Medical Services in Conflict Zones

Overview

Armed conflict and its associated widespread violence results in extreme poverty, population displacement, and infrastructure destruction. Due to the significant number of civilian casualties in conflict zones, reliable access to medical services is vital. However, armed conflict and its consequences on both civilian and non-civilian populations limits the access to and availability of such services and increases the burden borne by medical systems. Currently, armed conflict continues to disrupt medical supplies and overwhelm front-line workers, resulting in decreasing life expectancy rates in certain conflict areas and disrupting more robust efforts to strengthen existing healthcare sectors in these areas. According to the World Health Organization (WHO), about 1.8 billion people live in conflict-affected zones worldwide, with roughly USD 14 trillion in global gross domestic product (GDP) lost to conflicts worldwide each year.[1]

Non-governmental organizations (NGOs) such as Doctors Without Borders (MSF), the Red Cross, and the International Rescue Committee are also often present in conflict areas to provide medical services to those in need. The additional presence of these NGOs alongside existing medical systems, however, is far from sufficient, as evidenced by the high number of battle-related deaths that have continued to occur: in 2020, more than 20 million deaths in Afghanistan; 4.8 million deaths in Syria; and 2 million deaths in Yemen.[2] Conflicts in Iraq, Ukraine, Ethiopia, Somalia, and elsewhere also see shortages in healthcare resources. Resource shortages render healthcare providers unable to provide the best care, while simultaneously preventing individuals from accessing needed medical supplies, including supplies for those with long-term conditions or non-commutable diseases. In the context of the COVID-19 pandemic, conflict areas and their strained healthcare systems are often the last to receive necessary pandemic-related aid. For example, more than half of the 25 countries with the lowest COVID-19 vaccination rates are countries presently engulfed in armed conflict.[3] The lack of key vaccines and other medicines also does little to combat the spread of infections such as HIV, cholera, and measles—all of which continue to run rampant in conflict-affected cities—occurring due to unsanitary living conditions and poor healthcare services in conflict zones.[4]

---

[1] WHO, "Building peace in fragile and conflict settings through health," *World Health Organization,* n.d., https://www.who.int/activities/building-peace-in-fragile-and-conflict-settings-through-health.
[2] "UCDP Data for download", *Uppsala University,* September 5, 2022, http://www.pcr.uu.se/research/ucdp/.
[3] ICRC, "#TheLastMile COVID-19 vaccines can't help if they can't get there," *International Committee of the Red Cross,* n.d., https://www.icrc.org/en/covid-vaccine-last-mile.
[4] MSF, "War and Conflict," *Doctors Without Borders,* n.d., https://www.doctorswithoutborders.ca/content/war-and-conflict.

The provision of medical services as part of the humanitarian treatment of those affected by armed conflicts is a fundamental principle present in international law. Among these laws is Article 19 of the Geneva Convention, which enforces medical neutrality and protections for fixed and mobile medical establishments.[5] Actors in armed conflicts, however, often violate these principles; air strikes and looting frequently target such medical establishments in gross violation of international law and human rights. Although these actions are widely condemned, there is still a lack of accountability and deterrence. In March 2022, WHO surveillance recorded 239 attacks on healthcare facilities in Ukraine.[6] These actions were largely ignored and the perpetrators did not face legal consequences.

Medical neutrality and its legal enforcement are only one of the countless challenges within the provision of medical services in armed conflict zones. International cooperation is inevitably required to achieve any progress on alleviating the painful toll that armed conflict takes on millions of lives globally.

Timeline

February 1863 — Initially established as a working group in Geneva by the Public Welfare Committee, the International Committee of the Red Cross (ICRC) hosts its first meeting. Its purpose is to adopt a treaty obliging armies to tend to all wounded soldiers regardless of allegiance and aid military medical services through the creation of national societies.[7]

August 22, 1864 — The Geneva Convention for the Amelioration of the Condition of the Wounded in Armies in the Field integrates impartial medical aid and protection of medical services in conflict zones into the International Humanitarian Law (IHL).[8]

December 22, 1971 — Doctors Without Borders (MSF) is founded by a group of French doctors and journalists in response to civil unrest in France, famine in Biafra, Nigeria, and floods in Bangladesh. MSF is one of the first non-governmental emergency response organizations.[9]

---

[5] ICRC, "Protection of Medical Units and Establishments," *International Committee of the Red Cross,* 2016, https://ihl-databases.icrc.org/applic/ihl/ihl.nsf/Comment.xsp?action=openDocument&documentId=BBF9A4E655C90872C1257F7A0054937B.

[6] "Number of attacks on health care in Ukraine 2018 to 2022," *Statista,* 2022. https://www.statista.com/statistics/1302077/attacks-on-health-care-ukraine/.

[7] ICRC, "Founding and early years of the ICRC (1863-1914)," *International Committee of the Red Cross,* May 12, 2010, https://www.icrc.org/en/document/founding-and-early-years-icrc-1863-1914.

[8] Dietrich Schindler and Hiri Toman, "The Laws of Armed Conflicts," *Martinus Nijhoff Publishers*, 1988, pp.280-281.

[9] MSF, "Timeline," *Doctors Without Borders,* September 22, 2016, https://www.doctorswithoutborders.ca/timeline.

