

Rapid Communication

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Social and Healthcare Impacts of the Russian-Led Hybrid War in Ukraine – A Conflict With Unique Global Consequences

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Abstract

Russia's fear of Ukraine becoming a member of the European Union and the North Atlantic Treaty Organization catalyzed the current conflict in Ukraine. The invasion also alarmed other countries, such as Finland and Sweden, who have themselves considered a formal partnership with NATO. Russia's actions to date have created massive instability and political tensions that uniquely influence the health and socio-political life of civilians in Ukraine and the entire region. The direct and indirect threats of war "gone regional," "global", or "nuclear" have energized these countries and their historical alliances to reassess their own socio-political, environmental, and health-care consequences. All countries of the region have clear histories of forced occupation and decades of threats resulting from World War II and its aftermath. The purpose of this rapid communication is 2-fold. First, it discusses the socio-political and health-care consequences of the ongoing Ukrainian conflict in Finland, Russia, Sweden, Poland, and Ukraine. Second, it clarifies the most essential elements of the Hybrid War which cause uniquely distinctive violations of humanitarian laws, treaties, and conventions.

Democratic accountability and government stability, rising income levels, and technological development are all crucial key factors in total health expenditure, while corruption negatively correlates, especially in developing countries.¹ The impact of political determinants, such as political tensions and democratic elections, has also been highlighted in several reports^{2–4} On the contrary, chaos, and socio-political instability, negatively impact societal infrastructure, such as health-care services. Hybrid War (HW) represents a unique combination of military and nonmilitary actions, with objectives to create chaos and instability through asymmetrical means, that is, disinformation, lawfare, cyberattacks, political subversion, and economic warfare, amplified with the power of modern technology and social media, and other nonmilitary hybrid tools. Altogether, the intent of these actions is to increase violence among civilians through paramilitary forces or criminal gangs (Table 1).^{5,6}

Russia's fear of Ukraine becoming a member of the European Union (EU) and North Atlantic Treaty Organization (NATO) was one reason to initiate the current conflict, creating instability and political tensions that would impose severe consequences on the health-care system in Ukraine and other directly or indirectly involved countries.^{7,8} An additional goal of the invasion has been to purposely scare neutral countries, such as Finland and Sweden, to prevent them from also applying for a formal treaty or partnership with NATO.^{9–11} However, with the conflict going into its 14th month, it is evident that the Russians' strategic plan has backfired because both Sweden and Finland, have initiated the process of joining NATO.^{12–14}

The Ukrainian conflict is not unique as a global battlefield. Superpowers have occupied many battlefields to control other countries and maintain their superiority, for example, conflicts in Africa and the Middle East,¹⁵ and although there are some indications of socio-political conflict escalation in parts of East Asia, none of the disputes have directly impacted European countries and the EU member states.^{16–19} As such, the Ukrainian conflict is a uniquely significant experience for the European countries, a reminder of the Cold War era, and an intrusion into their democracy and freedom.

In addition to its profound socio-political implications and the immediate, far-reaching consequences for people's lives and rights, the Russian-Ukrainian conflict has caused significant global environmental repercussions. These impacts could negatively affect health care, food security, and other vital aspects of public health in both the short and long term.^{20–23} The short-term health consequences of the war include traumatic injuries sustained on the battlefield, which also affect neighboring countries as they take in transferred victims.^{5,8} Furthermore, the

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Table 1. Shows the characteristics of HW

No.	Characteristics
1	The battle and its objectives are no longer between 2 nations or states. There is no declaration of war.
2	The battle tends to represent a variety of states and non-state actors. Does not follow the rules of engagement and prevents the presence of observers and uses criminal gangs for internal operations.
3	A mix of traditional, and new weapons, and tactics are used, including cyberwar to subvert national functions.
4	Other aspects, such as psychological and information-related warfare, are incorporated to weaken the line of trust between politics and people.
5	The battle erodes the line between war and peace and engages both combatants and non-combatants, making the distinction between warring participants difficult.
6	The battle is tailored to the vulnerabilities of the target state or interstate, minimizing the trust between governments and the people.
7	The battle seems timeless, characterized by indirect, rapid, isolated, but grueling attacks, often used simultaneously.
8	The battle occurs in diverse spaces and areas, often simultaneously and everywhere, with no distinction between “war front” and “home front.”

