



**Yale** *Institute for Global Health*

## **2021 Yale Institute for Global Health Case Competition**

# **Mental Health in Ukraine**

### **2021 Yale Institute for Global Health Case Competition Case Writing Team:**

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Special thanks to Marie Brault for review of the case

*The scenarios, prompt, and vignettes of this case are based on existing initiatives, organizations, and individuals; however, details have been dramatized. Materials beyond the case scenario and prompt are meant to portray an accurate representation of global mental health and Ukraine's burden of mental illness. The authors have provided facts and figures within the case and appendices to help teams. The data provided are derived from independent sources, may have been adapted for use in this case, and are clearly cited such that teams can verify or contest the findings within their recommendations if it is pertinent to do so.*

## Introduction

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In January 2020, Ukraine was selected as a priority country for the World Health Organization's (WHO) Special Initiative for Mental Health (2019-2023). Ukraine carries a high burden of mental illness with a particularly high prevalence of depression in comparison to other countries. Mental disorders are the country's second leading cause of disability burden in terms of disability adjusted life years and are estimated to affect 30% of the population [100]. Since joining the initiative, Ukraine has experienced a renewed political commitment to mental health policy and service expansion combined with growing public interest in mental health issues. These have strengthened Ukraine's position to enact meaningful reform and expansion of service delivery.

The Ministry of Health initially sought to use funding and technical support provided by the WHO Special Initiative to finalize and enact The Mental Health Plan. The plan highlights the need for increasing awareness about mental health, addressing discrimination and human rights violations of individuals with mental health problems, improving accessibility of care through deinstitutionalization and development of community-based services, as well as strengthening professional competences of health care staff [107].

However, just as the government was prepared to move forward with a new phase of healthcare reform in April 2020, national focus shifted due to a change in government leadership. More importantly, the acceleration of the COVID-19 pandemic dramatically changed health system priorities. In March, the Ukrainian government ordered the closure of all educational institutions, restaurants and cafes, gyms, shopping centers, and entertainment venues as well as most public transportation. Restrictions lasted until May, when most areas transitioned to an "adaptive quarantine" in which areas with high infection rates remained heavily restricted. During this time, check points at the contact line of the Eastern Ukrainian conflict zone were closed making it impossible for people to travel to and from government-controlled territories, resulting in many elderly losing their pensions and families being separated for extended periods of time.

As the global community begins to reckon with the long-lasting effects that COVID-19 will have on their countries' economic, societal, and overall wellbeing, the Ukrainian government has begun to consider how to best respond to the needs of their citizens. The country is now entering its second year of WHO Special Initiative funding and the Ministry of Health has decided to revisit their pre-pandemic policy reform agenda to realign their mental health goals with new priorities brought to light by the pandemic. Notably, the Ministry of Health has established a new pool of financing, which will be issued in a series of social impact bonds, to reach the most vulnerable populations that have been disproportionately affected by the pandemic and will continue to be affected through extended COVID-recovery phases.

## Prompt

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The Ministry of Health has requested multidisciplinary teams to develop interventions to address insufficient availability, accessibility, and affordability of mental health resources services in Ukraine. As part of a larger national strategy to help the country recover from the lasting effects of COVID-19, they have established a social impact bond to finance the first of a series of targeted pilot interventions among the following vulnerable populations: children and adolescents; displaced and stateless persons; and healthcare workers. The bond is available to a variety of organizations including non-governmental organizations (both local and international), research groups, and socially oriented for-profit businesses. The bond is worth USD 200,000.

Each team will need to assume the role of an organization, coalition, or consortium that is seeking funding to develop a program or product to be tested in a 12-month pilot period. Each team is responsible for demonstrating proof of concept, anticipated outcomes and predefined measures of success for their pilot using a USD 200,000 budget that addresses mental illness in any one of the Ministry of Health's three target populations in Ukraine. Your proposal should incorporate a multi-disciplinary approach, including public health techniques, medical or clinical assessments, business and marketing strategies, and a comprehensive and justifiable budget. Lastly, teams will need to provide a short description of how they expect to scale their interventions over the next five years if their pilot is successful. This description should include considerations of political implications of scaling, as well as an anticipated budget and sources of financing for the scale-up.

Teams will have 15 minutes to present their case solutions and 5 minutes of Q&A with the judges. The judges are a panel of representatives from the Ukrainian Ministry of Health and Ministry of Finance who will jointly evaluate which proposal to award the bond to. All proposals will be evaluated regardless of the individual target population selected by each team.

### **Signing up for Target Populations:**

Teams will select a target population via the [attached Qualtrics form](#). Only 2 teams can sign up for the same target population and teams will make their selections on a first-come, first served basis. The Case Competition Planning Team recommends that teams select a target population as soon as possible after receiving the case so that they can begin focusing their research and analysis.

**The deadline for selecting a target population is 12:00pm EST on Tuesday, February 2<sup>nd</sup>, 2021. A member of the planning committee will confirm team selection on the evening of Tuesday, February 2<sup>nd</sup>.**

**Any teams who do not submit a selection via the Qualtrics form will be randomly assigned to a target population.**

## Logistics

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### Case Presentations

The time limit for each presentation is 15 minutes, with additional 10 minutes for question and answer with the judges. There is no requirement that each team member must speak during the presentation, however, no presentation may be delivered wholly by a single team member.

Due to our virtual platform, Yale Conferences & Events will be “controlling” presentations on the day of the competition. Participants will prompt the controller by stating “next slide.”

Teams should aim to complete their presentation as close to 15 minutes as possible. Teams will receive countdown messages during their presentation to maintain their bearings at the 10 minute, 5 minute, 2 minute, and 1 minute mark. Participants will be automatically muted 15 minutes and 15 seconds after the start of their presentations.

Just as teams should aim not to go over time, teams should also be conscious of not being significantly under time. Any presentation shorter than 13 minutes will be deducted 5 points per minute under 13 minutes.

### Case Questions

Questions regarding this case can be submitted to [sina.reinhard@yale.edu](mailto:sina.reinhard@yale.edu) until 11:59PM Friday, February 5<sup>th</sup>, 2021. Please include “[YIGH Case Question]” in the subject line. Questions and answers will be made available to all teams on the case competition website within 48 hours of receipt via the [attached Google Document](#). After the question deadline, the final question document will be emailed to all participants in .pdf format.

### Case Presentation Submissions

Final presentations must be submitted [via the attached Qualtrics form](#) by 8:00AM on Saturday, February 13<sup>th</sup>. All presentations must be submitted in PowerPoint format. No changes to presentations are permitted after the submission deadline.

One point will be deducted from your team for each minute your presentation is late for the first 10 minutes after the submission deadline (8:01 to 8:10AM EST). Five points will be deducted for each minute after the first 10 minutes that your presentation is late (8:11 to 8:30AM EST). If a team turns in its presentation after 8:30AM, they will be disqualified from the competition.

## Global Mental Health

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Mental disorders are common in all regions of the world, affecting individuals of all demographic distinctions. Mental disorders are currently the 7th leading cause of disability adjusted life years globally (6th for females, 11th for males), and account for more than 16% of the global burden of disease [31,63]. It is estimated that mental disorders account for more than USD 1 trillion in economic losses annually and place individuals at greater risk for other diseases including heart disease, diabetes, and HIV. Despite the high burden of mental disorders, a large treatment gap remains, particularly in low- and middle-income countries (LMICs), where upwards of 80% of people lack access to mental health services [108].

### Common Mental Disorders

Mental health is broadly defined as “a state of well-being in which an individual realizes his or her own abilities, can cope with the normal stresses of life, can work productively and is able to make a contribution to his or her community” while mental illness refers collectively to all mental disorders [4]. Mental disorders are characterized by clinically significant disturbances in an individual's cognition, emotion regulation, or behavior that reflects a dysfunction in the psychological, biological, or developmental processes underlying mental functioning [44]. Common mental disorders include:

#### **Anxiety** [52, 99]

Anxiety disorders affect 284 million people worldwide. They are characterized by excessive and persistent feelings of worry or fear about daily activities. Examples of anxiety disorders include generalized anxiety disorder, social anxiety disorder, obsessive compulsive disorder (OCD), specific phobias, and panic disorder. Symptoms can cause people to avoid places or things that trigger their fear and can result in repeated episodes of sudden panic. Common treatments include psychotherapy and medications.

#### **Depression** [53, 99, 104]

Depressive disorders affect 264 million people worldwide. They are characterized by persistent sadness, loss of interest or pleasure, feelings of guilt or low self-worth, disturbed sleep or appetite, tiredness, and poor concentration. Symptoms are usually severe enough to cause noticeable problems in day-to-day activities and relationships with others and if left unmanaged can lead to suicidal ideation. Common treatments include psychotherapy and medications.