May 2014 — The World Health Organization publishes the *Global Strategy on Human Resources for Health: Workforce 2030*, which highlights areas of concern and steps required to improve the health labour market and promote Universal Health Coverage (UHC), a system in which all people have access to basic health services free of financial cost.[10]

October 3, 2015 — In Afghanistan, the Kunduz Trauma Centre—the only functioning medical facility within the area—is struck by a US-led airstrike, killing 42 doctors, patients, and other staff members.[11]

May 3, 2016 — The United Nations Security Council (UNSC) adopts Resolution 2826, which strongly condemns all attacks against medical facilities, personnel, and transport in collaboration with Doctors Without Borders and the Red Cross.[12]

February 24, 2022 — Russia begins a full-scale invasion of Ukraine, primarily through artillery and missile attacks.[13]

May 5, 2022 — Within the first 70 days of the invasion of Ukraine, Russian forces have conducted more than 200 attacks on healthcare centres.[14]

Historical Analysis

The presence of individuals or groups responsible for providing medical care to combatants in conflict zones has been a consistent occurrence in wars throughout history.

Coinciding with developments in medical science and technology, medical care for combatants has advanced significantly. For example, compared to World War I, medical services in World War II were aided by the use of new medicines like penicillin and streptomycin, which could combat bacterial infections, and developments in surgical science leading to reduced amputations.[15] Through scientific,

---

[10] World Health Assembly, "Global strategy on human resources for health: Workforce 2030," *World Health Organization,* May, 2014, https://www.who.int/publications/i/item/9789241511131.
[11] Dami Fakolujo, "Medical Neutrality," *Carleton University,* n.d., https://carleton.ca/bgins/wp-content/uploads/Medical-Neutrality.pdf.
[12] Red Cross, Médecins Sans Frontières Heads, Secretary-General Brief Members, "Security Council Adopts Resolution 2286 (2016), Strongly Condemning Attacks against Medical Facilities, Personnel in Conflict Situations," *United Nations Security Council,* May 3, 2016, https://press.un.org/en/2016/sc12347.doc.htm.
[13] John, Psaropoulos, "Timeline: Six months of Russia's war in Ukraine," *Al Jazeera,* August 24, 2022, https://www.aljazeera.com/news/2022/8/24/timeline-six-months-of-russias-war-in-ukraine.
[14] "Protecting Health Care in Conflict Areas: Lessons from Ukraine to Tigray," *The President and Fellows of Harvard College,* July 6, 2022, https://www.hsph.harvard.edu/event/protecting-health-care-in-conflict-areas-lessons-from-ukraine-to-tigray/.
[15] David, Vergun, "Medical Improvements Saved Many Lives During World War II,"

technological, policy, and medical advancements, the survival rate for the wounded and ill increased to 50 percent in World War II, compared to 4 percent in World War 1.[16] Advancements in science and technology, however, also lead to new dangers and challenges for battlefield medicine due to the use of new weapons, such as nuclear or chemical weapons, with the capacity to significantly harm both combatants and civilians with long-term consequences. These developments bring further attention to the reality that non-combatant civilians are considerably affected by armed conflict—often just as much as combatants. Thus, improvements in battlefield medicine for military personnel alone does not respond to the entire challenge of medicine in conflict zones, seeing as civilians need to be included in that response.

Case Study: Syria

Part of the wave of uprisings and demonstrations against authoritarian governments that occurred during the Arab Spring, peaceful demonstrations began in Syria on March 15, 2011.[17] The government reacted with deadly force, with Syrian soldiers opening fire on citizens only days after the initial protests, spiralling the country into an ongoing civil war.[18] For over a decade, non-profit organizations such as Amnesty International and Doctors Without Borders have worked to provide humanitarian and medical services for citizens in Syria. In particular, the Syrian American Medical Society (SAMS), established in 1998, has worked on the frontlines in Syria and neighbouring countries to serve the medical needs of the millions of Syrians affected by the war.[19]

Concerningly, attacks on healthcare services have become a norm in Syria, which recorded 30 such attacks during the month of February alone in 2016; this trend is further compounded by the lack of a reporting system to track these violations of international humanitarian laws.[20] Syrian authorities have also attacked, arrested, and unlawfully detained physicians who provided care to opposition forces that the Syrian government has labelled as terrorists.[21] Although a ceasefire negotiated by the International

---

U.S. Department of Defense, March 17, 2020,
https://www.defense.gov/News/Feature-Stories/story/Article/2115192/medical-improvements-saved-many-lives-during-world-war-ii/.

[16] Ibid.

[17] "Why is there a War in Syria?," *Shelterbox Trust,* n.d., https://shelterbox.org/syria/the-syrian-conflict-explained/.

[18] Ruth Sherlock, "Syria's Civil War Started A Decade Ago. Here's Where It Stands," *National Public Radio,* March 15, 2021, https://www.npr.org/2021/03/15/976352794/syrias-civil-war-started-a-decade-ago-heres-where-it-stands.

[19] Adham Sahloul, Dr. Mohamad Katoub, "The Failure of UN Security Council Resolution 2286 in Preventing Attacks on Healthcare in Syria," *Syrian American Medical Society,* January 2017,
https://www.sams-usa.net/wp-content/uploads/2017/03/UN-fail-report-07-3.pdf.

