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## **Invasion of Ukraine: implications for sanitary systems and health policies**

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The World Health Organisation's (WHO) Attacks on Health Care Surveillance System (AHSS) counts the total number of attacks on Ukrainian health targets by Russia on an almost daily basis. These attacks, in addition to the loss of life, the resulting damage to structures, or their total destruction, entail a series of collateral health and social damage in the medium and long term. Not only for Ukraine as a country and its citizens, but these attacks also have consequences for the rest of the international community, especially the surrounding countries. Let's get to it.

### **Ukraine's health system at risk**

According to the International Organisation for Migration (IOM), one month after the invasion began, seven million people are internally displaced, and more than 3.5 million have fled to neighbouring countries.

Generally speaking, this forced displacement aggravates the situation of all those who are suffering from any illness, physical or mental, whether their illnesses are acute or chronic, communicable, or not.

If we look at the chronically ill - who are generally elderly, multi-pathological and polymedicated - we are talking about one in three IDPs being chronically ill, so the situation is even more serious.

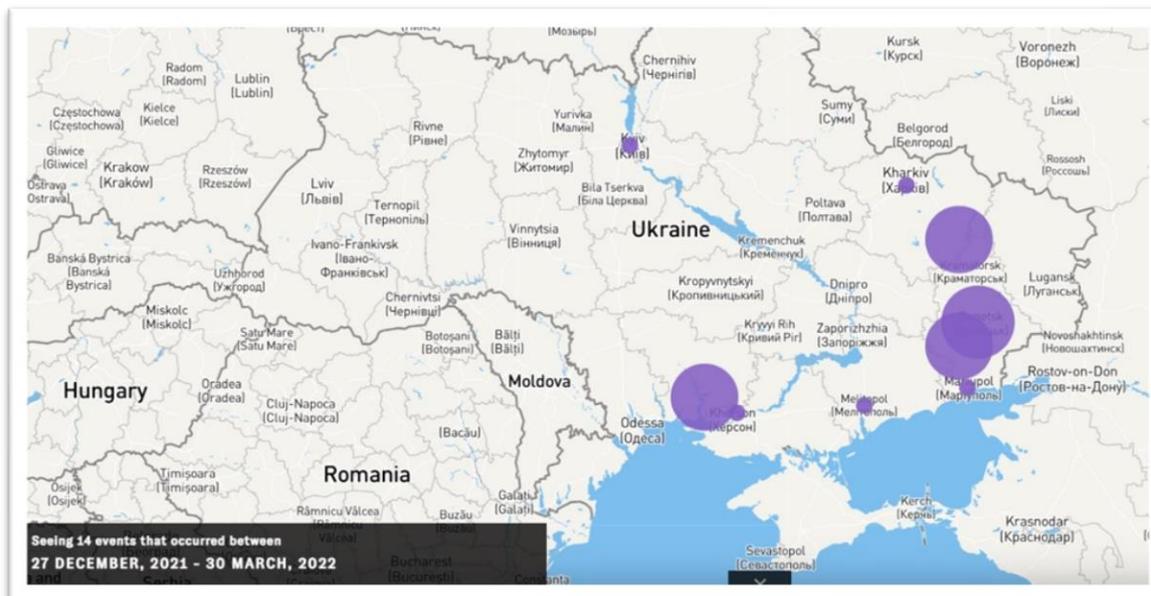
We also already know that about half of the pharmacies in Ukraine are closed. Vaccination and routine immunisation against covid-19 has also stopped. Before the invasion, at least 50,000 people a day were being vaccinated against the virus. However, between 24 February and 15 March, only 175,000 people were vaccinated. Another immediate consequence of Putin's invasion is that supply chains have already been severely disrupted. Many distributors are no longer operational. This means that treatments for chronic diseases have almost ceased.

