

Situation reports and impacts on public health during the war in Ukraine, 24 February to 21 June 2022: World Health Organization Emergency Reports

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Abstract

Due to the Russian illegal invasion of Ukraine on February 24, 2022, evident and dramatic increases were found in the numbers of war-affected populations, the refugees, individuals relocated in Ukraine, and civilian injuries and deaths as the war is escalated. The war has delivered great pressures and demands for the Ukrainian health division. Food shortages are of great concern due to substantial damage to agricultural framework and destruction of food supply chains. The health shock caused by this war seems to have had effect beyond the borders of Ukraine. Over 5.3 million refugees from Ukraine have left their country seeking refuge in neighboring countries in Europe; therefore, the crisis has begun to apply excessive pressure on human and technical resources and health systems in these neighboring countries.

Keywords: Ukraine; refugee; civilian injury; civilian death.

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1. Introduction

The sudden invasion of Ukraine by the Russian Federation on February 24, 2022 seems to have forged another 21st-century war-related catastrophe.[1] In correspondence with previous wars across the globe, it already has affected countless individuals, created refugees, forced Ukrainians to become refugees, and caused civilian injuries and deaths in Ukraine. In this regard, it calls for the international community to respond promptly to offer support, comprising medical evacuations, immediate visas, proper care and support for relocated individuals, and additional financial help to Ukraine.[2] In this review article, we outline the trends of the numbers of affected individuals, refugees, internally displaced persons (IDPs), and civilian injuries and deaths in Ukraine caused by the Russian invasion.

2. Population displacement and refugees

The world is prudently observing the war between Ukraine and the Russian Federation as the general situation progresses to languish in Ukraine. In accordance with the up-to-date governmental data assembled by the United Nations High Commissioner for Refugees (UNHCR), the projected number of the individuals influenced by the conflict is over 18 million.[3] As a result of the war, the mass migration from Ukraine is the fastest growing refugee catastrophe in the subcontinent.[4] The refugees are fleeing to neighboring countries

including Poland, Slovakia, Hungary, Romania, the Republic of Moldova, Belarus, and the Russian Federation as the neighboring countries are taking their toll in taking care of the refugees (Fig. 1).[4] The number of Ukraine refugees from the first week to the 14th week escalated from 1.2 million (first week), 2.5 million (second week), 3.1 million (third week), 3.4 (fourth week), 4.0 million (fifth week), 4.3 million (sixth week), 4.6 million (seventh week), 5.0 million (eighth week), 5.3 million (ninth week), 5.6 million (10th week), 5.9 million (11th week), 6.3 million (12th week), 6.6 million (13th week), and to 6.8 million (14th week), respectively (Fig. 2).

The estimated number of the internally displaced persons (IDPs) from the first week to the ninth week into the war increased from 0.16 million (first week), 1.0 million (second week), 1.9 million (third), 6.4 million (fourth week), 6.4 million (fifth week), 7.1 million (sixth week), 7.1 million (seventh week), 7.7 million (eighth week), 7.7 million (ninth week), 7.7 million (10th week), 8.0 million (11th week), 8.0 million (12th week), 8.0 million (13th week), and to 8.0 million (14th week), respectively (Fig. 2).

The overall numbers of civilian injuries and deaths from the first week to the tenth week into the war increased from 553 and 249 (first week); 982 and 564 (second week); 1,252 and 780 (third week); 1,650 and 1,035 (fourth week); 1,935 and 1,232 (fifth week); 2,227 and 1,611 (sixth week); 2,613 and 1,964 (seventh week); 5,264 and 2,345 (eighth week); 6,009 and 2,829 (ninth week); 6,731 and 3,280 (10th week); 7,326 and 3,541 (11th week); 8,089 and 3,811 (12th

Ukraine crisis



Distribution of refugees in neighbouring countries to Ukraine as of 20 April 2022

Fig. 1. Distribution of refugees from Ukraine to neighboring countries due to the Ukraine crisis as of 20 April 2022.