conflict and its accompanying hardships exacerbate various medical and public health issues, such as asthma and cardiovascular diseases. The psychological toll of the war, including trauma, mass migration, and the ever-present fear of death, further contributes to worsening mental health conditions.^{24,25} In the long term, the conflict is likely to result in an increased burden on emergency health care, with hospitals and public health-care systems becoming overwhelmed. The management of chronic diseases may also suffer, and cancer patients may find it increasingly difficult to access the appropriate therapies and specialized care they need.^{5,24,25}

The purpose of this rapid communication is 2-fold. First, it aims to examine the socio-political and health-care ramifications of the ongoing Ukrainian war within Finland, Russia, Sweden, Poland, and Ukraine. Second, it seeks to elucidate the critical components of the HW, particularly those instances that result in breaches of humanitarian laws, treaties, and conventions.

Methods

In this rapid communication, a narrative literature review was used to describe and discuss the impacts of the current Ukrainian-Russian conflict on all involved countries from a theoretical and contextual point of view. The search results from relevant publications, using several databases (PubMed, Scopus, Web of Science, and reliable internet sources) and predefined keywords (Health Care, Hybrid War, Social impacts, Russia, Ukraine, War), were critically analyzed, and presented as topics for each country involved.²⁶ The content of the collected data was analyzed and sorted into 2 subsections: socio-political and health-care impacts for each country.

Results

Ukraine

Socio-political impacts

Historically, declaring war upon other nations has signified the end of political discourse and the commencement of a deadly confrontation.²⁷ However, in the current conflict, Russia never officially declared war. Instead, on February 24, 2022, President Putin announced the start of a “special mission” in Ukraine. This unannounced hostility, apart from being a clear violation of the Hague Convention (1907) on the laws of war—which requires a warning before initiating hostilities and prompt notification of neutral powers—resulted in a lack of minimal preparedness across the Ukrainian crisis response system, particularly evident within the health-care sector.²⁸

Hybrid warfare aims to paralyze critical societal infrastructure, targeting civilians, legal and health-care systems, food security, transportation networks, economies, and other essential aspects in line with a specific political agenda.⁵ This process, which often takes years to accomplish, involves creating political chaos, election disputes, riots, and demonstrations to undermine the trust between the public and political institutions. The ongoing conflict in Ukraine is an extension of long-standing disagreements between Russia and Ukraine.⁵ This new phase began in 2014 with Russia’s invasion of Crimea, impacting Ukraine and numerous other countries in both the West and the East. Since the end of February 2022, the conflict has resulted in food scarcity, mass migration, sanctions, and threats of nuclear war, affecting innocent lives globally. These developments violate the United Nations (UN) Charter on territorial sovereignty, particularly Chapters 1 and 2. This complex conflict demonstrates the multi-faceted nature of hybrid warfare and its far-reaching consequences for the countries directly involved and the broader international community.^{5,29}

Although the nature of HW is deception, lies, and surprising maneuvers politically, socially, and militarily, fake news and disinformation are magnified by preventing international observers from reporting any *violations of international law and the Geneva Convention*.^{5,24} In the current conflict, technology has helped to collect evidence of war crimes. On February 25th, several reports from Amnesty International and Human Rights organizations indicated Russian forces disregarded civilian lives by using ballistic missiles and other explosive weapons with wide-area effects in densely populated areas, while falsely claiming to have only used precision-guided weapons.^{29–32} Prohibited weaponry, such as cluster munitions, which cause immediate and long-term impacts on civilians, has frequently been used by the Russians. Other weapons, such as dropped bombs, missiles, heavy artillery shells, and multiple-launch rockets, cause inevitable damage to the infrastructure, destroy buildings, houses, and hospitals, and have indirectly taken the lives of hundreds and thousands of civilians.^{33–35}

Additional reports have indicated the arbitrary detention in Russian-occupied territories of journalists, activists, public officials, and civil servants, and the unlawful methods of interrogations. On both sides of the conflict, prisoners of war have been repeatedly abused and exposed to public curiosity, and some have died after being tortured. On April 7, 2022, the UN suspended Russia from its Human Rights Council, and by early June, the Ukrainian Prosecutor’s office reported thousands of documented war crimes, and hundreds of suspected cases, and initiated legal proceedings against some of them.^{35–40}

