [Round 7](#), 2022.
3. [Médicos del Mundo, Impact of Health Reform on the Primary Healthcare Level in Conflict-Affected Areas of Donetsk and Luhansk Oblasts, June 2021.](#)
4. [Médicos del Mundo, Role of the decentralization reform, June 2021.](#)
5. OCHA, 2022 Flash Appeal, [1 March 2022](#); [25 April 2022](#).
6. [OCHA, Ukraine Humanitarian Needs Overview, 11 February 2022.](#)
7. [OCHA, Ukraine - Humanitarian Response Plan 2022, 11 February 2022.](#)
8. [OCHA, Ukraine Situation Reports.](#)
9. [REACH, UKRAINE: Humanitarian Situation Monitoring July 2022, 15 July 2022..](#)
10. [Ukraine Public Health Centre, Infectious morbidity of the population of Ukraine, December 2020-December 2021.](#)
11. [Ukraine Public Health Centre, Public Health Risks.](#)
12. [UNFPA, Ukraine Situation Reports.](#)
13. [UNCHR, Ukraine Situation Flash Update #22, 22 July 2022.](#)
14. [UNICEF, Ukraine Situation Reports.](#)
15. UN Women, Rapid Gender Analysis of Ukraine, [29 March](#), [4 May](#) 2022.
16. [WHO, Ukraine Crisis: Public Health Situation Analysis: Refugee Hosting Countries, 17 March 2022.](#)
17. WHO, Ukraine Situation Reports, [Global](#), [Ukraine-specific](#).

9. Annex

A. Health-related SDG indicators

Data type	Total population ^a (000s)			Life expectancy at birth ^b (years)			Healthy life expectancy at birth ^b (years)			3.1			3.2		3.3						
	Male	Female	Both sexes	Male	Female	Both sexes	Male	Female	Both sexes	Maternal mortality ratio (per 100 000 live births)	Proportion of births attended by skilled health personnel (%)		Under-five mortality rate (per 1000 live births)	Neonatal mortality rate (per 1000 live births)	New HIV infections (per 1000 uninfected population)	Tuberculosis incidence (per 100 000 population)	Malaria incidence (per 1000 population at risk)		Hepatitis B surface antigen (HBsAg) prevalence among children under 5 years (%)	Reported number of people requiring interventions against NTDs	
Member State	2020			2019			2019			2017	2012-2021		2020	2020	2020	2020	2020	2020	2020	2020	2020
Ukraine	20 263	23 471	43 734	68	77.8	73	60.6	67.8	64.3	19	100		8	5	0.21	73	-		0.25	17	
WHO region	2020			2019			2019			2017	2015-2021		2020	2020	2020	2020	2020	2020	2020	2020	
European Regi	452 591	480 297	932 888	75.1	81.3	78.2	66.6	70	68.3	13	98		8	4	0.18	25	0		0.26	6 639 094	

Data type	3.4		3.5	3.6	3.7			3.8			3.9				
	Probability of dying from any of CVD, cancer, diabetes, CRD between age 30 and exact age 70 (%)	Suicide mortality rate (per 100 000 population)	Total alcohol per capita (≥ 15 years of age) consumption (litres of pure alcohol)	Road traffic mortality rate (per 100 000 population)	Proportion of women of reproductive age who have their need for family planning satisfied with modern methods (%)		Adolescent birth rate (per 1000 women aged 15–19 years)	Adolescent birth rate (per 1000 women aged 10–14 years)	UHC: Service coverage index	Population with household expenditures on health > 10% of total household expenditure or income (%)	Population with household expenditures on health > 25% of total household expenditure or income (%)	Age-standardized mortality rate attributed to household and ambient air pollution (per 100 000 population)	Mortality rate attributed to unsafe WASH services (per 100 000 population)	Mortality rate from unintentional poisoning (per 100 000 population)	
Member State	2019	2019	2019	2019	2012-2020			2012-2020	2012-2020	2019	2012-2020	2012-2020	2016	2016	2019
Ukraine	25.5	21.6	8.3	10.2	68		14.7	0.1	73	8.3	1.1	70.7	0.3		2.5
WHO region	2019	2019	2019	2019	2020			2015-2020	2019	2017	2017	2016	2016	2019	
European Regi	16.3	12.8	9.5	7.4	76.6		17.1	-	79	6.9	1	36.3	0.3	1.1	