#### **PTSD** [28,54]

Post-Traumatic Stress Disorder (PTSD) affects up to 350 million people worldwide. It is triggered by experiencing or witnessing traumatizing events and is particularly prevalent in individuals who have been exposed to armed conflict. Generally, symptoms are classified as intrusive memories, avoidance, negative changes in thinking and mood, or changes in physical and emotional reactions and can include specific experiences such as flashbacks, nightmares, and uncontrollable thoughts about the event. While most people will temporarily experience shock and difficulty coping with traumatic events, PTSD occurs when symptoms get worse over time or persist for more than a few months and

interfere with daily activities. Symptoms and the underlying disorder are typically treated with a combination of psychotherapy and medication.

### **Alcohol and Substance Use Disorders [51, 99]**

Alcohol and Substance Use Disorders affect 178 million people worldwide and are characterized by an inability to control the use of legal and illegal substances. Symptoms include a strong need or urge to use substances that can interfere with daily activities and social relationships. Treatment includes psychotherapy and medication as well as peer support groups.

### **Bipolar Disorder [104]**

Bipolar disorder affects 45 million people worldwide. It is characterized by the presence of both manic and depressive episodes, which are typically separated by periods of normal mood. During manic episodes people experience elevated or irritable mood, over-activity, rapid speech, inflated self-esteem and a decreased need for sleep. During depressive episodes people experience symptoms of severe depressive disorders. Treatment includes a combination of psychotherapy and medication to stabilize a patient's mood.

### **Schizophrenia [105]**

Schizophrenia affects 20 million people worldwide. It is a psychosis characterized by distortions in thinking, perception, emotions, language, sense of self and behavior. People with schizophrenia commonly experience hallucinations, fixed false beliefs and suspicions, as well as disorganized speech. They are up to three times more likely than the general population to die prematurely and are highly stigmatized in many cultures. A combination of medications and psychotherapy can be effective treatment.

## **Drivers of Worsening Mental Health**

It is well established that the social, economic, and physical environments in which people live have a significant effect on mental health and risk for developing common mental disorders. Collectively, the circumstances of these environments are referred to as the social determinants of health. The WHO defines social determinants of health as “the conditions in which people are born, grow, live, work and age” and “the fundamental drivers of these conditions [10].”

Social determinants of health affect the risk for developing common mental disorders as well as access to mental health services [3]. Commonly recognized social determinants include poverty, race/ethnicity, sexual orientation, immigrant status, housing security, nutritional security, educational opportunities, and social support [46]. Stigma can further accentuate many of these determinants by introducing discrimination that can be experienced from multiple sources including community and cultural beliefs, systemic barriers, or internalized beliefs of one's worth [3,30,71]. Social determinants of health and stigma can lead to experiences of acute and chronic stress that accumulate over life-courses and negatively affect mental health and overall wellbeing [3,10,23].

## **Global Initiatives**

Focus on global mental health has been steadily intensifying over the last 15 years and has resulted in several key initiatives to improve the availability, accessibility, and affordability of mental

health services worldwide. In 2011, the *Grand Challenges of Mental Health Initiative*, led by the United States' National Institute of Mental Health (NIMH) identified the following priorities for closing the mental health treatment gap [63]:

1. Integrate core packages of mental health services into routine primary health care
2. Reduce the cost and improve the supply of effective psychotropic drugs for mental, neurological, and substance use disorders
3. Train health professionals in low-income and middle-income countries to provide evidence-based care for children with mental, neurological, and substance use disorders
4. Provide adequate community-based care and rehabilitation for people with chronic mental disorders
5. Strengthen the mental health component in the training of all health-care professionals to create an equitable distribution of mental health providers

Most recently, the *World Health Organization Special Initiative for Mental Health (2019-2023)* set out to expand universal coverage of mental health services to 100 million people in 12 priority countries. Each identified country is set to receive USD 1 million per year over five years to develop new mental health policies and scale up interventions and services [106]. The first six priority countries (Bangladesh, Jordan, Paraguay, the Philippines, Ukraine and Zimbabwe) were identified in January 2020 [106].

# Ukraine

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## Geography

Ukraine is located in Eastern Europe bordered by Russia, Poland, Hungary, Belarus, Slovakia, Moldova, and Romania. It is the second largest country in Europe after Russia and has a land mass size of 600,000km<sup>2</sup>. The country's terrain consists mainly of plain lands (95%) at an average of 574 feet above sea level and a mountainous landscape (5%) of Ukrainian Carpathians and Crimean Mountains running along the border.

## Government

Ukraine was part of the Soviet Union and served as the main contributor of agricultural output to the Soviet Union from 1920-1991. The country gained full independence when the Soviet Union disintegrated in 1991. Ukraine then started transitioning to democracy until the consolidation of a new Constitution of Ukraine in 1996. Since then, the country has been ruled under presidential-parliamentary (1996-2004; 2010-2014) and parliamentary-presidential (2004-2010; 2014-present) models of a democratic republic [39]. Ukraine is currently divided administratively into 27 regions: the Crimean Autonomous Republic, 24 oblasts (regions) and two city authorities (Kyiv and Sevastopol).

Ukraine is still a country at war as the Eastern region has had armed conflict since 2014. The Russo-Ukrainian War began in 2014 with the Russian Federation's seizure and annexation of Crimean Autonomous Republic [25]. Shortly after the annexation pro-Russian separatist forces in the self-declared Donetsk and Lugansk People's Republics entered into the War in Donbass, an armed conflict with the Ukrainian government that has continued to date. As of 2020, over 13,000 people, including over 4,000 civilians, have been killed and 1.5 million have been displaced by the conflicts [75]. The three common political framings of this conflict are —the Ukraine conflict as a national power struggle that stems from political and cultural divisiveness within the Ukrainian society, as a Russian intervention, and as a geopolitical conflict [39,61].

## People and Society

Ukraine has a total population of 43.7 million [112]. Five of Ukraine's cities have more than 1 million people and the capital city (which is also the largest city), Kyiv, has a population of close to 2.8 million [102]. Approximately 70% of the population live in urban areas [40]. Ukraine is a multi-ethnic country with the majority of the population (77.8%) belonging to the Ukrainian ethnic group. The other ethnic groups include Russian (17.3%), Belarusian (0.6%), Moldovan (0.5%), Crimean Tatar (0.5%), and Other (3.3%). The two most common languages in Ukraine are Ukrainian and Russian.

Ukraine's population has been declining at a rate of 0.59% and it is estimated that 20% of the population will be lost by 2050 [112]. This is due to the high emigration rates, low birth rates, high death rates and high prevalence of corruption [112]. Migration within Ukraine is driven by the violence and armed conflict in the eastern regions and has led to population growth in cities in the western and central regions of the country [102]. Emigration from Ukraine is largely driven by the country's poor economy and the armed conflict in the eastern regions.

## Healthcare System

Ukraine inherited a highly centralized healthcare system based on the Semashko model<sup>1</sup> from the Soviet Union, with free services provided to any Ukrainian citizen as required by the law [72]. However, sustained low budget allocations and investments in infrastructure have resulted in a poor healthcare infrastructure and poor quality [57]. Current health expenditure as a proportion of GDP was 7.7% in 2018 in comparison to an average 6.6% in the Commonwealth of Independent States and an average 9.8% in the European Union [101]. Current health expenditure per capita is USD 228 in Ukraine in comparison to USD 1,055 in the Commonwealth of Independent States and USD 3,524 in the European Union [101]. Ukraine has a high burden of out-of-pocket spending (OOP) on health services with OOP accounting for 49% of Ukraine's total health expenditure (THE), in comparison to 20.9% in the Commonwealth of Independent States and 15.5% in the European Union [101]. OOP remains high due to the high cost of pharmaceuticals and informal payments for services that are supposed to be officially provided free of charge as a part of the nationally guaranteed package of health services [57].

Since 1991, Ukraine has had a centralized healthcare system with the Ministry of Health overseeing health services provided at the regional, district, or municipal levels [40]. Health system reform efforts have largely focused on decentralization and service delivery has remained predominantly in the public sector [40]. Private sector service provision is primarily found in pharmacies, diagnostic facilities and privately practicing physicians [40]. In 2015, the decentralization of political reforms led to major changes in the Ukrainian healthcare system [72]. To fight corruption, procurement of medicines and vaccines was turned over to international organizations [72] while regional and local self-governments were given more responsibility in the allocation of funds for the healthcare costs of their regions [40].