Although previous conventional wars were aimed to implement an isolated economic blockade of countries in war, the current

thrust toward destroying economic globalization has proven to be more unique in HW. The unprecedented actions from several European countries to help the Ukrainian people and government with necessary military and non-military items, directly or indirectly, have been met by the Russian blockade of Ukrainian coasts, which normally ships out agricultural production and grains like barley, corn, and wheat to several countries, especially in Africa. This has resulted in a global food crisis. Other Ukrainian exports, such as steel, coal, fuel and petroleum products, chemicals, machinery, and transport equipment may also negatively influence the long-term global market.⁴¹

Creating chaos and fear in the invaded country and among civilians using intimidation and threats are used to increase pure violence and hatred among people to break down their will and eliminate their resistance. The most affected group in society to suffer are vulnerable groups, such as women, children, and the elderly. These are severe crimes that are often only recognized after the intruder loses and withdraws from an occupied area.^{42–44} Following the unpredictable resistance in Kyiv, Russian soldiers committed crimes, such as rapes, tortures, and summary killings of Ukrainian civilians, all of which have been reported by reliable sources with access to the area after the Russian forces departed. Forced deportation of Ukrainian citizens to other areas within Russia has been reported. Systematic sexual violence against women and children has been incorporated with the killing of innocent people, mostly men, to create fear and weaken the spirit of resistance among Ukrainian nationals.^{45–50}

The use of explosive weapons with wide-area effects has raised concerns about the damage they may inflict on historic monuments, works of art, churches, and other cultural properties.^{51–53} It has already been reported that Russian forces damaged or destroyed at least 53 Ukrainian historical sites, religious buildings, and museums.⁵⁴ This is a violation of international rules and regulations,⁵² and protocol I of the Geneva Convention and the Hague Convention for the Protection of Cultural Property in the Event of Armed Conflict. Protocol II of the Hague Convention allows attacks on cultural property only in case of “imperative military necessity” if there is no feasible alternative. Attacks against cultural heritage sites amount to war crimes and can be prosecuted before the International Criminal Court.^{38,39} Widespread claims of looting by Russian troops of cultural institutions have been raised by Ukrainian officials who claim that Russian forces have seized more than 2000 artworks and Scythian gold from various museums, moving them into the occupied region.⁵⁵

Targeting and attacking nuclear plants not only aims to cripple Ukrainian infrastructure but also poses a severe threat to society, generating chaos both nationally and internationally. Europe’s largest nuclear power plant, Zaporizhzhia, became the site of a firefight between Ukrainian and Russian forces, involving the use of various weapons, including rocket-propelled grenades. While attacks on nuclear power facilities are generally prohibited under Article 56 of Additional Protocol I to the Geneva Conventions, the unique circumstances surrounding this event make it unclear whether it could be considered a war crime.^{28,56–61} Nevertheless, any attack on nuclear facilities is associated with unimaginable health-care outcomes, deaths, and injuries.

The role of cyber warfare has become increasingly prominent during the current conflict. In the early days of the invasion, Russian military forces and hackers targeted Ukrainian media, communications, official government websites, and financial institutions, inciting panic among citizens unable to access their accounts or receive accurate information. European satellite

companies were also targeted to temporarily disrupt Ukrainian military communications. Microsoft detected instances of Russian hackers gathering intelligence on Ukrainian cities through espionage-style attacks before launching physical assaults. The combined cyber and physical attacks on energy and information technology infrastructure, ranging from nuclear power plants to tech companies, further demonstrate the evolving nature of warfare.^{62–64} Russia has also targeted Ukrainian railways with both cyberattacks and missiles to disrupt the country’s ability to resupply and transport essential goods. Furthermore, Russia weaponized the trauma inflicted by its military operations through disinformation campaigns, using Russian actors to impersonate victims of Ukrainian violence and pressuring citizens to surrender.^{24,63,64} While these efforts have largely failed to produce lasting effects, they underscore the potential impact of cyber warfare on a conflict’s trajectory, particularly within the context of hybrid warfare.