[20] Ibid.

[21]Dustin A. Lewis, Naz K. Modirzadeh, and Gabriella Blum, "Medical Care in Armed Conflict: International Humanitarian Law and State Responses to Terrorism," *Legal Briefing, Harvard Law School Program on International Law and Armed Conflict*, September 2015,

Syrian Support Group (ISSG) helped to decrease attacks against medical facilities to under 5 occurrences in March 2016, this success was short-lived.[22] Since the passage of UNSC Resolution 2826 in May of that same year, SAMS reports that attacks on healthcare facilities and workers have increased by 89 percent.[23]

Case Study: Iraq

The invasion of Iraq by an American-led coalition in the Iraq War (2003-2011) ravaged healthcare facilities across Iraq, leaving its medical systems fragile to this day. On April 3, 2003, a U.S. aircraft bombed a Red Crescent hospital in Baghdad, alongside other civilian buildings, killing and wounding nurses and doctors.[24] Between 2003 and 2007, half of the 18,000 doctors in Iraq were thought to have left the country due to fears about their safety; few intended to return.[25] In 2007, a survey conducted by the Iraqi government and WHO discovered that more than one-third of citizens suffered significant psychological distress due to mass displacement, fear, torture, death, and violence from the war.[26] Despite this, citizens were unable to access medical services to seek treatment for physical or mental distress due to the shortage of healthcare workers and 96 percent of all families lacking health insurance.[27] Throughout the entire war, an estimated 12 medical facilities were bombed, yet the perpetrators, particularly the United States, have not been held accountable for these actions and other occurrences of hospital bombings.[28]

---

https://pilac.law.harvard.edu/medical-care-in-armed-conflict-international-humanitarian-law-and-state-responses-to-terrorism.

[22] Adham Sahloul, Dr. Mohamad Katoub, "The Failure of UN Security Council Resolution 2286 in Preventing Attacks on Healthcare in Syria," *Syrian American Medical Society,* January 2017, https://www.sams-usa.net/wp-content/uploads/2017/03/UN-fail-report-07-3.pdf.

[23] Ibid.

[24] Simon Jeffery, "Baghdad hospital bombed," *The Guardian,* April 2, 2003, https://www.theguardian.com/world/2003/apr/02/iraq.simonjeffery.

[25] "Iraq 10 years on: War leaves lasting impact on healthcare," *reliefweb,* May 2, 2013, https://reliefweb.int/report/iraq/iraq-10-years-war-leaves-lasting-impact-healthcare.

[26] Ibid.

[27] Ibid.

[28] Carolyn Briody, et al, "Review of attacks on health care facilities in six conflicts of the past three decades," *National Institute of Health,* May 2, 2018, https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5930682/.

Past UN/International Involvement

United Nations Security Council (UNSC) Resolution 2826

In 2016, the United Nations Security Council (UNSC) unanimously adopted a resolution that strongly condemns attacks on medical facilities, personnel, and transport in conflict zones.[29] The resolution also establishes harsh long-term consequences against those who conduct such attacks, and calls on all parties to comply with international law and the Geneva Convention. Additionally, the resolution calls for all actors in armed conflict to facilitate safe passageways for healthcare services in conflict areas to prevent unintentional crossfire.[30] However, the Resolution failed to meaningfully reduce attacks against medical providers, with a report conducted by the Safeguarding Health in Conflict Coalition (SHCC) in 2021 finding that there had been over 4,000 attacks against medical facilities, workers, and transports between 2016 and 2020.[31] As such, while the Resolution has extensively outlined the commitments required to prevent further attacks, the lack of enforcement mechanisms has allowed perpetrators of these attacks to escape punishment under international law.

Doctors Without Borders

Doctors Without Borders, or Médecins Sans Frontières (MSF), a non-governmental organization, has focused on humanitarian and medical aid, especially in conflict zones and areas affected by epidemics. The organization strongly values medical neutrality and independence and does not take funding from governments with involvement with any side of the conflict. Doctors Without Borders played a key role in providing medical and humanitarian aid to displaced individuals and refugee camps during conflicts such as the Ethiopian Tigray Crisis and the conflict with Islamic militant group Boko Haram in Nigeria, as well as other pressing conflicts in the Central African Republic, Syria, Myanmar, and Yemen.[32] However, despite international resolutions that condemn attacks against medical services, deadly airstrikes have continued to target Doctors Without Borders' medical facilities in Syria and Yemen.[33] The organization also works to combat the Ebola outbreak in the eastern Democratic

[29] Red Cross, Médecins Sans Frontières Heads, Secretary-General Brief Members, "Security Council Adopts Resolution 2286 (2016), Strongly Condemning Attacks against Medical Facilities, Personnel in Conflict Situations," *United Nations Security Council,* May 3, 2016, https://press.un.org/en/2016/sc12347.doc.htm.
[30] Ibid.
[31] OCHA, "Ineffective Past, Uncertain Future: The UN Security Council's Resolution on the Protection of Health Care: A Five-year Review of Ongoing Violence and Inaction to Stop It," *reliefweb,* May 5, 2021, https://reliefweb.int/report/world/ineffective-past-uncertain-future-un-security-council-s-resolution-protection-health.
[32] MSF, "Humanitarian Issues," *Doctors Without Borders,* 2022, https://www.doctorswithoutborders.ca/content/humanitarian-issues.
[33] Jan Bohm, "#NotATarget: No more attacks against civilians and healthcare workers in conflict zones," *Doctors Without Borders,* n.d.,

Republic of the Congo, which was discovered in September 2018 and was the first Ebola outbreak to occur in a conflict zone.[34] Despite efforts from Doctors Without Borders, WHO, and other health organizations to bring the epidemic under control, attacks on Ebola treatment centers and increasing political turmoil have led to a lacklustre medical response.[35] This situation highlights the challenge that epidemic prevention and public health issues face when compounded by the instability of conflict zones.