The Ukrainian mental health system remains a small component of the national health system. Of the total health budget for 2020, only 2.5% is directed towards mental health [100]. Mental services are provided in specialty hospitals, outpatient clinics, polyclinics and departments [107]. As of 2019, there are 64.9 psychiatric beds per 100,000 population, 7.9 narcological beds per 100,000 in Ukraine [67]. Reform efforts to establish wide-spread comprehensive community-based mental health services and integration with primary care remain limited and are primarily concentrated in large urban centers [67]. Until 2019, the district psychiatrist was responsible for doing initial mental health assessments and diagnosing and treating the patients or referring them to a hospital or day clinic [107]. In 2019, general practitioners received training in an effort to increase mental health capacity within primary care facilities to improve access [107]. Some adoption of Western medicine practices has also occurred including the adoption of the U.S. modeled International Classification of Diseases (ICD-10) to diagnose and treat mental health disorders [113].

## Population Health

Ukraine's health profile is characterized by low life expectancy, high death rates, HIV/AIDS and Tuberculosis outbreaks, substance use, and the mental health consequences of sustained armed conflict. The life expectancy is 71.6 years at birth (66.7, males; 76.7, female) compared to 80.8

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<sup>1</sup> The Semashko model was introduced in the USSR and was subsequently inherited by the Commonwealth of Independent States in 1991. The system features a highly centralized structure with large publicly owned medical facilities, salaried health workers, and a high degree of governmental administration. This system provides universal access to care. However, in the USSR, the Semashko model was also subject to chronic underfunding and struggled with high rates of inpatient care and inefficient service provision [79].

years at birth in the Commonwealth of Independent States and 83.9 years at birth in the European Union [101]. The crude death rate is 14.8 per 1000 compared to 12.1 in the Commonwealth of Independent States and 10.5 in the European Union. Since the end of the Soviet era, Ukraine's health care system has been suffering inefficiency with treatment and preventative interventions as evidenced by the increasing cardiovascular mortality rate between 1994 and 2015 from 11.78 to 21.67 deaths per 100,000 population [2]. An estimated 90% of deaths in Ukraine are caused by noncommunicable diseases including ischemic heart disease, stroke, and cirrhosis of the liver [100]. The country is also experiencing one of the fastest growing HIV/AIDS epidemics and a drug-resistant tuberculosis epidemic [100].

Ukraine carries a high burden of mental disorders. Studies show that about 30% of Ukraine's people experience mental disorders throughout their lives, and the prevalence of depression is particularly higher in Ukraine compared to other countries [100]. Due to the ongoing Eastern Ukrainian conflict, higher rates of mental disorders have been observed in Eastern Ukraine and amongst internally displaced persons throughout the country [67]. Furthermore, mental disorders are the second leading cause of disability burden in terms of disability adjusted life years [100]. The country's most common mental disorders include depression, anxiety disorders, mood disorders, substance use disorders, and alcohol use disorders [67].

Despite the high prevalence of mental disorders, the treatment gap remains large and is mainly attributed to the Semashko-style structure of the Ukrainian healthcare system [67]. It is estimated that 4% of the country's population received mental health care in 2018, with 1.4 million people using outpatient services, 300,000 people being treated in psychiatric hospitals and 40,000 people attending day hospitals [81]. Mandatory closures of local psychiatric facilities and limited inpatient admissions due to the COVID-19 pandemic and ensuing national lockdowns have further limited access to the few services that were available. According to the Association of Psychiatrists in Ukraine, more than 75% of patients lost access to mental health services in 2020 as a result of the pandemic [47].

### **Stigma/Knowledge/Attitudes towards Mental Health**

The major barriers to access to mental health care in Ukraine include lack of trust in the psychiatry system, stigma and shame, and lack of awareness and understanding [72]. During the Soviet era, psychiatry was used as a tool of repression. People who opposed the Soviet regime were regarded as mentally ill and subjected to long imprisonments in the country's psychiatric hospitals [97]. As a result, the older generation in Ukraine is more reluctant to seek mental health care than the younger one, as they remember the oppressive history of the psychiatry system [100]. People also do not trust the Ukrainian public healthcare system and the competency of the mental health professionals because of reports of negative encounters from their community members who have attempted to seek mental health care [100].

Furthermore, due to high stigma and shame, people fear being labelled negatively by their communities for seeking treatment and therefore, they prefer to do so anonymously [100]. People also fear having a public medical record that identifies them as mentally ill, as this could reduce their chances of securing employment opportunities [100]. Stigma is further intensified by a lack of understanding and awareness about mental illness and how mental disorders are treated. People

struggle to distinguish the level of care needed for serious vs. chronic mental disorders and as a result assume that any diagnosis will result in a hospitalization [100].

## Country Profile [101]

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Metric	Ukraine	Commonwealth of Independent States	European Union
GDP per capita (current USD)	3,659	16,300	34,918
Population (million)	43.7	102.4	447.5
Population Percentage			
Female	53.7%	51.6%	51.1%
Male	46.3%	48.4%	48.9%
Life Expectancy	71.6	77.0	81.0
Females	76.7	80.8	83.9
Males	66.7	73.3	78.3
Crude Death Rate (per 1,000)	14.8	12.1	10.5
Infant Mortality (per 1,000 live births)	7.2	4.0	3.3
Maternal Mortality (per 100,000)	13	--	--
School Enrollment (% net)			
Tertiary	82.7%	62.5%	71%
Secondary	85.9%	89.7%	91.5%
Primary	91.7%	91.3%	96.8%

## Children and Adolescents

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*The following vignette serves to provide an illustrative story of the experience of children and adolescents with mental illness in Ukraine<sup>2</sup>.*

Nadja is 11. She lives with her mother in the town of Zolote in the eastern Luhansk region, near the 'contact-line' that divides government and non-government-controlled areas where fighting is still severe. Six years of fighting have forced many to seek work and safety elsewhere. Today, less than 300 people live in the town.

Since the conflict began in 2014, Nadja has been observing facilities in town being damaged or destroyed, including her school, where shrapnel and stray bullets can often be seen outside of classrooms. After the loss of her father in a riot, she suffered from persistent nightmares. She tried to seek company from her mother when the nightmares were really bad, but her mother sometimes could not spare enough time to sit beside her. Over time, Nadja became unwilling to talk and was often observed sitting dazed by the window.

In 2017, Nadja started primary school. At school she made friends with another girl, Daryna, who shared a similar experience with her. She enjoyed being able to see her friends and attend art classes, where she would draw pictures of the beautiful town that she used to live in. However, COVID-19 forced Nadja's school to close and Nadja had to stay at home since April, 2020. She has no way to contact her friends because she doesn't have her own cell phone, nor does her best friend Daryna. Meanwhile, her mother is also stuck at home as the pandemic made her lose her job. Limited accessibility of shopping facilities as well as the isolation and uncertainty of the future have made the atmosphere stressful at home. Now Nadja has nothing to do but to wait for the reopening of school.

After months of lockdown, Nadja has begun to show symptoms of severe anxiety. She has also become prone to aggressive outbursts, which have been met by the occasional abusive response from her mother. Last week, Nadja's mother found several bite marks and scratch marks on her daughter's arms, which she fears Nadja has inflicted on herself.

### Population Characteristics

According to the Convention on the Rights of the Child, children are generally defined as individuals under the age of 18 [85]. They currently constitute approximately one third of the world's population and almost 90% live in low- and middle-income countries (LMICs). Adolescents are a subgroup of children in a developmental stage that begins with the onset of physiologically normal puberty and ends when an adult identity has been accepted [14]. The United Nations defines adolescents as those between the ages of 10 and 19 and they make up 16% of the world's population [95]. As of 2020, almost 14% of Ukraine's population was younger than 14, while 12% fell between the ages of 15-24 [112].

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<sup>2</sup> This vignette is a fictional adaptation of multiple human interest stories.

## **Mental Health of Children and Adolescents**

Mental disorders account for a large proportion of the burden of disease in young people in all societies. Mental disorders affect 13.4% of children and adolescents worldwide and are estimated to account for 15-30% of disability adjusted life years in the first 30 years of life [35,64]. Among 15 to 19 year-olds, suicide is recognized by the WHO as the third leading cause of death worldwide and the leading cause of death in European LMICs [103,109]. The majority of children do not receive timely care, which causes mental disorders to be extended into adulthood. With the recognition that half of mental disorders begin by the age of 14 and three fourths by the age of 24, youth mental health has continued to grow as a priority [34].

Globally, children's mental disorders can include anxiety, depression, oppositional defiant disorder (ODD), conduct disorder (CD), attention-deficit/hyperactivity disorder (ADHD), behavior disorders, and post-traumatic stress disorder (PTSD). Among these, ADHD, anxiety, and behavior disorders are the most common ones worldwide [15]. Some of these conditions commonly occur together, introducing more trouble in diagnosis and treatment of diseases.