In March of 2023, the International Criminal Court (ICC) issued warrants of arrest for 2 individuals in the context of the conflict in Ukraine: Vladimir Vladimirovich Putin and Maria Alekseyevna Lvova-Belova bear individual criminal responsibility for the unlawful transfer of population (children) from occupied territories of Ukraine to the Russian Federation. The ICC considered that there were “reasonable grounds to believe that each suspect bears responsibility for the war crime of unlawful deportation of population and that of unlawful transfer of population from occupied areas of Ukraine to the Russian Federation, in prejudice of Ukrainian children.”⁶⁵ President Putin is not charged with starting the war. The ICC has limited jurisdiction over nationals of a country such as the United States, China, Ukraine, and Russia who have not joined the Rome Statute. Consequently, the ICC legitimacy has been questioned. It has a weak record of prosecutions, and discord among judges, which are costly, difficult to coordinate, and often ineffective at accomplishing their goals.⁶⁶ However, Human Rights Watch calls the Court’s action a “clear message that giving orders are a wakeup call to others committing abuses or covering them up.”⁶⁶ At this writing, probably the most effective accomplishment has been global awareness of the ICC’s existence and potential, and the hesitation of China to openly back Russia. China’s “sweeping claims” for Taiwan and the South China Sea resources (“sovereignty over the sea”) and islands as their own territory have already found their way into the UN Convention of the Law of the sea, and the Permanent Court of Arbitration at the Hague and will find its way into the ICC where it will be hotly debated globally.⁶⁷

Health-care impacts

While several attacks on medical facilities have been continuously reported by the UN Human Rights Monitoring Mission in Ukraine,^{60,68} as of January 2023, over 122 medical facilities have fully resumed operations, while an additional 260 have been partially restored, according to data from the Ministry of Health of Ukraine.⁶⁹ The expansion of mobile outpatient clinics has been critical, especially in the Vinnytsia and Khmelnytskyi regions, which host the highest number of internally displaced persons. Despite these efforts, nearly 30% of the population still faces challenges in accessing health care.⁶⁹

The Ukrainian health-care system is also grappling with staff shortages, as over 30,000 medical professionals have enlisted in the Ukrainian Armed Forces or volunteered for other roles.⁷⁰ Over 2500 medical personnel have emigrated, while 4500 have been internally displaced. This latter group has encountered significant

challenges in securing employment in their new locations, leading some to change professions or leave Ukraine altogether.⁷¹ These further strain the already limited staffing resources in the health-care sector. Compounding the issue is the lack of accurate data on the current number of working medical professionals.⁷² As of January 2023, approximately 45,000 internally displaced medical personnel have found employment in other health-care facilities across the country. This includes more than 2000 physicians, and 1500 mid-level medical professionals (such as nurses, midwives, paramedics, and pharmacy).^{73,74}

Finland

Socio-political impacts

After World War (WW) II, Finland reluctantly became part of the Soviet sphere of interest and remained so throughout the Cold War, often playing a neutral role and as the mediator between the Western powers and the former Soviet Union, through frequent trade exchanges before and after Russia was established.⁷⁵ Thus, reducing its independent foreign policy.⁷⁶ With the collapse of the Soviet Union in the early 1990s, Finland oriented more toward the West, and joined the EU, but maintained freedom of alliance, with a strong public opinion against NATO membership.

The Finnish perception after the Russian annexation of Crimea in 2014 was that Kremlin was ready to take military action to achieve its goals and did not see national borders as sacred. It was also seen as a clear parallel to the Soviet Union's actions during the Winter War of 1939.⁷⁶ The basic principle in Finland's foreign policy has always been to maintain an objective relationship with Russia while maintaining its defense capacity in case there is a deterioration in the policy agreements.⁷⁵ Consequently, the special Finnish-Russian relationship received its "coup de grace" after they invaded Ukraine in February 2022.⁷⁶ In April 2022, the Finnish Prime Minister summed up the situation by saying that Russia "is not the neighbor we thought it would be."⁷⁷ Today, there appear to be many Finns who favor NATO membership.⁷⁸ The country was forced to quickly decide on and apply for possible membership in the Defense Alliance to mitigate the risks of another violation of international law by Russia. A NATO membership may ease the mind of Finns regarding a new conflict with Kremlin but makes it very unclear what the future of neighborly existence will look like between the 2 countries.