	3.a		3.b						3.c				3.d			1.a	
	Age-standardized prevalence of tobacco use among persons 15 years and older (%)		Diphtheria-tetanus-pertussis (DTP3) immunization coverage among 1-year-olds (%)	Measles-containing-vaccine second-dose (MCV2) immunization coverage by the nationally recommended age (%)	Pneumococcal conjugate 3rd dose (PCV3) immunization coverage among 1-year-olds (%)	Human papillomavirus (HPV) immunization coverage estimates among 15-year-old girls (%)	Total net official development assistance to medical research and basic health sectors per capita (US\$), by recipient country	Proportion of health facilities with a core set of relevant essential medicines available and affordable on a sustainable basis (%)		Density of medical doctors (per 10 000 population)	Density of nursing and midwifery personnel (per 10 000 population)	Density of dentists (per 10 000 population)	Density of pharmacists (per 10 000 population)	Average of 13 International Health Regulations core capacity scores	Proportion of bloodstream infections due to methicillin-resistant <i>Staphylococcus aureus</i> (%)	Proportion of bloodstream infection due to <i>Escherichia coli</i> resistant to 3rd-generation cephalosporin (%)	Domestic general government health expenditure (GGHE-D) as percentage of general government expenditure (GGE) (%)
Data type	Comparable estimates		Comparable estimates	Comparable estimates	Comparable estimates	Comparable estimates	Primary data	Primary data		Primary data	Primary data	Primary data	Primary data	Primary data	Primary data	Primary data	Comparable estimates
Member State	2020		2020	2020	2020	2020	2020	2012-2019	2012-2020	2012-2020	2012-2020	2012-2020	2021	2020	2020	2019	
Ukraine	25.8		81	82	-	-	0.83	19.8	29.9	66.6	6	0.3	65	18	50	7.7	
WHO region	2020		2020	2020	2020	2020	2020		2020	2020	2020	2020	2021	2020	2020	2019	
European Regi	25.3		94	91	79	27	1.29	-	36.6	83.4	6.2	6.5	75	-	-	12.6	

	2.2			5.2	6.1	6.2	6.3.1	6.a	7.1	11.6	16.1	General Programme of Work 13							
	Prevalence of stunting in children under 5 (%)	Prevalence of wasting in children under 5 (%)	Prevalence of overweight in children under 5 (%)	Prevalence of anaemia in women of reproductive age (15-49 years) (%)	Proportion of ever-partnered women and girls aged 15-49 years subjected to physical and/or sexual violence by a current or former intimate partner in the previous 12 months (%)	Proportion of ever-partnered women and girls aged 15-49 years subjected to physical and/or sexual violence by a current or former intimate partner in their lifetime (%)	Proportion of population using safely-managed drinking-water services (%)	Proportion of population using safely-managed sanitation services (%)	Proportion of population using a hand-washing facility with soap and water (%)	Proportion of safely treated domestic wastewater flows (%)	Amount of water- and sanitation-related official development assistance that is part of a government-coordinated spending plan (constant 2020 US\$ millions)	Proportion of population with primary reliance on clean fuels and technology (%)	Annual mean concentrations of fine particulate matter (PM _{2.5}) in urban areas (µg/m ³)	Mortality rate due to homicide (per 100 000 population)	Number of cases of poliomyelitis caused by wild poliovirus (WPV)	Age-standardized prevalence of hypertension among adults aged 30-79 years (%)	Prevalence of obesity among children and adolescents (5-19 years) (%)	Age-standardized prevalence of obesity among adults (18+ years) (%)	
Data type	Comparable estimates		Primary data	Comparable estimates	Comparable estimates	Comparable estimates	Comparable estimates	Comparable estimates	Comparable estimates	Comparable estimate	Primary data	Comparable estimates	Comparable estimates	Comparable estimates	Primary data	Comparable estimates	Comparable estimates	Comparable estimates	
Member State	2020		2012-2020	2020	2019	2018	2020	2020	2020	2020	2020	2020	2016	2019	2021	2019	2016	2016	
Ukraine	15.9		-	17	17.7	9	18	89	72	-	34	35.96	95	14.9	6.3	0	43.1	7	24.1
WHO region	2020		2020	2020	2019	2018	2020	2020	2020	2020	2020	2020	2016	2019	2021	2019	2016	2016	
European Regi	5.7		-	7.9	18.8	6	21	92	70	-	72	608.54	94	13	2.9	0	36.9	8.6	23.3

Source: [WHO World Health Statistics 2022](#)