Years of armed conflict have made the children of Ukraine particularly vulnerable to mental disorders. Violence destroyed family and social infrastructure, limited access to services, and threatened the physical and mental health of children, leading to PTSD and depression in up to 33% of children and adolescents in Ukraine [48]. Other studies have estimated the prevalence of suicidal ideation in Ukrainian adolescents to be 30% [73]. Furthermore, it is estimated that one in four children is in need of psychosocial support services in Eastern Ukraine [59].

## **Mental Health Service Availability and Accessibility**

Globally, it is estimated that only 25-35% of children and adolescents with mental disorders access mental health services [58]. The treatment gap in children and adolescents is due to a variety of logistic and financial barriers in addition to parental characteristics and beliefs [38]. Logistic and financial barriers include a lack of providers, long waiting lists, lack of insurance or inadequate insurance coverage, inability to pay for services, as well as inaccessibility of services due to location and/or hours [62]. Parental beliefs about the causes of their child's behavioral problems or the severity of the problem, negative perceptions of available services, and personally held stigma of mental health have been shown to negatively affect children and adolescents' access to mental health services [19,24,43].

Up until 2017, Ukraine had 339 child psychiatrists in total and only 8.5% of Ukrainians being treated for mental disorders were children aged 0-17 [33]. Moreover, the pandemic has made these already scarce resources even less accessible as a result of psychiatric facility closures, school closures, and reduced child-protective agency activities during quarantine and lockdown [1]. An estimated 100,000 children lost the ability to attend school and access associated psychosocial support services during lockdown [96].

## Displaced and Stateless Persons

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*The following vignette serves to provide an illustrative story of the experience of displaced and stateless persons with mental illness in Ukraine<sup>3</sup>.*

Oksana, age 36, grew up in a small town in Donetsk. At the beginning of 2014, pro-Russian forces took over the area and conflicts escalated every day. Considering the disadvantaged situation, Oksana fled to Kyiv, a city where most internally displaced persons from Donetsk moved to. Meanwhile, her parents went to Donetsk City to pick up odd jobs.

At first, Oksana found it hard to fit in this big city because of her status as a displaced person and her identity as a Roma woman. She was living in a Roma camp with many other displaced persons until one night the campus was attacked by a group advocating extreme racial prejudice. Later on, Oksana left the camp and moved into a half-empty building among a handful of others, where she met her husband who also came from eastern Ukraine.

In March 2020, Oksana heard rumors that a killer virus was on the loose and once there was a man sneering at her on her way to the local market, calling her a COVID carrier. It reminded her of the night she had to flee the Roma camp and the emotional wounds have resurfaced. She has been afraid to go outside ever since the encounter. Her husband has not been sympathetic to her fear and has started to mock her. This has led to Oksana feeling entirely cut off from her support network and now she does not know where to turn for help. As her loneliness and fear continue to grow, she has become hopeless and contemplates ending her life.

### Population Characteristics

According to the UNHCR, over the last decade at least 100 million people have been displaced due to persecution, conflict, violence, human rights violations, or events seriously disrupting public order [88]. As of 2019, 79.5 million people were forcibly displaced, including 26 million refugees, 47.6 million internally displaced persons (IDPs), and 4.2 million asylum seekers; an additional 12 million people are classified as stateless [88].

Ukraine has received significant international attention for its displaced and stateless persons in the last decade, primarily due to the continuing armed conflict in eastern Ukraine that emerged from the aftermath of the 2014 Ukrainian Revolution and Euromaidan movement. As of 2021, Ukraine hosts three major types of displaced/stateless populations (ordered from largest to smallest populations):

#### 1. Internally Displaced Persons

IDPs are defined as "persons or groups of persons who have been forced or obliged to flee or to leave their homes or places of habitual residence, in particular as a result of or in order to avoid the effects of armed conflict, situations of generalized violence, violations of human rights or natural or human-made disasters, and who have not crossed an

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<sup>3</sup> This vignette is a fictional adaptation of multiple human interest stories.

internationally recognized state border [90]." They do not have a distinct internationally recognized legal status as they stay within their country of origin and remain entitled to all the rights and guarantees as citizens and habitual residents of their country.

An estimated 1.5 million persons have been internally displaced as a result of armed conflict in Ukraine and the country hosts the ninth largest IDP population worldwide [91]. Based on reports from various United Nations agencies, the Human Rights Watch, and multiple investigative news outlets displaced persons have experienced a range of trauma including targeted killings, beatings, abduction, bombardment, and assault carried out by both Russian and Ukrainian forces [5,29,77,86]. Furthermore, internally displaced persons are more likely to experience housing insecurity and unemployment than non-displaced persons [69].

## **2. Stateless Persons**

A stateless person is defined in international law as “a person who is not considered as a national by any State under the operation of its law [93].”

The UNHCR estimates that 40,000 stateless persons exist in Ukraine. Many of these people are members of marginalized groups such as Roma, housing insecure persons, and older people still holding Soviet passports who never completed the necessary steps to receive citizenship in post-Soviet states. A further 60,000 children who have been born into the non-government-controlled areas of Donetsk and Lugansk have not received Ukrainian birth certificates and are thus at risk of statelessness [92]. Absence of documentation proving citizenship can make it difficult for people to secure housing or official employment, access medical services, obtain education, or use the legal system in Ukraine [86]. Most recently, stateless persons faced extreme barriers to mobility during the COVID-19 pandemic after a law was enacted requiring anyone on public streets during lockdown to carry official identification documents [18].

## **3. Refugees and Asylum-Seekers**

Refugees are defined in the 1951 Refugee convention as “someone who is unable or unwilling to return to their country of origin owing to a well-founded fear of being persecuted for reasons of race, religion, nationality, membership of a particular social group, or political opinion [94].” An asylum-seeker is a person who is unable or unwilling to return to their country who has not yet been legally recognized as a refugee and is waiting to receive a decision on their asylum claim [6].

Ukraine hosts approximately 2,200 recognized refugees and persons with complementary protection and 2,700 asylum-seekers [89]. Most are from Afghanistan, Syrian Arab Republic, Bangladesh, the Commonwealth of Independent States, and the Russian Federation but the total population includes persons from 60 countries. Men account for 78% of the population, with 66% of them falling between the ages of 18-39 [87]. Little to no social support services for necessities such as housing, food, and clothing exist for refugees and asylum seekers. Furthermore, a lack of public awareness about how to engage

with this population has led to them being largely excluded from formal employment opportunities [22].

### **Mental Health of Displaced and Stateless Persons**

It is widely accepted that the conditions of displacement and statelessness place people at an increased risk of experiencing mental health disorders; however, estimating the true extent of mental health disorders in these populations has produced varied results. Systematic reviews of mental health outcomes in conflict-affected displaced populations reveal a 31%-63% prevalence of PTSD, a 25%-45% prevalence of depression and a 21-42% prevalence of anxiety [26,42,82]. However, other studies have revealed much lower prevalence rates leading to some criticism about the generalizability of such research to the broader identity of displaced populations. Studies specific to Ukraine have estimated that the most prevalent mental health disorders in displaced persons are PTSD (18%-32%), depression (22%-32%), anxiety (17%-56%), and alcohol use disorder (3.22%) [68,69,98].

Most studies have focused on the effects of pre-displacement conditions on mental health outcomes, particularly singling out experiences of trauma and exposure to violence [30,65,82]. However, more recent studies have pointed to the greater importance of post-displacement conditions in predicting mental health outcomes [27,36,41,65]. Conditions of long-lasting bureaucratic procedures to secure protections and status, family separation, unemployment, discrimination and lack of educational opportunities after displacement exacerbate past traumas and lead to higher prevalence of mental disorders such as PTSD, depression, and anxiety [41]. Others point out that the experiences of asylum seekers trapped in lengthy bureaucratic processes to obtain their legal status can be compared to the experiences of stateless persons and thus argue that many of the post-displacement mental health risk factors documented in asylum seekers likely apply to stateless persons as well [37].

### **Mental Health Service Availability and Accessibility**

Research suggests that despite the prevalence of mental illness in displaced populations and their increased vulnerability to psychological distress, there is a relative lack of displaced persons seeking healthcare services [20,83]. This is likely due to a range of cultural, structural, and experiential barriers to care-seeking behavior specific to displaced and stateless persons. Cultural barriers include stigma and varying degrees of knowledge and cultural understanding of mental disorders [12,13,36]. Structural barriers include language, financial strain, unstable housing, and a lack of understanding of how to navigate systems to access services [7,8,13]. Factors such as a lack of a permanent address or financial constraints can lead to interruptions in care while language barriers can lead to substandard care being administered. Experiential barriers unique to displaced and stateless populations include legal status and faltering trust in authorities [13,76]. For example, many remain undocumented for extended amounts of time, which precludes them from seeking services in national healthcare systems.