Health-care impacts

In Finland, preparedness for disasters and emergencies during everyday situations and crises includes scripting contingency plans for all response levels (national, regional, local, and municipality), planning the storage of necessary material in all essential areas and fields, particularly health care, and training of essential staff. The Finnish rescue organization acts preventively and operates to both avert potential crises and manage real crises and their consequences. Should a disaster occur, the Government assumes leadership, and the ministries cooperate.^{78,79}

Due to the consequences of and experiences gained from WWII, Finland has created a response system that can be activated quickly. The system is very similar to Sweden's which has had a long experience of preparedness and organizational collaboration, mainly between health-care, police, and rescue teams. The plans are designed to have great flexibility in leadership and individual responsibility. There are sizeable reserve stocks for materials and necessary items for available health-care emergencies.^{79,80}

Because of its proximity to the former Soviet Union, Finland has also developed a well-functioning civilian-military collaboration, providing necessary knowledge within the health-care community to manage military-like injuries. Joining NATO will enhance other medical activities and training opportunities and directly impact the research collaboration within the field.^{81,82} The current situation in Ukraine has also sparked new discussions regarding closer connections between the Finnish and Swedish agencies in all aspects, including health care. Although the Finns have been reluctant toward NATO membership for a long time, a mutual partnership in all aspects enhances and motivates a closer relationship with NATO and a change from observatory membership to full membership.

Sweden

Socio-political impacts

The relations between Sweden and Russia have long been characterized by continuity and stability, although periods of friction have occurred. They are often described as having competing views, claims, and issues, such as Swedish NATO cooperation and its concerns about the security situation in the Baltic Sea.⁸²⁻⁸⁴

One of the results of gradual Russian democratization and the rapprochement between Kremlin and Western countries during the 1980s and 1990s was improved Swedish-Russian relations,^{85,86} which allowed the Swedish government to initiate a partnership in the European Community in 1993, and with the accession of 1994, Sweden took the first step away from its tradition of neutrality policy. The reorganization of Swedish foreign policy and the country's defense organization was followed by closer cooperation with NATO, participation in EU Rapid Reaction Forces, prioritization of international military efforts over national invasion defense, and a declaration of solidarity within the framework for expanded Nordic-Baltic cooperation. Consequently, Sweden's foreign policy has also become part of 1 distinct multilateral order in which Sweden's relations with Russia were, in certain respects, also coordinated with the EU.^{83,85} The current socio-political changes, globally and in the region, have, however, changed the political direction in Sweden and initiated a NATO application. Nevertheless, the application is pending acceptance since Turkey has objected to Swedish membership due to political disagreement regarding Swedish refugees and asylum rules associated with Turkish political expatriates living in Sweden. This shows another impact of the current Ukrainian war from a global perspective.⁸⁷

Health-care impacts

The Swedish health-care system includes both public and private health-care services. Public health care is managed either by a county council, local authority, or municipality that can freely manage and prioritize its health-care resources. As a result, preparedness for disasters and emergencies is also their responsibility. Despite its neutrality principles, Sweden has independently built up its medical and non-medical preparedness for the unforeseen crisis. In 1939, the first draft for civilian-military collaboration and a total defense health-care system was drafted by the then-reigning government. During the Cold war, crisis centers, reserve hospitals, and stockpiling of necessary materials for health care were planned. However, these plans were canceled over time, with all reserve materials given away to other countries after the

Soviet Union's fall and a lower risk of any intrusion by a foreign country.⁸⁸⁻⁹¹

Nevertheless, an increasing number of conflicts globally and changes in the socio-political atmosphere in Europe and the rest of the world were a reminder of a paradigm change and a need for establishing new plans and preparedness approaches. Today, the total defense health-care system has become a new goal, encompassing interagency collaboration, particularly civilian-military collaboration.^{92,93} Although a partnership in all aspects of emergencies between the 2 neutral countries, that is, Finland and Sweden, has frequently been discussed, the ongoing Russian attack on Ukraine has initiated new discussions about joining NATO, especially when Finland seems to be closer to a deal. The Russian invasion and aggression on Ukraine seem to have persuaded even the most critical Swedish opponents to join NATO, having recognized imminent threats from Russia.^{94,95}