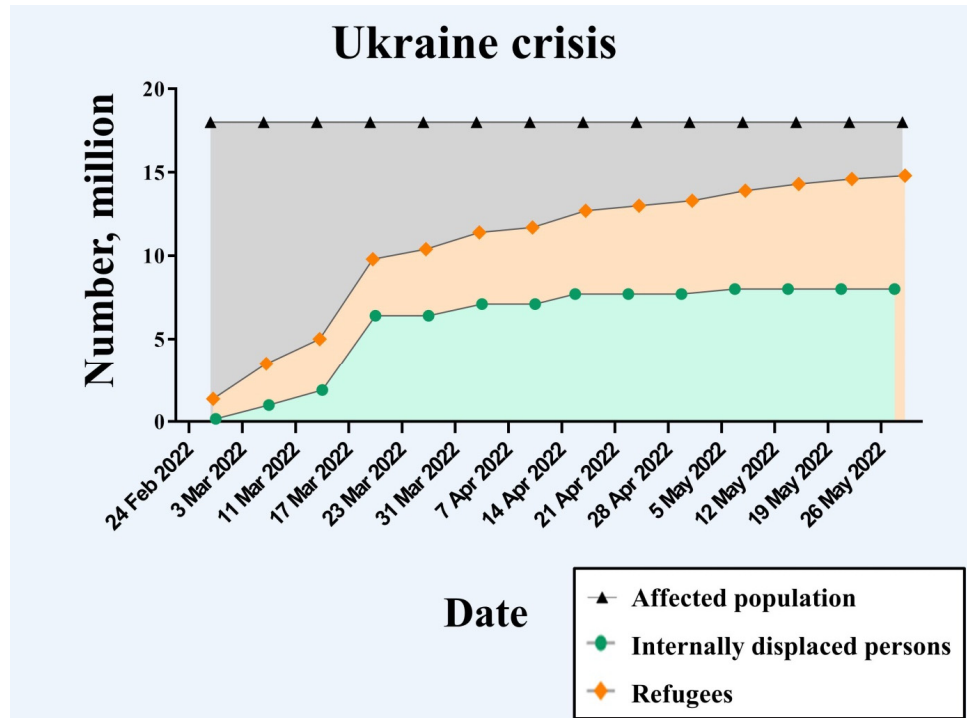


Fig. 2. Trends of the numbers of the affected persons, internally displaced persons, and refugees due to the Ukrainian crisis from 24 February to 1 June 2022.

week); 8,691 and 3,998 (13th week); and to 9,151 and 4,169 (14th week), respectively (Fig. 3). Of note, the number of civilian injuries escalated dramatically from the eighth through the ninth weeks (i.e., from 14 Apr through 21 Apr 2022), whereas the number of civilian deaths increased modestly during the same period.

3. Distribution of refugees in neighboring counties as of 20 April 2022

The refugees, mostly elderly men, women, and children (men aged between 18 and 60 years old are not allowed to leave the country) from Ukraine are escaping to the neighboring countries encompassing Poland, Slovakia, Hungary, Romania, Moldova, Belarus, and the Russian Federation as the neighboring countries are taking their toll in taking care of the refugees. The numbers of refugees having entered the neighboring countries, as of 20 April 2022, are 2,847,540 in Poland; 346,175 in Slovakia; 476,213 in Hungary; 763,769 in Romania; 428,577 in Moldova; 23,900 in Belarus; and 563,266 in the Russian Federation, respectively (Table 1 and Fig. 1). Of note, we observed an abrupt increase in the number of the IDPs and the refugees from the Ukraine crisis from 17 March through 23 March 2022, which may be ascribed to the fact that after one month since beginning of the war, the Ukrainian people came to realize that the war could last much longer than they anticipated at the beginning of the war and they should seek shelter internally (i.e., IDPs) or internationally (i.e., refugees). It can be inferred that Poland is accepting more refugees (i.e., 54%, 3.1 million) from Ukraine than the other neighboring countries due to the fact that Poland is politically and economically[5] stable in