It is estimated that the treatment gap for mental health disorders in Ukraine's IDP population is 74%, meaning close to three fourths of IDPs are not accessing the services they need, which is similar to treatment gaps observed in other Eastern European IDP populations [16,69,70]. This gap is primarily driven by the poor conditions of large centralized psychiatric hospitals, insufficient and inequitably distributed providers of mental health services, the availability and

affordability of medications, as well as individual perceptions that they did not need care [40,56,70].

## Healthcare Workers

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*The following vignette serves to provide an illustrative story of the experience of healthcare workers with mental illness in Ukraine<sup>4</sup>.*

Ivan works at one of the busiest hospitals in Ukraine's capital city, Kyiv, as an emergency medical technician for the past decade. Ever since COVID-19 was declared a national pandemic in March 2020, he has spent endless hours as a frontline healthcare worker.

Ivan knows his job puts him at increased risk of infection through direct contact with patients. He is constantly worried about possibly infecting his partner and two children every time he returns home. As the pandemic worsened, the Ukrainian government tightened the quarantine rules to only allow no more than two people to be out together and to prohibit people aged 60 and above from going outside. This has had a huge toll on Ivan as he is no longer able to visit his grandparents or even take his family outside.

Due to Ukraine's poor economy, Ivan is struggling financially. His salary is significantly lower than what he could be earning if he emigrated, but he decided to stay in his homeland to assist his fellow Ukrainians who are most in need. However, with the severity of the pandemic increasing, Ivan has felt more stressed due to long work-hours, limited Personal Protective Equipment (PPE) and the moral dilemma of allocating limited resources to patients with COVID-19.

Ivan has neither sought care for his increasing stress and anxiety nor utilized the workplace mental health focus groups due to fear of being labelled a "weak physician". As the weeks wear on, he is getting more overwhelmed and wonders how much longer he will be able to help to his best ability.

### Population Characteristics

The WHO defines health workers as "all people engaged in actions whose primary intent is to enhance health" while recognizing that most metrics available on health workers is limited to individuals who are paid for their actions [55]. The global health workforce includes 60 million individuals and over 40% of the WHO member states have less than 10 medical doctors per 10,000 population [111]. High income countries, where disease burden is the lowest, have the largest health workforce, whereas LMICs consistently struggle to meet the health worker needs of their populations [111]. It is estimated that there will be a shortage of 18 million health workers by 2030, with the shortage primarily affecting LMICs [55,110]. A decline in the health workforce is anticipated due to shortages in training and increased retirement of the "baby boom" generation of physicians who have now reached retirement age [21].

Ukraine currently has 3.0 physicians per 1,000 people and 6.7 nurses and midwives per 1,000 people [101]. The country has experienced a steady increase in health workers per capita since the 1990s; however, this is due to population decline rather than increasing numbers of health workers [40]. The country is now facing a growing crisis of emigration of healthcare workers due to reasons such as low wages, poor social conditions, poor infrastructure in rural areas and the perceived low

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<sup>4</sup> This vignette is a fictional adaptation of multiple human-interest stories.

status of the medical profession [40]. Shortages are most immediately felt in rural areas where close to 900 outpatient clinics were completely unstaffed in 2012 [40].

### **Mental Health of Healthcare Workers**

Work-related stressors have been found to be associated with increased risk of developing mental disorders [50]. Chronic occupational stress is common among health workers and health workers have been found to be at elevated risks of burnout, alcohol and substance use disorders, depression, and suicide [32,66].

Physician shortages, the competitive nature of medical training programs, and system management that has focused more on improving efficiency and patient outcomes than the wellbeing of health workers contribute significantly towards physician burnout [9,11,49]. Given the link between burnout and major medical errors, hospitals have introduced interventions to reduce risk factors of occupational stress in the work environment [9,45]. However, there has been limited use of these resources due to health workers' tendency to self-manage using various means, some of which could be maladaptive [17]. For example, alcohol use disorder is common among physicians, who utilize it as a coping mechanism [17]. Additionally, physicians delay seeking mental health services due to the reluctance of adapting to the sick role [84].

WHO has identified health workers as being at high risk of developing mental disorders during the COVID-19 pandemic. Since the beginning of 2020, many health workers have had to work long hours in high stress environments and many have experienced moral injury from the dilemmas of allocating the limited medical supplies [80]. Additionally, concerns of being infected or infecting their relatives, lack of adequate support in the working environment and lack of effective supportive treatments can affect health workers' mental health. Systematic reviews have revealed that since the start of the COVID-19 pandemic health workers have experienced anxiety (23–44%), depression (50.4%), and insomnia (34.0%) [78].

### **Mental Health Service Availability and Accessibility**

It is well-recognized that doctors have high rates of mental disorders but are often reluctant to seek help, which may explain the high rate of suicide in this population. A survey of nearly 8,000 surgeons in the United States revealed that 39% were reluctant to seek help for depression, substance abuse, or other mental health problems partly due to worries about licensure, and of those (6.4%) with suicidal thoughts in the past 12 months, only 26% sought professional help [114]. Similar studies do not yet exist for Ukraine or Eastern European contexts; however, the limiting effect of stigma on seeking mental health care is widely recognized in these contexts.

More focus has been placed on the role of stigma on accessing mental healthcare for the general population and less for mental health providers. Mental illness is stigmatized for those working in the stressful health profession where vulnerabilities are not readily tolerated. Avoidance of appropriate help-seeking behavior by doctors starts as early as medical school due to the fear of being perceived as weak [115].

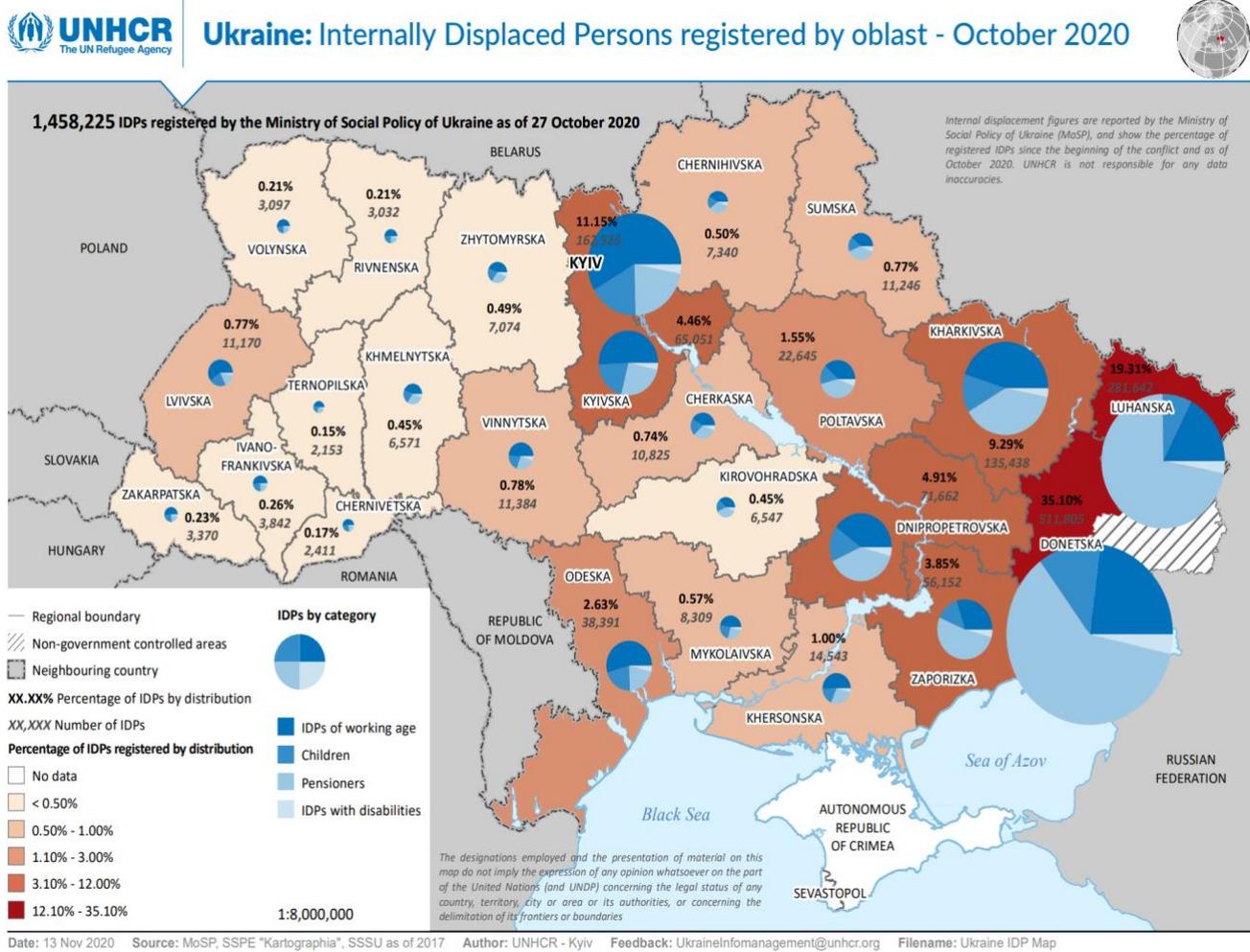
# Appendices

## Appendix A: Map of Ukraine



Image Source: <https://www.nationsonline.org/oneworld/map/ukraine-administrative-map.htm>