Poland

Socio-political impacts

There are historical events that influence the relationship between Poland and Russia, which encompasses not only the impacts of the so-called Bolshevik revolution but also the events around the Polish-Lithuanian Commonwealth (16th-18th centuries) and reemerging of the Polish state after the Russian revolution in 1917.⁹⁶⁻⁹⁹ After WWII, new borders were created and conditioned by the Soviet Union.¹⁰⁰ The socio-political changes in Europe between the 1980 and 1990s, the dissolution of the Soviet Union, and the emergence of the Russian Federation resulted in new borders with Poland in the northeast, making Poland an essential element of the new eastern borders of the European Union.¹⁰¹ The relationship between the 2 countries has been very harsh, with Polish politicians several times strongly condemning Russian geopolitical approaches. This occurred, among others, in Georgia, where the aggressive Russian policy catalyzed the beginning of new aggressions in other countries such as Ukraine, the Baltic States, and Poland.¹⁰² Besides historical issues, there are several different points of disagreement between the 2 countries, including energy security, the role of Poland and its active participation in the EU and NATO policies, and current Polish support for Ukraine.¹⁰³

Health-care impacts

Poland operates a decentralized health-care system based on mandatory health insurance, with stewardship, management, and financing divided among the Ministry of Health, the National Health Fund, and the territorial self-government.¹⁰⁴ In times of crisis, the Polish crisis management system is initiated, assigning various tasks to state administration and territorial self-government units at all levels.¹⁰⁵ While the Council of Ministers is the leading crisis management authority, the responsibility shifts to the Minister of Interior and Administration during emergencies. Poland actively participates in multilateral disaster coordination systems, including the EU, NATO, and UN, and has international experience in managing disasters and humanitarian crises.¹⁰⁶⁻¹⁰⁸

The ongoing Russian-Ukrainian conflict has significantly impacted Poland, initially receiving over 10 million refugees from affected areas in Ukraine.^{107,108} The current Polish health-care system has a clear distinction between specialized outpatient and inpatient care, and several weaknesses influence refugee management outcomes. Prior studies have identified inefficiencies in health-care delivery due to inadequate control and management of labor and physical resources in hospitals, weak leadership, which is

partly attributed to hospital administrators often being physicians with minimal health-care management training, and insufficient information for effective decision-making.¹⁰⁹⁻¹¹¹

Another pressing issue is the substantial debt of Polish hospitals and a shortage of specialist physicians and nurses. Health workers' remuneration is relatively low, offering limited financial incentives to work. Furthermore, preventive care is inadequate, and primary health-care remains underdeveloped.¹¹⁰ These shortcomings have become more pronounced with the influx of refugees presenting with chronic and acute medical conditions, as well as post-traumatic stress disorder.

Russia

Socio-political impacts

Both EU's sanctions and support for Ukraine with weapons and Finland's and Sweden's approaches to NATO membership have been a genuine surprise for Russia. These unwanted changes undermine President Putin's political and scare strategy and prompted new efforts within the former Russian ally to leave the pact when necessary. Within the country, there also seem to be new changes. A massive migration of young Russians and a brain drain has already started with foreign companies leaving the country and taking promising young employees, especially following the EU and US sanctions.¹¹² Additionally, the Ukrainian resistance has surprised Russians, resulting in unexpected injuries and deaths among their inexperienced soldiers and social concerns from silent protests of Russian citizens with the potential to grow more robust if the conflict continues.¹¹³ Furthermore, the media reports are more frequent and available, in contrast to previous wars, presenting news and pictures of wars, destructions, and mass migration of refugees, independently from the official governmental sites, influencing internal and external opinions about the war and its unique HW aggression.¹¹⁴

One of the essential pillars of Russian society has been the church. Although President Putin seems to enjoy full support from the Patriarch of the Orthodox Church Kirill and the high-ranked priests and monks, some parts of the church seem to have a different opinion since hundreds of priests, despite the risk of being prosecuted, have signed an open letter condemning the war.^{115,116} These changes crippled the central government and created opportunities for the opposition to champion new strategies that bring the country closer to the rest of the world. Furthermore, it also limits the possibility of autocratic leaders in other countries, supported by Russia, from enforcing their dictatorship on their citizens. It is too soon to anticipate the core reasons for President Putin's decision to attack Ukraine. However, a radical change of the current territorial design of Central and East Europe to rebuild Moscow's direct or indirect power over these territories might be 1 reason since President Putin has repeatedly emphasized that the dissolution of the USSR was the "greatest geopolitical catastrophe" of the 20th century. President Putin's wars, from Georgia to Ukraine and military intervention in Syria, have a territorial and, above all, geopolitical character, which also has led to closer collaboration with some allies such as Belarus and IR Iran.^{117,118} It remains to be seen if such intentions were worthy of initiating a war that may weaken the global Russian position.