International Committee of the Red Cross (ICRC)

The International Committee of the Red Cross (ICRC) is an independent, non-governmental organization that both promotes legal protections and provides humanitarian aid for victims of armed conflict.[36] The ICRC is primarily funded by governments, supranational organizations such as the European Commission, and other donors.[37] The ICRC runs key operations in a number of countries or regions in conflict, such as Afghanistan, the Sahel, Ukraine, and Syria. In Colombia, Myanmar, and Mozambique, the ICRC has also worked to increase access to vaccines by negotiating with non-state actors and armed groups, running vaccination campaigns, and transporting and distributing vaccines.[38] However, the spread of disinformation about the organization has led to mistrust and a negative public perception of the organization in certain areas. For example, during the Russo-Ukrainian War, the ICRC received criticism from Ukrainian officials for refusing to carry out forced evacuations of the reported 550,000 Ukrainians who had been taken to Russia during the war, despite the ICRC adhering to its own mandate in not doing so.[39]

World Health Organization — Red Book

Published in June 2021 by WHO, *A guidance document for medical teams responding to health emergencies in armed conflicts and other insecure environments*, commonly known as the *Red Book*,

---

https://www.doctorswithoutborders.ca/issues/notatarget-no-more-attacks-against-civilians-and-healthcare-workers-conflict-zones.

[34] "Ebola: Attacks on treatment centres show challenges of response in DRC," *Doctors Without Borders,* March 17, 2019, https://www.doctorswithoutborders.ca/article/ebola-attacks-treatment-centres-show-challenges-response-drc.

[35] Ibid.

[36] ICRC, "Who we are," *International Committee of the Red Cross,* n.d., https://www.icrc.org/en/who-we-are.

[37] Ibid.

[38] ICRC, "COVID-19: People living in conflict zones cannot be forgotten in global vaccination effort," *International Committee of the Red Cross,* May 18, 2022, https://www.icrc.org/en/document/covid-19-people-living-conflict-zones-cannot-be-forgotten-global-vaccination-effort.

[39] "Red Cross denies Kyiv's accusation of working 'in concert' with Moscow," *France 24,* April 21, 2022, https://www.france24.com/en/live-news/20220421-red-cross-denies-kyiv-s-accusation-of-working-in-concert-with-moscow.

provided a framework of action for emergency medical teams (EMTs) in conflict zones.[40] EMTs refer to groups of health professionals from governments, NGOs, and other humanitarian groups that provide emergency aid in the event of conflict or disaster.[41] The Red Book provides extensive guidance in accordance with the International Humanitarian Law (IHL) on areas such as safety and security, gender-based and sexual violence, and rehabilitation.[42] The document does not hold legal significance but provides EMTs with a greater understanding of the framework and context of the IHL to ensure an impartial and effective medical response in conflict zones.[43]

Current Situation

Attacks on Medical Services, Facilities, and Personnel

Despite seemingly universal agreement for protecting medical personnel from armed conflict, cases of airstrikes, looting, and other attacks targeting healthcare providers remain prevalent. Between 2016 and 2020, the International Committee of the Red Cross (ICRC) recorded 3,780 attacks and instances of obstruction against medical services, with the most incidents documented in Afghanistan, the Democratic Republic of the Congo, Syria, and Israel and the occupied Palestinian territories.[44] It is often challenging, however, to collect data holistically on attacks on medical personnel and facilities in areas of conflict, with the aforementioned number of attacks and instances of obstruction considered likely to be higher in reality. Attacks on healthcare are often seen as a strategic goal for actors in conflicts because of their potential to intensify population displacement and weaken the population, thus encouraging less resistance.[45]

In times of desperation, healthcare facilities and transports are also subjected to looting due to the demand and monetary value of many medical supplies, ultimately causing shortages in many communities and leading citizens to lose access to healthcare entirely. In December 2021, the looting of the Padeah Primary Health Unit in South Sudan forced many individuals wounded from armed

[40] WHO, "A guidance document for medical teams responding to health emergencies in armed conflicts and other insecure environments," *World Health Organization,* June 18, 2021, https://www.who.int/publications/i/item/9789240029354.
[41] Ibid.
[42] Ibid.
[43] Ibid.
[44] ICRC, "Health-care providers, patients suffer thousands of attacks on health-care services over the past five years, ICRC data show," *International Committee of the Red Cross,* May 3, 2021, https://www.icrc.org/en/document/health-care-providers-patients-suffer-thousands-attacks-health-care-services-past-5-years.
[45] Adham Sahloul, Dr. Mohamad Katoub, "The Failure of UN Security Council Resolution 2286 in Preventing Attacks on Healthcare in Syria," *Syrian American Medical Society,* January 2017, https://www.sams-usa.net/wp-content/uploads/2017/03/UN-fail-report-07-3.pdf.