## Appendix B: Map of Internally Displaced Persons in Ukraine



[13UNHCRMapIDPENG\\_1994990194.pdf](#)

## Appendix C: Prevalence Rates of Mental Health Disorders in Ukraine

TABLE 2.2: PREVALENCE RATES IN THE REGION (%)						
Prevalence Rates	Ukraine	EU Average	Georgia	Lithuania	Poland	Russian Federation
<b>Depressive Disorder (all ages) total<sup>24</sup></b>	6.31	5.02	4.96	3.90	5.07	5.51
Male	5	4.12	4.23	3.00	4.44	4.32
Female	7.39	5.85	5.62	4.65	5.64	6.49
<b>Anxiety Disorders (all ages)<sup>24</sup></b>	3.18	4.89	3.46	3.17	3.88	3.12
Male	2.45	3.29	2.61	2.46	2.81	2.41
Female	3.78	6.36	4.22	3.76	4.85	3.71
<b>Alcohol Use Disorder (all ages)<sup>24</sup></b>	2.26	1.12	.98	2.82	1.89	3.72
Male	3.71	1.81	1.63	4.69	3.25	5.84
Female	1.08	.48	.4	1.26	.67	1.97
<b>Alcohol Consumption<sup>*25</sup></b>	8.06	10.17	6.13	15.19	10.71	10.12
Male <sup>26</sup>	22 <sup>27</sup>	–	12.6	24.4	19.8	23.9
Female <sup>26</sup>	7.2 <sup>27</sup>	–	3.4	7.9	5.8	7.8

\*Pure alcohol consumption, litres per capita, age 15+, 2014

Image Source: <http://documents1.worldbank.org/curated/en/310711509516280173/pdf/120767-WP-Revised-WBGUkraineMentalHealthFINALwebvpdfnov.pdf>

## Appendix D: Prevalence Data & Risk Factors for Ukraine for Different Population Groups

**TABLE 2.3: PREVALENCE DATA AND RISK FACTORS FOR UKRAINE FOR DIFFERENT POPULATION GROUPS**

Mental Disorder	Prevalence	Risk Factors
<b>Any mental disorder</b> <sup>12</sup> (general population)	31.6% (lifetime) 10.6% (population prevalence)	<ul style="list-style-type: none"> <li>• Older age</li> <li>• Low education level</li> <li>• Residing in eastern Ukraine</li> </ul>
<b>Mood disorders</b> (including bipolar I and II disorders, dysthymia, MDD)	Total: 9.1% <sup>49</sup> (12-month prevalence) Total: 15.81% <sup>12</sup> (lifetime) Males: 9.72% <sup>12</sup> (lifetime) Females: 20.78% <sup>12</sup> (lifetime)	<ul style="list-style-type: none"> <li>• Being a woman<sup>12</sup></li> <li>• Older age</li> <li>• Inadequate financial status</li> <li>• Low education</li> <li>• Being from the East and Kyiv regions</li> <li>• Being no longer married (divorced, separated, or widowed)</li> <li>• Being a homemaker</li> <li>• Being retired</li> <li>• Protective factor: being a student</li> </ul>
<b>Depression</b> General population	Total: 6.31% <sup>24</sup> (2015), 14.59% <sup>12</sup> (lifetime) Males: 5%, <sup>24</sup> 8.61% <sup>12</sup> (lifetime) Females: 7.39%, <sup>24</sup> 19.48% <sup>12</sup> (lifetime) Females (2005): 11.3% (12-month MDD). <sup>12</sup> Urban: 17% Rural: <sup>46</sup> 18% Total (2015): 22% Males: 11% <sup>46</sup> Females: 11% <sup>46</sup>	<ul style="list-style-type: none"> <li>• Risk increases with age in both men and women<sup>12</sup></li> </ul>
<b>IDPs</b>	Total: 22% <sup>47</sup> Males: 16% <sup>43</sup> Females: 25% <sup>43</sup> <i>Both IDPs and veterans: 21%<sup>41</sup> (2016)</i>	<ul style="list-style-type: none"> <li>• Older age</li> <li>• Being female</li> <li>• Lower income levels<sup>47</sup></li> <li>• Recent displacement</li> <li>• Exposure to adverse events</li> </ul>
ATO veterans <sup>46</sup>	<i>Both IDPs and Veterans: 21% (2016)</i>	
Older adults (age 50–91) <sup>48</sup>	Total: 11.5% Males: 7.1% Females: 14.4% (12-month prevalence)	<ul style="list-style-type: none"> <li>• Previous diagnosis of MDE before age 50</li> <li>• Poor self-assessment of physical and mental health</li> <li>• In men: living alone, reporting 5+ physician visits in the past year, role impairment</li> <li>• In women: poverty, lower education, other medical conditions, history of an anxiety disorder before age 50, impairment in cognition and self-care</li> </ul>
<b>Anxiety disorders</b> General population	Total: 6.10%, <sup>12</sup> 7.1%, <sup>49</sup> 13.49% <sup>12</sup> (lifetime) Males (lifetime): 3.96% <sup>12</sup> Females (lifetime): 7.86% <sup>12</sup> Total (2015): <sup>24</sup> 3.18% Males: 2.45% Females: 3.78%	<ul style="list-style-type: none"> <li>• Being female</li> <li>• Living in regions other than the West</li> <li>• No longer being married (divorced, separated, or widowed)</li> <li>• Being a homemaker<sup>12</sup></li> </ul>
<b>IDPs</b>	Total: 18% <sup>47</sup> Males: 13% <sup>47</sup> Females: 20% <sup>47</sup> <i>Both IDPs and veterans: 1%<sup>41</sup></i>	<ul style="list-style-type: none"> <li>• Ages 18–59<sup>47</sup></li> <li>• Being female<sup>47</sup></li> <li>• Poor household economic situation<sup>47</sup></li> </ul>
<b>PTSD</b> General population	Total (2015): 8% Males: 5% Females: 3% Urban: 5% Rural: 3% <sup>46</sup>	
<b>IDPs</b>	Total: 32% <sup>47</sup> Males: 22% Females: 36% <i>Both IDPs and veterans: 46%<sup>41</sup></i>	<ul style="list-style-type: none"> <li>• Older age</li> <li>• Being female</li> <li>• Lower income levels<sup>41</sup></li> <li>• Recent displacement</li> <li>• Exposure to adverse events, cumulative exposure to trauma both witnessed and experienced</li> </ul>