Faced with this situation, Ukrainian health authorities warned weeks ago of the low levels of medical and pharmacological supplies of all kinds: oxygen, anaesthesia, transfusion equipment. Hospitals and health centres are finding it difficult to attend to their usual patients, to which must be added those wounded by the attacks. Even the distribution of medical supplies stored in Kiev's medical warehouses is complicated.

Since the Russian invasion of Ukraine began, the WHO has repeatedly called for an immediate halt to all attacks on Ukrainian health care facilities, resulting in deaths and serious injuries to both patients and health professionals. These attacks leave the rest of the surviving patients without the possibility of receiving their usual treatments and with the aggravating factor of the injuries they have received, which can be of any kind, and which exponentially compromise their physical and mental health, both present and future.

In terms of what the attacks on Ukrainian health infrastructures mean and to get an idea of what this means, it should be noted that some 900 health facilities are close to the lines of conflict or are located in Russian-controlled areas. Some 300 of them are located along the lines where the conflict is mainly taking place or in areas that are now under Russian control. Another 600, according to [WHO](#) information, are located within a radius of about 10 kilometres of this line of attack.

## Map of Ukrainian health infrastructures attacked by Russia



Source: Bellingcat International (as of 30 March 2022)

Imagine what this destruction means for the most vulnerable people: pregnant women, children, babies, the elderly... not forgetting all kinds of patients who are receiving oncological treatments, dialysis... or patients in ICUs, to give just a few examples. Patients whose ordeal will be multiplied even if they manage to become refugees in other countries, because they will have to receive treatment in the host country and this may not happen at the precise moment when they need it, because illnesses do not understand political or economic interests. Nor does it understand bureaucratic red tape.

Needless to say, the negative impact this situation has on the whole process of vaccination against Covid-19, as we have already pointed out. We cannot forget that Europe, like the rest of the world, is still in the grip of a pandemic. In a scenario where millions of people are leaving their country for neighbouring nations, Covid passports are of no use. Indeed, the WHO is warning of an increase in the 'stealth variant', (BA2 sub-variant of Omicron) in the UK, Ireland, Greece, France, Italy, and Germany.

Many of these countries - and sooner or later, the rest - will have to make decisions about the impact of this spike on their own population and that of Ukraine. World Bank advisor Richard Selfman warns that "whatever the duration or nature of the armed conflict in Ukraine, it will have a negative effect on health systems, disrupt surveillance and response systems, and lead to an increase in known preventable infectious diseases; even more so with covid-19 and any future variants".

Another important focus to consider is the outbreak of childhood polio that has emerged in Ukraine and whose vaccination campaign has been halted by the invasion, with lifelong consequences for thousands of children. It should be remembered that polio is a debilitating disease that can cause lifelong paralysis and even death. Little or nothing is said about it.

As we can see, apart from the humanitarian magnitude of all this, we must bear in mind the impact of an invasion of this nature on the physical and mental health of the main victims and, at the same time, the repercussions on the rest of the health systems. These consequences affect the quality of care, security, and the economy of each country.

### **Consequences of the invasion on the health systems of other countries**

As we have been saying, Putin's invasion has consequences for the rest of the health systems and their public health policies.

To begin with, it is worth remembering that there is a direct relationship between the deaths caused by armed conflict and the increase in morbidity, i.e., the number of people who fall ill in a given place and period of time in relation to the total population. According to Julian Sheather, ethics, and human rights advisor to the British Medical Association, for every person killed directly by war, nine will die indirectly, and not always from the country attacked, although it depends on the nature of the conflict and the underlying health conditions in the countries where it is fought, as well as the response and reception capacity of the countries receiving the displaced people.

As we can conclude, this situation is first affecting Ukraine, but it is then influencing the societies of neighbouring countries in the first instance, and then spreading like an oil slick to the rest, since the host countries are taking on an added burden on their health systems that necessarily influences their healthcare dynamics. Not only in terms of response times, quality, and safety, but also in terms of the number of health care personnel needed to deal with the increase in patients, which of course can be of all kinds, from people with minor injuries caused by the conflict to people who were receiving treatment for serious illnesses and who are being treated in these host countries.