Table 1. Distribution of refugees in neighboring counties as of 20 April 2022

Country	Number of refugees
Poland	2,847,540
Slovakia	346,175
Hungry	476,213
Romania	763,769
Moldova	428,577
Belarus	23,900
Russian Federation	563,266

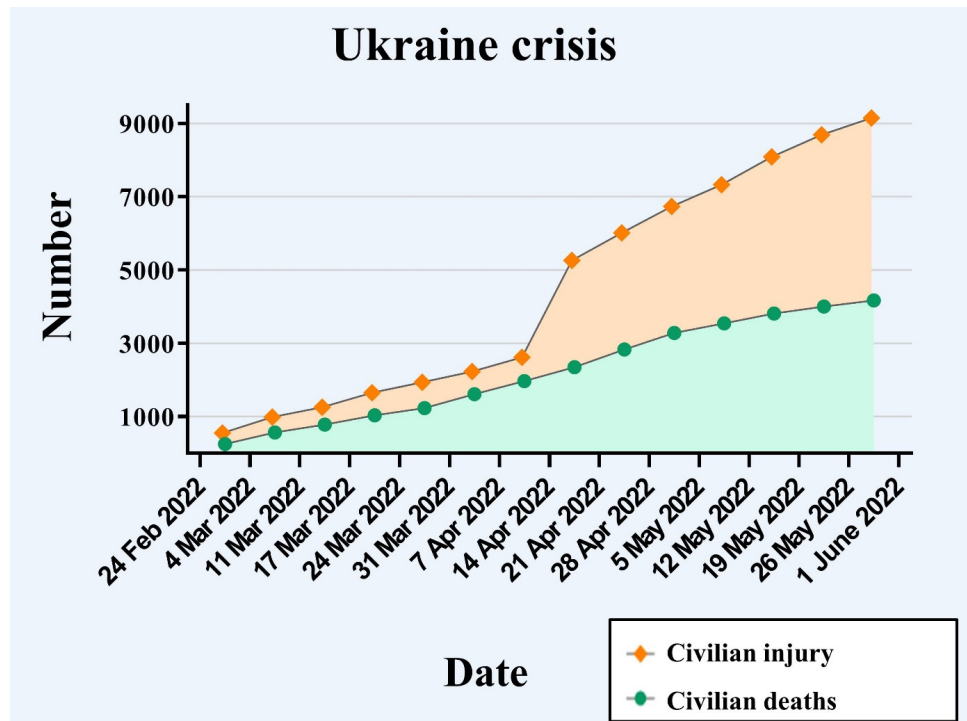


Fig. 3. Trends of the numbers of civilian injuries and deaths due to the Ukrainian crisis from 24 February to 21 April 2022.

the sense that its political rights and civil liberties scores are 34/40 and 47/60, respectively as of 2022 [6] and that its gross domestic product (nominal) per capita is \$ 19,056 USD as of 2022, which makes Poland one of the well-to-do countries in Eastern Europe.[4]