conflict to travel 30 kilometres across severely flooded terrain to access necessary medical aid.[46] Although the UNSC Resolution 2826, passed in 2016, condemned attacks against all medical personnel, directives in the resolution to protect medical services, collect further data, take impartial and effective investigations against violations of international law, and to take action against such violations have seen minimal progress.[47] Thus, the lack of commitment in the international community towards creating mechanisms for exerting accountability have allowed countries and other actors—especially relevant considering the increasingly key role that many non-state actors play in armed conflicts—to repeatedly violate humanitarian laws for their own gain.[48]

Infectious Diseases

Although medicines and vaccines have helped to combat the rise of infectious diseases such as HIV/AIDS, COVID-19, and measles, the reality in many conflict zones and unstable regions remains that these medicines have not been able to make a full impact. Due to population displacement, supply shortages, and other factors during wars, citizens may lose access to medication or vaccines, which is particularly challenging because many treatment programs, such as for viruses like HIV, require strict adherence to treatment guidelines for the treatment to be effective.[49] For example, access to antiretroviral therapy (ART)—a primary form of HIV treatment—is often below 20 percent in conflict zones, making it near-impossible for patients to have consistent access to treatment and keep their condition stabilized.[50]

Moreover, growing conflicts and population displacement can overwhelm medical providers in areas like refugee camps, forcing them to prioritize immediate treatment for as many patients as possible, rather than long-term care programs that are more individualized to the patient. Refugee camps themselves may also have limited access to necessary medical services or supplies. For instance, during

[46] ICRC, "South Sudan: Looting of a health care unit during armed violence in Unity State," *International Committee of the Red Cross,* December 9, 2021,
https://www.icrc.org/en/document/south-sudan-looting-health-care-unit-during-armed-violence-unity-state.
[47] OCHA, "More Than 4000 Attacks Against Health Workers, Facilities, and Transports Since 2016 Underscore Need for Action to Protect Health Care in Conflict," *reliefweb,* May 5, 2021,
https://reliefweb.int/report/world/more-4000-attacks-against-health-workers-facilities-and-transports-2016-underscore-need.
[48]Adham Sahloul, Dr. Mohamad Katoub, "The Failure of UN Security Council Resolution 2286 in Preventing Attacks on Healthcare in Syria," Syrian American Medical Society, January 2017,
https://www.sams-usa.net/wp-content/uploads/2017/03/UN-fail-report-07-3.pdf.
[49] MSF, "'Double victims' – in conflict zones, people with HIV are twice as vulnerable," *Doctors Without Borders,* December 1, 2014,
https://www.msf.org/%E2%80%98double-victims%E2%80%99-%E2%80%93-conflict-zones-people-hiv-are-twice-vulnerable.
[50] Ibid.

the conflict in the Central African Republic, many citizens fled to refugee camps in Ethiopia, Cameroon, Chad, and Uganda; however, HIV treatment was not available in the camps and refugees were unable to access other health services in their host country.[51]

Conflict regions may also lack the resources to effectively handle medication or vaccines due to a lack of proper storage capacity or conditions, access to electricity or water, trained healthcare personnel, and infrastructure like well-established road networks.[52] Indirectly, these factors are vital in the process of transporting, storing, distributing, and applying medical supplies to the population. The significance of these factors has been exhibited during the COVID-19 pandemic, in which citizens in conflict zones continue to suffer from the effects of the pandemic due to the difficulty of supplying medical resources and vaccines to conflict zones. These vulnerabilities are compounded by other challenges, such as reports that leaders in conflict zones weaponize COVID-19 to weaken the region and strengthen their control. In Yemen, the Houthis—an armed political group—deliberately restricted the movement of people between areas under their control and areas under government control.[53] Without addressing many of the root causes—among them infrastructure, personnel, corrupt and ineffective government—allocating more healthcare resources to conflict regions may still be insufficient to improve the prevention and treatment of infectious diseases.

Inaccurate and Inadequate Reporting

As conflicts continue to break down communities and leave consequences for public health, proper reporting and data collection to inform the public and policymakers is one of the first steps towards a comprehensive solution and action plan. Accurate and thorough reports on armed conflicts can identify immediate needs for affected communities, allowing for better provision of medical services and aid.[54] Data and reports in the form of epidemiological surveys, surveillance, rapid assessments, and others in conflict zones continues to be scarce or inaccurate, leading to shortcomings in policies and responses and misinformed public perceptions.[55] In the chaotic, dangerous context of armed conflicts, existing systems or mechanisms to document community needs may be destroyed or fall short of what is necessary. Additionally, a lack of physical security in conflict areas prevents and disincentivizes

