- Check for updates
- Department of mathematical modelling and artificial intelligence, National Aerospace University, Kharkiv, Ukraine.
- <sup>2</sup> Department of epidemiology, Kharkiv National Medical University, Kharkiv, Ukraine.

Cite this as: *BMJ* 2022;376:o796 http://dx.doi.org/10.1136/bmj.o796 Published: 25 March 2022

## Ukraine war: The humanitarian crisis in Kharkiv

Dmytro Chumachenko, <sup>1</sup> Tetyana Chumachenko<sup>2</sup>

For more than a month now, Russian troops have been destroying the Russian-speaking city of Kharkiv in Ukraine, where we live, along with 1.5 million other inhabitants. In Kharkiv, the war has resulted in the deaths of hundreds of civilians, large-scale destruction of infrastructure, and also a humanitarian crisis, which is getting worse every day. There are estimates that more than 1,000 buildings have been destroyed, of which more than 700 are multi-storey apartment buildings, which are no longer habitable. Essential infrastructure in the city, such as water supply, electricity, and heating networks, are destroyed. Repair of these systems is carried out, but not always quickly. In some areas of the city, repairs cannot be carried out.

Many residents were forced to evacuate to the west of Ukraine and neighbouring countries. It is impossible to calculate the exact number of city residents who have left the city. However, according to the UN, more than 3.5 million people have left the country, and there are 6.5 million internally displaced people.<sup>12</sup>

Nevertheless, not everyone has the opportunity to leave the city, so people are forced to hide from bombing and airstrikes in the subway and basements. These places are not equipped for an extended stay, which causes unsanitary conditions and contributes to the spread of diseases. Overcrowding and high population density in bomb shelters increase the spread of infectious diseases. This is especially dangerous in the context of the peak of the new wave of covid-19, which, according to forecasts, occurred in early March.<sup>3</sup>

Food is in short supply and people are hungry. Only a few supermarkets are open. Businesses have closed and people cannot work so they are running out of money, even for basic needs. Humanitarian aid is being delivered to the city, but long queues are a risk for people because of the active hostilities. Repeatedly, targeted strikes by the Russian army have hit crowds of people, leading to injuries and deaths of civilians.<sup>4</sup>

Getting medical help is a big problem. According to the Ministry of Health in Ukraine, 117 medical institutions have been destroyed, with at least 43 strikes on emergency medical vehicles.<sup>5</sup> The World Health Organisation has verified 52 attacks on healthcare since the conflict began.<sup>6</sup> The healthcare system in Ukraine is now aimed primarily at helping casualties of the war. Therefore, elective surgeries are not being carried out, and consultations with family doctors are difficult.

It is difficult to provide medical care to pregnant women. Because of the constant bombing and artillery shelling, women give birth in the basements of hospitals. The supply of medicines and the work of pharmacies are limited. Patients with long term conditions, including those with tuberculosis and people living with HIV, cannot always receive the necessary drugs promptly.

Separately, it should be noted that there are severe mental health impacts caused by the war. Stress also takes a toll on physical health. Forced evacuation, life in bomb shelters, and disruption to the usual way of life have the most negative impact on civilians and especially have devastating physical, psychological, and social consequences for children. Children become especially vulnerable after losing their parents, friends, homes, and familiar things. Chronic stress and psychological trauma can have profound and often irreversible consequences, affecting the health and wellbeing of children long after the adverse events of the war. Schooling and education have also stopped, which has profound consequences on children and young people.

In the districts of Kharkiv, located on the city's outskirts, artillery and aircraft shelling by the Russian troops has destroyed residential areas. The bodies of dead people cannot be removed from the streets or houses due to constant shelling and rats run around in the rubble. Also, many stray dogs have appeared in the city, as refugees could not always take their pets with them, which creates a threat of other infectious diseases.

The international community must ensure the supply of humanitarian aid from European countries. Russia must comply with international humanitarian law, ensure the protection of the civilian population, and refrain from unlawful attacks. The space for neutral, impartial, and independent humanitarian action must be protected so that humanitarian organizations can have access to civilians.

## Competing interests: none declared

Provenance and peer review: not commissioned, not peer reviewed.

- Operational Data Portal. Ukraine Refugee Situation. 2022. https://data2.unhcr.org/en/situations/ukraine
- 2 Almost 6.5 Million People Internally Displaced in Ukraine: IOM. UN Migration. 2022. https://www.iom.int/news/almost-65-million-people-internally-displaced-ukraine-iom
- <sup>3</sup> Mohammadi A, Meniailov I, Bazilevych K, etal. Comparative study of linear regression and SIR models of COVID-19 propagation in Ukraine before vaccination. *Radioelectronic and Computer Systems*. 2021;3:5-18. doi: 10.32620/reks.2021.3.01.
- 4 Horrendous' rocket attack kills civilians in Kharkiv as Moscow 'adapts its tactics'. The Guardian. 2022. https://www.theguardian.com/world/2022/feb/28/ukraine-several-killed-by-russian-rocketstrikes-in-civilian-areas-of-kharkiv
- 5 Hands trained for surgery now on macheni gun: Kyiv Oncologist. Medscape Medical News. 2022. https://www.medscape.com/viewarticle/970566?src=rss
- 6 WHO Twitter https://twitter.com/WHOUkraine/status/1505849169612877824