Another collateral damage resulting from the conflict is the disabling effect it can have on a part of the population that may have been injured by the attacks. The increase in the number of disabled people, apart from all the tragedy that this means for them physically and mentally for the rest of their lives, also means an increase in treatment that will also have an impact on the policies and resources for dependency that the host countries have in place. And at the same time, to their entire social and health care network. In this area, everything related to the mental

health of the people affected must be included. Firstly, because they are the direct victims of the attacks.

And then, because of the need to adapt to a host society that is different from their own. A process that takes time and requires both physical and mental strength, both for the newcomer and the host.

Another factor that is often forgotten, but which will be affected, is everything to do with environmental conservation, which also has a direct impact on health. We are already seeing that natural spaces are being destroyed and therefore, things as elementary in advanced societies as the conservation, supply and consumption of drinking water or the evacuation of waste of any nature can be compromised. Again, this affects the health of the citizens of the invaded country in the first instance, but its consequences extend to neighbouring countries, since displaced persons may arrive with additional and undetected infections that must be added to the injuries suffered in the war.

Nor can we overlook the risk posed by attacks on the country's 15 nuclear reactors spread over four nuclear power plants: Khmelnytsky, Rivne, South Ukraine, and Zaporizhzhia. After Chernobyl, Russia bombed the Enerhodar plant in the Zaporizhzhia region, which is the largest nuclear power plant in Europe. This was a warning to the skippers on Putin's part.

In fact, the Russian president's absolute lack of scruples goes so far as to send his soldiers to areas with a high level of radioactivity without being equipped with protection. This has been denounced by US intelligence services, which have detected a possible repositioning of Russian troops in the vicinity of the Chernobyl nuclear power plant, where it seems they were sheltering in the knowledge that the Ukrainians are not going to fight them in the area precisely because they know the high risk they run without proper protection. This information is being investigated by the International Atomic Energy Agency (IAEA).

We are talking about some 300 Russian soldiers who have arrived at the Centre for Radiological Medicine in Gomel (Belarus) with 'acute irradiation syndrome' (AIS), also known as 'radiation sickness'. This is a serious illness that can occur when a person is exposed to very high levels of radiation, usually for a short period of time. These people have a high chance of developing cancer, as well as having their mental health compromised.

Another of the international community's concerns is the Kharkov Institute of Physics and Technology, where an experimental nuclear reactor is located, the behaviour of which is still unknown. If Putin decides to attack the area by supposedly random bombardment, it could end up affecting these buildings and lead to radioactive contamination if the materials it houses are damaged.

## **Biological weapons? Laboratory testing?**

When we talk about the consequences of Putin's invasion of Ukraine on health systems, both in Ukraine itself and in the host countries, as well as the impact of the Russian invasion on public health in general, we should not forget that not everything that is kept in laboratories 'is health'.

As soon as the invasion began, Russia accused Ukraine of working on a biological weapons programme in laboratories located near the borders between the two countries. At the beginning of the invasion, Russia called a meeting of UN Security Council members to claim, albeit without providing evidence, that Ukraine had biological weapons in its laboratories. However, the UN High Representative for Disarmament Affairs, Izumi Nakamitsu, reported that they were not aware of any biological weapons in Ukraine.

Moreover, Putin claims that this is being carried out with the help, or at least the backing, of the United States, something that the US has strongly denied, as has Ukraine. Moreover, President Biden has already sent a message to Putin warning of the high price his country would pay if it resorted to the use of biological or chemical weapons in Ukraine under this pretext, despite the fact that their use is prohibited by international treaties, as they can have serious consequences for people and the planet.

Once again, it must be stressed that, in addition to the disastrous consequences that such an action could have for the countries in conflict, chemical and biological substances - and, of course, viruses specifically created for these purposes - know no borders. One example is the global havoc wreaked by covid-19.