[51] Ibid.
[52] ICRC, "COVID-19: People living in conflict zones cannot be forgotten in global vaccination effort," *International Committee of the Red Cross,* May 18, 2022, https://www.icrc.org/en/document/covid-19-people-living-conflict-zones-cannot-be-forgotten-global-vaccination-effort.
[53] Katie Peters and Sherine El Taraboulsi-McCarthy, "OPINION: Dealing with COVID-19 in conflict zones needs a different approach," *Thomson Reuters Foundation,* March 30, 2020, https://news.trust.org/item/20200329200250-bj72i/.
[54] Barry S. Levy and Victor W. Sidel, "Documenting the Effects of Armed Conflict on Population Health," *Annual Reviews,* March 18, 2016, https://www.annualreviews.org/doi/10.1146/annurev-publhealth-032315-021913.
[55] Ibid.

independent investigators or journalists from collecting accurate or holistic data. In conflict zones, underreporting and overreporting biases may often occur due to mass displacement, but are also used by parties involved in the conflict as a favourable strategy to manipulate public perception, such as by underreporting their losses and overreporting their opponents' losses.[56] Thus, a lack of independent investigators or journalists may lead to manipulated information on public health forming the basis of policy decisions and deter international awareness, accountability for perpetrators, and organized health responses.

Possible Solutions and Controversies

Improved Health Assessment and Communication

Assessments through surveys, studies, and clear communication with different groups involved in conflict can be improved and implemented to deter further attacks and allow for rapid medical responses to emergencies. For instance, states can work with NGOs such as Doctors Without Borders and other international bodies on-site to collect data on mortality and morbidity caused by conflict, hazardous areas, and other risk factors in a timely manner.[57] Through the establishment of a public surveillance system, health services can make the best judgement in the given setting and strengthen coordination with different bodies. While such methods, alongside epidemiological studies and rapid assessments, have been used during the Iraq War, such information may be incomplete or biased, distorting information and hindering the decision-making process for legislators and health facilities.[58] Thus, countries may prefer a standardized approach or centralized system to ensure different groups are held accountable for reporting objective and accurate data. In order to increase communication between medical services and other parties, states may choose to establish a hotline or encourage communication between health facilities, humanitarian aid groups, and belligerents. Historically, organizations have made attempts to communicate with opposing groups but were unsuccessful.[59] However, mandating communication may deter attacks on healthcare, particularly those that are unintentional. To address misidentification, states may also consider creating a structured identification process adhering to technological changes or using machine learning algorithms to identify colour markings, such as a displayed red cross or crescent. A method established and mandated

[56] Ibid.
[57] Barry S. Levy and Victor W. Sidel, "Documenting the Effects of Armed Conflict on Population Health," *Annual Reviews,* March 18, 2016, https://www.annualreviews.org/doi/10.1146/annurev-publhealth-032315-021913.
[58] Ibid.
[59] Dr. Larry Lewis, "Protecting medical care in conflict: a solvable problem," *reliefweb,* July 10, 2020, https://reliefweb.int/report/world/protecting-medical-care-conflict-solvable-problem.

during the Geneva Conventions of 1949, such a visual feature may not be a suitable option for pilots using infrared technology.[60]

Establishment of Temporary Relief Services

Although military protection may prevent attacks against some healthcare facilities, the loss of permanent infrastructure still causes many to lose access to medical services, forcing them to find alternate avenues of support. This can mean travelling to more dangerous areas and looting other facilities. Temporary and moveable services provide easier access and are more difficult for looters and attackers to target, though such facilities are not immune to collateral damage. Requiring less personnel and construction cost, this solution allows countries to build more short-term relief services to adhere to urgent situations and provide aid for military personnel and civilians alike.[61] With the added mobility, these services can adapt to developing situations as the location of conflict evolves or populations are forced to flee. However, medical resources are decentralized, and facilities must continue to adapt, creating a more significant challenge for the full treatment of all medical cases.[62] It would be difficult for temporary services to receive supplies, as a decentralized system would require a more complex approach to supply-chain transportation. As such, certain transport vehicles may be delayed or destroyed due to a lack of road networks, attacks, and looting, causing a disproportionate distribution leading to inconsistent care in temporary facilities.

Establishment of Permanent Medical Infrastructure

With the loss of major healthcare centres, thousands are forced to travel far distances into dangerous areas to access adequate medical care or supplies. By establishing permanent medical infrastructure in population-dense areas, states can create a centralized system to provide more healthcare resources for the population. Rather than having a large and complex network of transport routes, states and organizations can focus on protecting a single route, allowing for quicker supply if the source of supplies is not delayed.[63] Similarly, such facilities can be heavily protected as military resources are not spread thin over other areas. Rebuilding and creating medical infrastructure also provides long-term benefits as such services can be used post-conflict to improve living conditions; however, it is often impossible to construct such services amidst acute conflict while regions are still vulnerable to attacks

---

[60] Ibid.

[61] Leonard Rubenstein and Dr. Rohini Haar, "What Does Ethics Demand of Health Care Practice in Conflict Zones?" *American Medical Association,* June 2022, https://journalofethics.ama-assn.org/article/what-does-ethics-demand-health-care-practice-conflict-zones/2022-06.

[62] Ibid.

[63] Dr. Larry Lewis, "Protecting medical care in conflict: a solvable problem," reliefweb, July 10, 2020, https://reliefweb.int/report/world/protecting-medical-care-conflict-solvable-problem.

and looting.[64] Thus, delegates may choose to provide a greater supply of military protection during construction and utilize the aforementioned communication strategies to prevent both deliberate and accidental damage.