Summary of WHO Actions

Public health concerns over Ukraine Crisis	WHO Actions
· Crisis-related trauma, injuries, and death	WHO has provided rapid refresher training, medical supplies, staffing through mobilization of medical teams and has rolled out a course on Mass Casualty Management in Ukraine and trained the staff of an ambulance substation.
· Non communicable diseases including cardiovascular disease, hypertension, diabetes mellitus, chronic kidney disease, chronic respiratory disease, epilepsy, and cancer and urgent medical care.	WHO has provided access to health care via established medical facilities or mobile health services and to have available key diagnostics, medicines, and medical supplies and has facilitated procurement of cancer medicines and the transfer of critically ill cancer patients out of Ukraine for treatment.
· Epidemic-prone and other infectious diseases including polio, measles, human immunodeficiency virus, tuberculosis, and diarrheal diseases (i.e., communicable diseases)	WHO has re-started or continued preventive measures through vaccination and continued treatment for human immunodeficiency virus and tuberculosis and to scale up surveillance, early detection, and response systems for epidemic-prone diseases. Further, a national supplemental polio immunization campaign was launched; however, it has been slowed down due to the aggravating war situation. Furthermore, surveillance activities to detect and report new cases have been disrupted. On 1 February 2022 a national supplemental polio immunization campaign targeting 140,000 children was launched, but due to the current situation it has been deprioritized and slowed down.
· The ongoing high incidence levels of COVID-19	WHO is still in the process of providing enough beds for patients with COVID-19.
· Environmental health risks (nuclear power plants, potential chemical hazards, and suboptimal vaccination coverage)	There has been no documented increase in radiation levels reported in Ukraine around any of the NPPs or sites. WHO has shipped therapeutics and consumables for 1,500 patients with chemical exposures and PPE for 700 health responders to Ukraine and has trained health workers across the country on responding to toxic chemical incidents.
· Mental health problems, including chronic mental health problems and post-traumatic stress disorder, depression, and anxiety, and psychosocial support	The Health Cluster's mental health and psychosocial support services (MHPSS) working group maintains online maps of MHPSS and prevention of gender-based violence services and a list of hotlines available in Ukraine. Further, people have received direct psychosocial counseling services through telephone and face-to-face consultations facilitated by the United Nations Children's Fund.
· Protection issues: risk of human trafficking	
· The supply chains for medicines, medical supplies including oxygen, insulin, personal protective equipment, surgical supplies, anaesthetics, and safe blood products, and common goods have been disrupted in Ukraine, creating urgent need.	WHO has been working with partners to alleviate some of these shortages and has delivered trauma and emergency surgical supplies.
· Maternal and newborn health	
· Food security and nutrition	WHO is supporting families to securely and properly feed their infants in this formula shortage crisis and is also giving guidance on securely and proper complementary foods to be delivered to infants and children ≥ 6 months as needed.
· Escalated risk of sexual and gender-based violence (SGBV)	Girls, boys, and women have received SGBV support.

Fig. 4. Summary of WHO's actions with regard to priority public health concerns over the Ukraine Crisis

4. World Health Organization (WHO) actions with regard to priority public health concerns over Ukraine Crisis

WHO is working in connection with the Ministry of Health of Ukraine to determine gaps and needs in the country's health system, medical evacuations, and support response activities.[6-11] WHO has developed a rehabilitation strategy focusing on decompressing the acute trauma system and improving rehabilitation care by supporting the strengthening of designated inpatient rehabilitation facilities, which is providing guidance on addressing the nutritional needs of older people who are IDPs in Ukraine and those in reception points in neighboring countries, and is ensuring the supply of antiretroviral drugs for people living with human immunodeficiency virus (Fig. 4).

5. External communications of WHO

WHO is releasing joint United Nations Population Fund (UNFPA)/ United Nations

Children's Fund (UNICEF)/WHO statements denouncing attacks on health care workers. Stories, video clips for news outlets, and photos regarding Ukraine Crisis are available by deployed communication specialists through social media, including tweets.[6-11]

6. Funding activities

In an effort to uphold its cause, WHO launched its second updated funding appeal, for US\$ 80 million in Ukraine for March-August 2022 and US\$ 67.5 million for March to December 2022 in refugee-receiving and hosting countries. [6-11]

7. Conclusion

Due to the Russian illegal invasion of Ukraine on February 24, 2022, evident and dramatic increases were found in the numbers of war-affected populations, refugees, the individuals relocated in Ukraine, and civilian injuries and deaths as the war is escalated. The war has delivered great pressures and demands for the Ukrainian health division. The health shock caused by this war seems to have had effect beyond the borders of Ukraine. Over 5.3 million refugees from Ukraine have left their country seeking refuge into neighboring countries in Europe; therefore, the crisis has begun to put apply excessive pressure on human and technical resources and health systems in these neighboring countries.

Capsule Summary

In this review article, we outline the trends of the numbers of affected individuals, refugees, internally displaced persons, and civilian injuries and deaths in Ukraine caused by the Russian invasion.

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Author Contribution

Dr DKY and VH contributed to the preparation of this review.

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Competing interests

The authors have no conflicts of interest to declare for this study.

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