**TABLE 2.3: PREVALENCE DATA AND RISK FACTORS FOR UKRAINE FOR DIFFERENT POPULATION GROUPS**

Mental Disorder	Prevalence	Risk Factors
Alcohol use disorder General population	Total: 4.9%, <sup>27</sup> 13.49% <sup>12</sup> (lifetime) Males: 9.3% <sup>27</sup> Males (2005): 26.46% <sup>12</sup> (lifetime prevalence rate) Females: 1.1%, <sup>27</sup> 2.89% <sup>12</sup> (lifetime) Total (2015): <sup>24</sup> 2.26% (population) Male: 3.71% Female: 1.08% <i>IDPs and veterans: 4% (alcohol dependence)</i> <sup>41</sup>	<ul style="list-style-type: none"> <li>• Being male (nine times more likely in men than women)<sup>12</sup></li> <li>• Females: ages under 25 years and 25–34 years<sup>12</sup></li> <li>• Having only a primary education<sup>12</sup></li> <li>• Males: ages 26–34 &amp; 35–54 years:<sup>50</sup></li> <li>• No longer being married and under age 55<sup>12</sup></li> <li>• Having only a secondary education<sup>50</sup></li> <li>• Being in the workforce (even if unemployed)<sup>50</sup></li> <li>• Living in the Southeast (as opposed to the West)</li> <li>• Those who are a parent of child under the age of 18 living at home<sup>50</sup></li> </ul>
Heavy episodic drinking* (general population)	Total: 22.6% <sup>27</sup> Males: 35.2% Females: 12.1%	
Heavy alcohol use	Total: 22% <sup>50</sup> Males (2005): 38.7% <sup>50</sup> (12-month prevalence)** (2001): 15% <sup>51***</sup>  Females (2005): 8.5% <sup>50</sup> (12-month prevalence)** (2001): 2% <sup>51***</sup>  <i>IDPs and veterans: 7%</i> <sup>41</sup>	<p>Males:<sup>50</sup></p> <ul style="list-style-type: none"> <li>• Age group of 26–34 years and 35–54 years</li> <li>• Living in the Southeast (compared to the West)</li> <li>• Having a secondary education (i.e., high school), those considered in the workforce (even if currently unemployed)</li> <li>• The parent of a child under the age of 18 living at home</li> </ul> <p>Females:<sup>50</sup></p> <ul style="list-style-type: none"> <li>• Being younger, specifically between the ages of 18–25 years</li> <li>• Living in the Southeast</li> <li>• Considered in the workforce (even if currently unemployed)</li> </ul>
Suicide General population	Total: 24–32 per 100,000 8.2% <sup>33</sup> (suicide ideation, lifetime prevalence), 21.2 per 100,000 <sup>52</sup> 38.2% (planners and attempt) Males: 37.8 per 100,000, 7,992 suicides, <sup>52</sup> 5.8% <sup>33</sup> (suicide ideation, lifetime), 28% (attempt) Females: 7.0 per 100,000, <sup>52</sup> 1,724 suicides, <sup>52</sup> 10.1% <sup>33</sup> (suicidal ideation, lifetime), 22.4% (attempt)	<p>Ideation:<sup>33</sup></p> <p>Being female<sup>33</sup></p> <ul style="list-style-type: none"> <li>• Younger age</li> <li>• Tragic life events/ trauma history<sup>33</sup></li> <li>• Parental history of depression<sup>33</sup></li> <li>• Prior history of psychiatric and alcohol disorders</li> <li>• Comorbid disorders (i.e., anxiety, depressive, intermittent explosive &amp; AUD)</li> </ul> <p>Suicide:<sup>52</sup></p> <p>Males: being between 45–54 years old</p> <p>Females: being aged 65 and older</p> <p>Suicide:<sup>34</sup></p> <ul style="list-style-type: none"> <li>• Living in eastern Ukraine</li> <li>• Economic hardship</li> <li>• Interpersonal conflict</li> <li>• Alcohol or drug abuse</li> <li>• Depression</li> <li>• Family history of suicide</li> <li>• Tragic life events</li> </ul>

\* Defined as consumption of at least 60 grams or more of pure alcohol on at least one occasion in the past 30 days.

\*\* Heavy alcohol use in men defined as consuming >80 g of ethanol in a typical drinking day, or consuming either >to 60 g 3–4 days/week or >40 g nearly every day. Heavy alcohol use in women defined as at least monthly consumption of >60 g of ethanol in a typical drinking day or consuming either >45 g 3–4 days/week or >30 g nearly every day.<sup>90</sup> For example, 14 g of ethanol would be roughly equivalent to 1.5 ounces of distilled spirits, one glass of wine, or 1 beer (12 ounces). Based on these calculations, 80 g of pure ethanol is roughly equivalent to 8.55 ounces of distilled spirits, 6 glasses of wine, and 6 twelve ounce beers. Sixty grams of ethanol is roughly equivalent to 6.4 ounces of distilled spirits, 4 glasses of wine, and 4 twelve ounce beers.

\*\*\*A cross-sectional study conducted in 2008 using data from 2001 examined the epidemiology of heavy alcohol drinking in eight former Soviet Union countries including Ukraine. Heavy drinking was defined as the consumption of at least 21 beers (80+ pure alcohol), 750 g wine (90+ g pure alcohol), or 200 g strong spirits (86+ g of pure alcohol). The reported typical amounts of alcohol consumed were converted from liters into grams of alcohol per week assuming one beer contained 40 g of pure alcohol, a 750 g bottle of wine contained 90 g of pure alcohol, and a bottle of 500 ml of vodka or other strong spirits contained 215 g of pure alcohol. High weekly alcohol intake was defined as >210 g in males and >140 g in females. Fifteen percent of males reported heavy alcohol drinking/week (>210 g of pure alcohol), while 2% of females reported heavy alcohol drinking/week.<sup>53</sup>

Image Source: <http://documents1.worldbank.org/curated/en/310711509516280173/pdf/120767-WP-Revised-WBGUkraineMentalHealthFINALwebvpdfnov.pdf>

## Appendix E: The Mental Health Continuum

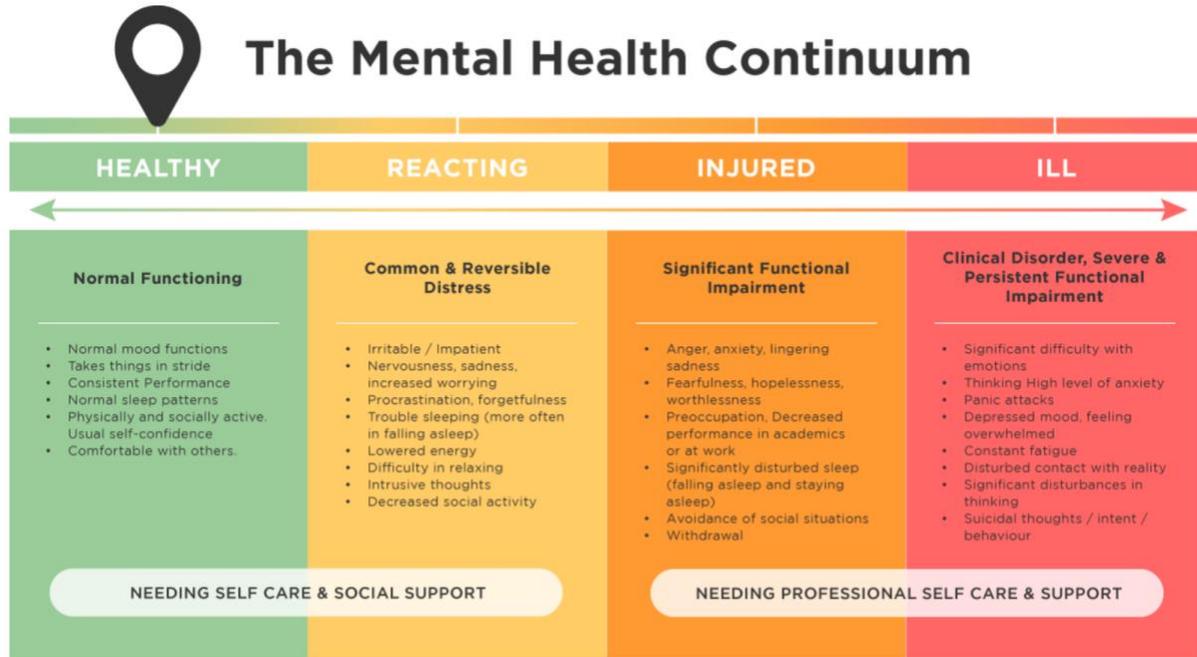
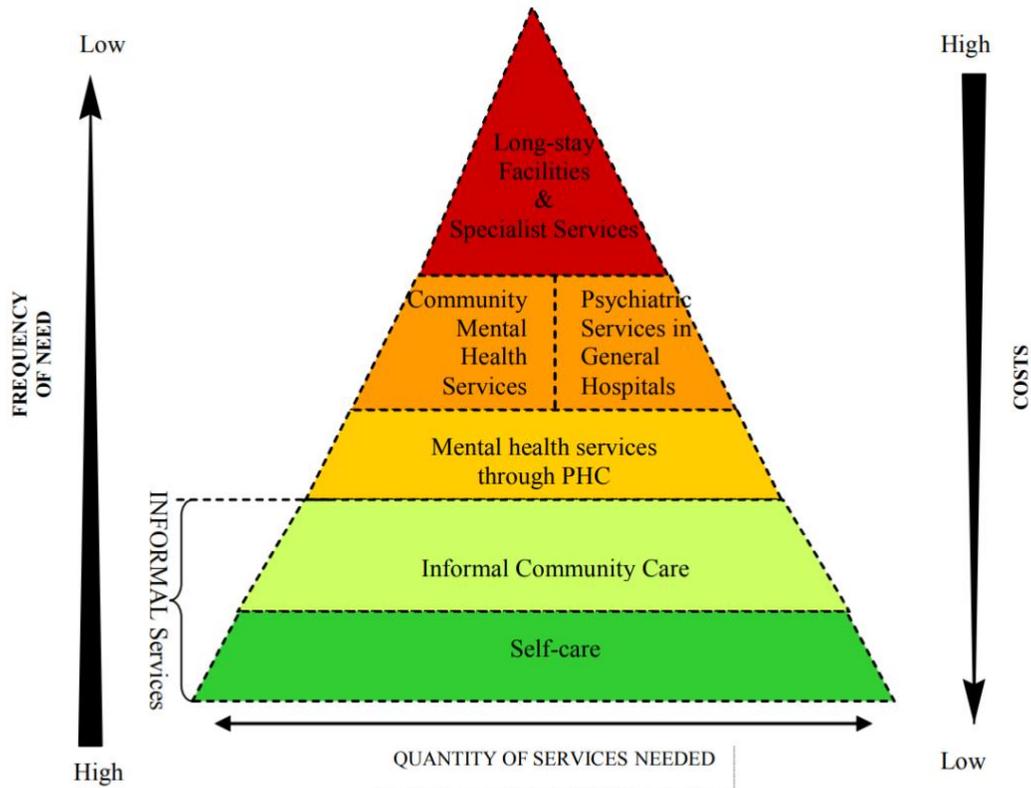