Medical Training

An increase in foreign medical personnel may be successful in providing aid in the short term, but extensive foreign aid may exhaust resources and leave conflict areas dependent on foreign countries or organizations, which weakens local health services if aid is ceased. Rather, states may consider giving medical training such as first aid and basic trauma stabilization to local staff in conflict zones. States may consider sending health professionals to offer civilians first aid courses which require no prior medical training.[65] Countries with heavy geopolitical tensions or a high risk for conflict may also integrate first aid courses into education systems and work with health organizations to create a standardized curriculum.[66] Despite establishing a reliable supply of medical aid and building long-term health progression, certain specializations in healthcare are challenging to teach as they would require extensive knowledge or the ability to operate complex medical equipment. Similarly, advanced equipment may not be accessible in conflict zones; thus, even with sufficient knowledge at hand, healthcare workers may not be able to treat advanced illnesses, but those are typically less urgent than immediate, trauma-related injuries.

Bloc Positions

Western Liberal Democracies

Countries such as Japan, Canada, the U.S., and EU member states often have established or developed healthcare systems and maintained minimal conflict-ridden areas. These countries regularly provide aid to countries affected by armed conflict; although some may prefer not to intervene directly, many provide significant funding for NGOs and other international bodies focused on impartial medical and humanitarian aid. For instance, 82 percent of the International Committee of the Red Cross' budget is from government donors.[67] Delegates within this bloc would likely continue to support and work with NGOs and other international bodies to indirectly provide aid but may also support long-term

[64] Jenny Thomas, "Making a Difference in Conflict Zones," *BMJ Publishing Group Limited,* February 26, 2018, https://blogs.bmj.com/case-reports/2018/02/26/making-a-difference-in-conflict-zones/.
[65] Kyle G. Ratner and Lindsay B. Katona, "The peacebuilding potential of healthcare training programs," *BioMed Central Ltd,* September 13, 2016, https://doi.org/10.1186/s13031-016-0096-3.
[66] Ibid.
[67] ICRC, "The ICRC's funding and spending," *International Committee of the Red Cross,* n.d., https://www.icrc.org/en/faq/icrcs-funding-and-spending.

approaches such as medical training for local workers or the establishment of permanent medical infrastructure. However, states in this bloc may be hesitant to provide military support or protection for medical establishments, as it may be viewed as military intervention and cause further political tension. Western Liberal Democracies, especially nordic countries, also have strong healthcare systems and advanced medical technology; as such, delegates within this bloc may consider investing in innovation and distributing advanced medical resources for the treatment of internal illnesses or viral infections.

Countries Affected by Armed Conflict

Countries such as Afghanistan, Syria, Ethiopia, and Ukraine have been torn apart from armed conflict, causing many lives to be lost and creating a cycle of poverty in many areas. States who have been affected by armed conflict in the past also face long-term health and economic consequences, including the lack of access to basic healthcare needs. In the past, albeit a short-term approach, ceasefires have proven to be successful in deterring attacks, especially those targeted at healthcare facilities.[68] Thus, delegates within these blocs would prefer solutions that de-escalate the conflict at hand and prioritize the lives of its citizens. These states may also prefer an urgent response, such as the establishment of temporary medical facilities, as they are more flexible and less vulnerable to air strikes or other coordinated attacks. However, states rebuilding from armed conflict may prefer more focus on improving permanent medical establishments as they are able to prevent and treat health issues non-related to immediate injuries caused by war, such as AIDS, Diabetes, or Malaria. Most essentially, these countries would strongly prefer strict monitoring of IHL infractions or intervention by a third party to ensure all parties are held accountable for attacks against any medical facilities or personnel.

Neighbouring Countries of Conflict Zones

As neighbouring countries of conflict areas, these states are at risk of the conflict spreading within their nation and are often overwhelmed by a large influx of refugees entering their regions. With the well-being of their own citizens and refugees in mind, countries within this bloc may prefer an organized approach focused on strong security and deterrence. Thus, these states would strongly support the protection and increase of medical services within refugee camps and a structured evacuation plan/route so refugees can access basic resources and necessities as efficiently as possible. As many external organizations help give humanitarian and medical aid to refugees, these states may also support NGOs and other international bodies with funding or resources and actively seek

[68] Adham Sahloul, Dr. Mohamad Katoub, "The Failure of UN Security Council Resolution 2286 in Preventing Attacks on Healthcare in Syria," *Syrian American Medical Society,* January 2017, https://www.sams-usa.net/wp-content/uploads/2017/03/UN-fail-report-07-3.pdf.

collaboration between NGOs and their local forces. Although strong security is valued to protect evacuation routes and refugee camps, states in this bloc may oppose extensive military aid or involvement as it may prompt further aggression from the opposing party. As such, states within this bloc may work to promote a coordinated approach focused on humanitarian aid and the protection of refugees within their borders.

Discussion Questions

1. How does armed conflict affect your country directly or indirectly?
2. Does your country support providing military support for the protection of medical services in conflict zones?
3. Does your country work with NGOs that focus on providing humanitarian and medical aid? How can your country improve or establish its collaboration with these organizations?
4. Does your country support a centralized or decentralized approach in medical services?
5. What are the next steps your country aims to take after a medical service is targeted by an attack?
6. How can nations collectively hold parties accountable for violating medical neutrality and other international laws?
7. What strategies can be implemented to develop a long-term approach to improving medical services in conflict zones? Are existing strategies to address this sustainable?
8. How can countries work to rebuild damaged health services?