Precisely for this reason, the WHO has asked Ukraine to destroy all dangerous pathogens in its laboratories. We are not talking about weapons. We are talking about resources for research into infectious diseases, both for humans and animals. This is very common in any first world country, and that includes Ukraine.

Biosafety experts and the WHO aim to promote safety and thus prevent the accidental or deliberate release, spillage or escape of pathogens and their subsequent spread around the world without having the capacity to stop it. A situation that could very well occur, given the progress of the invasion, and which could lead to a release of disease-causing pathogens under investigation, should one of the bombing raids destroy any of the facilities where they are stored.

## Global economic and security consequences of the Ukrainian exodus

Just a few examples illustrate the catastrophic impact of the overnight collapse of an entire health system on a country's humanitarian and socio-health situation. And thus, the consequences for the economy.

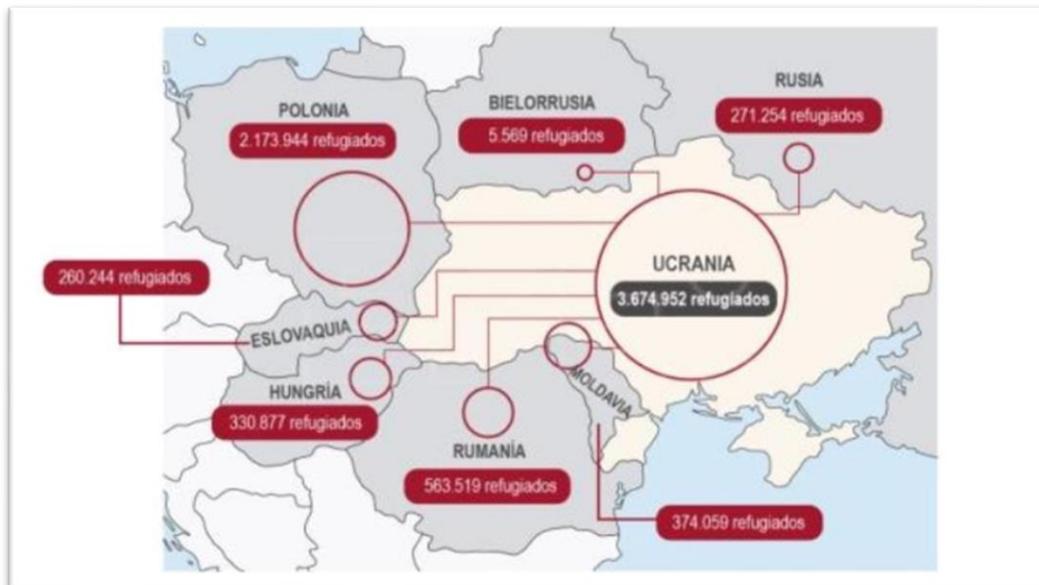
The International Committee of the Red Cross (ICRC) has already warned that "the level of death, destruction and suffering that continues to be inflicted on civilians in Ukraine is abhorrent and unacceptable". Both the Red Cross and the Red Crescent Committee denounce that as health needs increase, these organisations are being stretched in their ability to provide much-needed humanitarian assistance.

At the same time, and as we have been arguing, these consequences are global because they also have human, welfare, social and economic repercussions on the health systems of transit and host countries. In fact, the World Bank is already warning of the repercussions of this forced mass exodus of Ukrainians caused by Putin's invasion on public finances and the provision of public health services and social and health networks in European countries, particularly medical care. At a time when these systems are already severely weakened by the pandemic caused by covid-19.

As we pointed out at the beginning of these lines, the International Organisation for Migration (IOM), joined by the United Nations Refugee Agency ([UNHCR](#)), warns that the situation caused by Putin has generated the largest migration in Europe since the Second World War. Both institutions agree that more than 3.5 million people have already fled and have done so in a very short time, which means that there is little room for manoeuvre for the receiving countries to adapt their public services - in this case health and social services - to the new circumstances.