Image Source: <https://sapience.com.au/start-here/good-mental-health-and-money-matters>

## Appendix F: Mental Improvement for Nations Development



The WHO MIND Project: Mental Improvement for Nations Development  
Department of Mental Health & Substance Abuse, WHO Geneva



Image Source:

[https://www.who.int/mental\\_health/policy/services/2\\_Optimal%20Mix%20of%20Services\\_Infosheet.pdf?ua=1](https://www.who.int/mental_health/policy/services/2_Optimal%20Mix%20of%20Services_Infosheet.pdf?ua=1)

# Appendix G: The WHO Special Initiative for Mental Health (2019-2023): Universal Health Coverage for Mental Health

## The WHO Special Initiative for Mental Health (2019-2023): Universal Health Coverage for Mental Health THEORY OF CHANGE

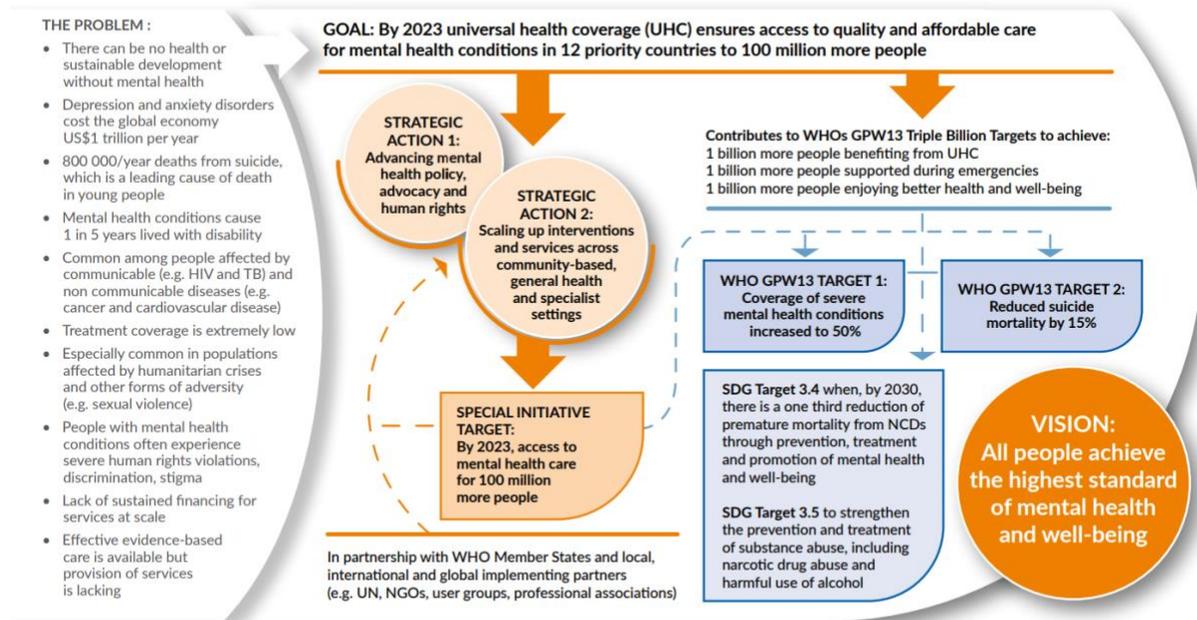


Figure 1. The WHO Special Initiative for Mental Health Theory of Change

Image Source: <https://apps.who.int/iris/handle/10665/310981>

## Appendix H: Risk Factors for Mental Illness

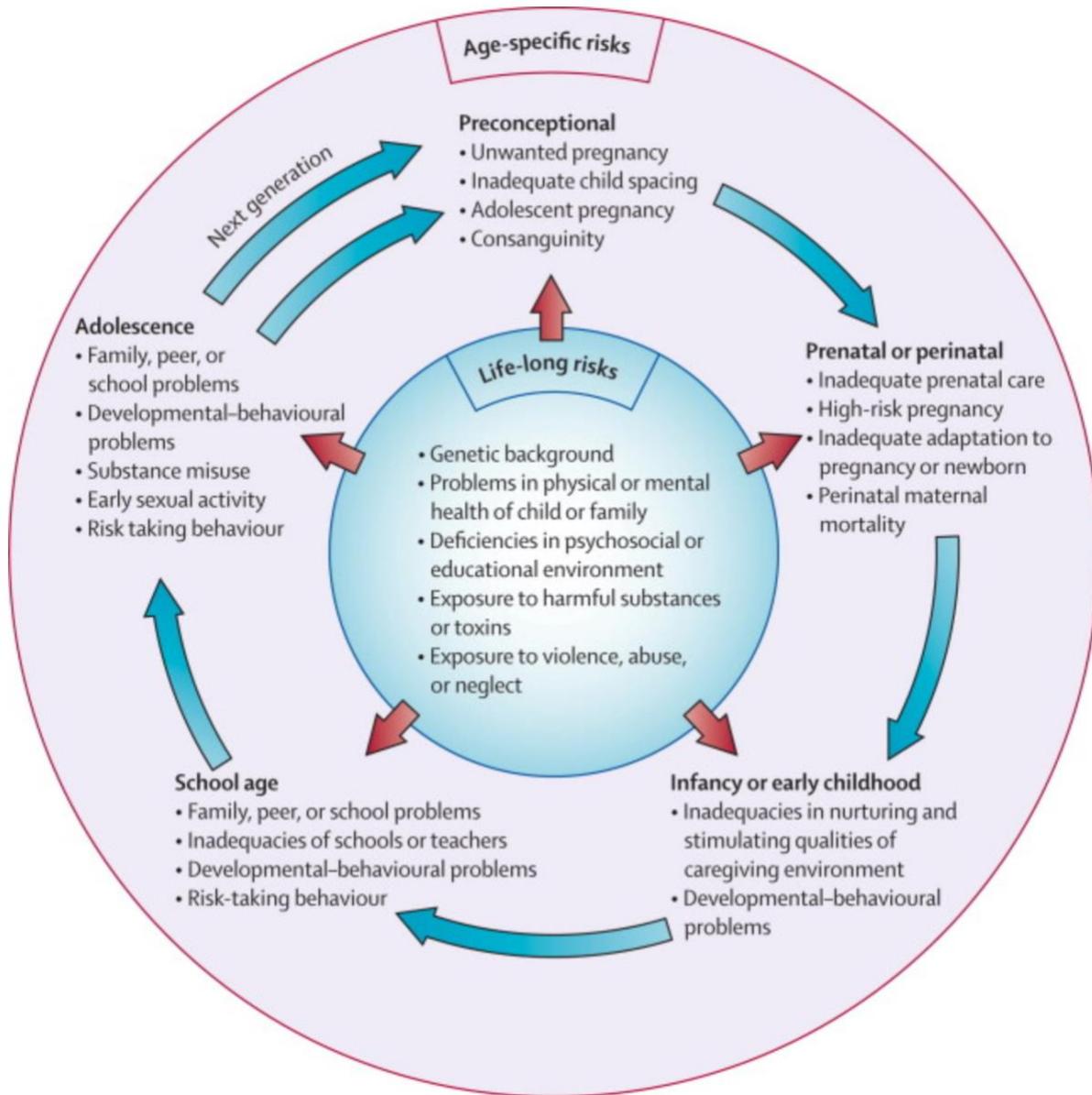


Image Source:

[https://www.sciencedirect.com/science/article/pii/S0140673611608271?casa\\_token=zDLS\\_9PgEZIAAAAA:0vKas5Os9jQWdeqbb21FZfMxnG1ZNYuE1w8f9VZi\\_XXg8I3hmc1gpwtQCeBn\\_MB3vK1zYeQuiA#bib1](https://www.sciencedirect.com/science/article/pii/S0140673611608271?casa_token=zDLS_9PgEZIAAAAA:0vKas5Os9jQWdeqbb21FZfMxnG1ZNYuE1w8f9VZi_XXg8I3hmc1gpwtQCeBn_MB3vK1zYeQuiA#bib1)

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