Health-hcare impacts

The Russian public health-care system has faced much criticism due to poor organizational structure, lack of government funds, outdated medical equipment, and poorly paid staff. With the

Ukrainian conflict in its second month, the number of Russian casualties was over 20,000, which could indicate a tipping point.¹¹⁹ By this day, in the second year of the war, this number is reportedly over 100,000, and approaching 200,000.¹²⁰ Although reports from the Russian side are scarce; the silence may mean that hospitals at the border or close to the Ukrainian border are overwhelmed and clarifies why many injured soldiers have been transferred to and treated at the hospitals in Belarus.¹²¹ Nevertheless, the impacts of this conflict on the Russian health-care system should still be minimal, even though battlefield injuries and deaths seem to be more than expected and other war-related impacts should not be neglected.¹²² Whether this accounts for the unpreparedness of the deployed health-care system or the lack of knowledge in the management of battlefield injuries can only be speculated. Russia may have experienced the same type and number of injuries and deaths in other conflicts; however, its health-care system may be more exposed to evaluation and observation during this war.

Limitations

This narrative literature review offers a comprehensive and current overview of a distinct and specialized health workforce topic, serving a crucial function in ongoing education for professionals in the field. Nevertheless, there are certain limitations to consider when interpreting the findings presented in this review.

First, the review does not outline a methodological approach, which may hinder the replicability of data and limit the ability of other researchers to build upon these findings in the future. The lack of a transparent methodology could also lead to potential biases in the selection and interpretation of the literature, reducing the overall reliability of the conclusions drawn. Second, the narrative format of this review is more suitable for providing a broad, qualitative understanding of the subject matter, rather than addressing specific quantitative research questions. Consequently, the review might not offer precise, measurable insights or generate statistically significant results to inform decision-making or policy development. Third, due to the focus on a single, unique health workforce topic, the generalizability of the findings to other contexts or broader health-care issues may be limited. This constraint should be considered when applying the review's conclusions to different settings or populations. Last, given the rapidly evolving nature of the health-care landscape, especially in the context of conflict zones, the information presented in this review might become outdated quickly. Therefore, it is essential for researchers and practitioners to remain vigilant in monitoring and incorporating new developments and evidence into their understanding of the subject matter.

Conclusions

Wars and conflicts yield no victors, but rather inflict suffering upon civilians and adversely impact people's lives globally. The socio-political consequences of the ongoing Russian-Ukrainian conflict have left few winners, with Russia and Ukrainian civilians bearing the brunt of the losses. Contrary to Russian intentions, their political and strategic threats have compelled European nations, such as Sweden and Finland, to reassess their positions and consider military partnerships with other countries or NATO. This may foster socio-political unity and potentially improve health-care systems within each nation.

For Poland, the current challenges posed by mass migration and an overwhelmed health-care system demand urgent attention.

Addressing these issues requires modifications to its organizational structure, as well as increased support from the EU and non-governmental organizations. Collaborating with countries like Finland and Sweden, which have extensive experience in health-care system reforms, may facilitate these changes and ultimately bring these nations closer together in the wake of the Russian invasion of Ukraine. Last, Russia faces numerous challenges moving forward. Unlike other hybrid conflicts, such as the Syrian war, the Ukrainian conflict has made it easier to observe and document the grim realities of hybrid warfare and the blatant disregard for International Humanitarian Law and the Geneva Convention. This has eroded Russia's credibility and the respect it once commanded. Russia's threats to use nuclear weapons in the current conflict not only highlight the flawed reasoning behind its actions but also underscore the arrogance and disrepute of its leaders with respect to humanity and humanitarian laws. The involvement of other countries, such as IR Iran, Belarus, and Turkey in the current Ukrainian war, on the battle or through diplomacy, may result in new socio-political issues in these countries with additional global impacts, including global health and well-being.

Data availability statement. All available data are included.

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