## Ukrainian refugee flows



Source: EFE Agency and UNHCR (data as of 22 March 2022)

According to [Think Tank Bruegel](#), the Ukrainian exodus will cost host countries up to 30 billion euros by 2022 and dash expectations of a post-Covid recovery that had already been forged. The OECD estimates that the cost of hosting Ukrainian refugees will be around 10,000 to 12,000 euros per person per year, broadly speaking. This impact will be particularly significant in Poland, Hungary, and Slovakia, which receive 77% of all refugees, and Germany, to a lesser extent. The agency's projections are based on the refugee crisis of 2015-2016. Already then, Germany, for example, spent €9 billion on some 750,000 asylum seekers.

So, if for example, allocations are set at €10 billion per million refugees per year, the cost could easily reach the €30 billion in 2022 that we have pointed out. This is an amount that cannot be borne by the host countries, most of which, as we have also pointed out, are the closest ones, those of Eastern Europe, whose economies are weaker than those of the Western countries of the rest of the continent.

This situation will entail a shared cost, as was the case with the extra-budgetary Next Generation EU funds. In these circumstances, the European Commission has approved an initial plan for refugees from Ukraine that envisages a battery of sickness benefits to be covered by the public health systems of the host countries. This scheme also includes health professionals from Ukraine, as it is considered that their qualifications can help to alleviate the health needs of their compatriots and ease the care burden of their colleagues in the host countries, who are already extremely exhausted as a result of the pandemic.

This [Solidarity Plan](#) for the countries of the European Union includes a protocol activating the mechanisms for the transfer of health professionals and displaced persons, with a special focus on the countries bordering Ukraine. A total of 10,000 beds have been made available and children have been included in the vaccination schedule of these countries. This Plan also focuses on actions aimed at caring for the mental health of refugees, in anticipation of the trauma of such a situation.

In any case, it is clear that these additional costs interfere with the planned fiscal consolidation plan from 2023 onwards and are likely to aggravate already existing concerns about the sustainability of public debt in the most fragile member states. Specifically, the OECD indicates that to cushion 50 per cent of the economic impact of the war, European governments would need to increase public spending by at least 0.5 per cent of GDP.

For the time being, Poland, the first destination of those fleeing the Russian invasion, has already assumed that it will receive more than 60 per cent of the refugees, so it has already announced that it will allocate some 1.67 billion euros (8 billion zloty) in aid to the displaced. This amounts to 0.25% of the country's GDP.

## Conclusions

A brief review of the situation created by Putin's invasion of Ukraine should give pause for thought to those who still believe that such conflicts can be resolved by standing behind a banner, fine words, and tons of demagoguery. Nor should it be an issue that takes the international community by surprise, considering that sooner or later it will be affected by the conflict and, in particular, in this one, which has been a long time coming. A war is not 'just' bombs and guns. A war is a tragedy whose impact has an 'oil slick' effect on many fundamental elements such as health systems, which are usually one of the main indicators of what we call the 'Welfare State' as one of its main pillars.

These health systems are becoming increasingly important in the GDP of developed countries because they are becoming more and more 'socio-healthcare' as they cover physical and mental health, as well as the entire social network behind them, which is becoming more and more extensive due to the type of citizen profile that prevails in the so-called 'first world' countries: elderly people who need medium- and long-term care.

Thus, faced with this situation, in which most countries have already been overwhelmed by the effects of the pandemic, it must be added that Putin's invasionist policy has cut the foundations and structure of an entire health system such as the Ukrainian one, affecting both acute patients (those who visit their health centre or hospital for a specific issue) and chronic patients.

This has direct consequences for the countries in its immediate vicinity, but not only. The covid-19 pandemic has reminded us of our vulnerability as people, of the weakness of our already overburdened health systems and of our already overstretched health workers. Not to mention the effects of this situation on the economy, which, on the whole, is not in the best of times.

When the invasion is over, there will be a hard day ahead for millions of people who have been forced to flee their homes. Many of them sick, who will have no health system to care for them and whose care will remain the responsibility of the rest of the international community.

Beware of the banners.

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