Additional Resources

Healthcare in conflict zones—articles, podcasts, commentaries, and other resources by the American Medical Association Journal of Ethics:
https://journalofethics.ama-assn.org/issue/health-care-conflict-zones

Interactive map of all reported attacks against healthcare services from 2015-2022 (Data retrieved by Insecurity Insight):
https://map.insecurityinsight.org/health

Root causes and harms of inadequate reporting on conflict areas:
https://www.annualreviews.org/doi/10.1146/annurev-publhealth-032315-021913

Doctors Without Borders' work on conflict zones:
https://www.msf.org/war-and-conflict

World Health Organization Red Book:
https://www.who.int/publications/i/item/9789240029354

Bibliography

"A Short Guide To Medical Services During The First World War." *Imperial War Museums*, n.d.
https://www.iwm.org.uk/history/a-short-guide-to-medical-services-during-the-first-world-war.

Al Jazeera and News Agencies. "Eight months of Ethiopia's Tigray conflict: A timeline." *Al Jazeera*, May 4, 2021.
https://www.aljazeera.com/news/2021/5/4/six-months-of-ethiopias-tigray-conflict-a-timeline.

Bohm, Jan. "#NotATarget: No more attacks against civilians and healthcare workers in conflict zones." *Doctors Without Borders,* n.d.
https://www.doctorswithoutborders.ca/issues/notatarget-no-more-attacks-against-civilians-and-healthcare-workers-conflict-zones.

Briody, Carolyn, et al, "Review of attacks on health care facilities in six conflicts of the past three decades." *National Institute of Health*, May 2, 2018.
https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5930682/.

Britannica, T. Editors of Encyclopaedia. "Iraq War." *Encyclopedia Britannica,* March 11, 2022.
https://www.britannica.com/event/Iraq-War.

Dr. Lewis, Larry. "Protecting medical care in conflict: a solvable problem." *reliefweb*, July 10, 2020. https://reliefweb.int/report/world/protecting-medical-care-conflict-solvable-problem.

"Ebola: Attacks on treatment centres show challenges of response in DRC." Doctors Without *Borders*, March 17, 2019.
https://www.doctorswithoutborders.ca/article/ebola-attacks-treatment-centres-show-challenges-response-drc.

Enzensberger, Alina. "Hospitals." *International Encyclopedia of the First World War*, May 19, 2021. https://encyclopedia.1914-1918-online.net/article/hospitals.

Fakolujo, Dami. "Medical Neutrality." *Carleton University*, n.d.
https://carleton.ca/bgins/wp-content/uploads/Medical-Neutrality.pdf.

ICRC. "COVID-19: People living in conflict zones cannot be forgotten in global vaccination effort." *International Committee of the Red Cross*, May 18, 2022.
https://www.icrc.org/en/document/covid-19-people-living-conflict-zones-cannot-be-forgotten-global-vaccination-effort.

ICRC. "Founding and early years of the ICRC (1863-1914)." *International Committee of the Red Cross*, May 12, 2010.
https://www.icrc.org/en/document/founding-and-early-years-icrc-1863-1914.

ICRC. "Health-care providers, patients suffer thousands of attacks on health-care services over the past five years, ICRC data show." *International Committee of the Red Cross*, May 3, 2021. https://www.icrc.org/en/document/health-care-providers-patients-suffer-thousands-attacks-health-care-services-past-5-years.

ICRC. "Protection of Medical Units and Establishments." *International Committee of the Red Cross*, 2016. https://ihl-databases.icrc.org/applic/ihl/ihl.nsf/Comment.xsp?action=openDocument&documentId=BBF9A4E655C90872C1257F7A0054937B.

ICRC. "South Sudan: Looting of a health care unit during armed violence in Unity State." *International Committee of the Red Cross*, December 9, 2021. https://www.icrc.org/en/document/south-sudan-looting-health-care-unit-during-armed-violence-unity-state.

ICRC. "The ICRC's funding and spending." *International Committee of the Red Cross*, n.d. https://www.icrc.org/en/faq/icrcs-funding-and-spending.

ICRC. "#TheLastMile COVID-19 vaccines can't help if they can't get there." *International Committee of the Red Cross*, n.d. https://www.icrc.org/en/covid-vaccine-last-mile.

ICRC. "Who we are." International Committee of the Red Cross, n.d. https://www.icrc.org/en/who-we-are.

"Iraq 10 years on: War leaves lasting impact on healthcare." *reliefweb*, May 2, 2013. https://reliefweb.int/report/iraq/iraq-10-years-war-leaves-lasting-impact-healthcare.

Jeffery, Simon. "Baghdad hospital bombed." *The Guardian*, April 2, 2003. https://www.theguardian.com/world/2003/apr/02/iraq.simonjeffery.

Levy, Barry S. Sidel, Victor W. "Documenting the Effects of Armed Conflict on Population Health." *Annual Reviews*, March 18, 2016. https://www.annualreviews.org/doi/10.1146/annurev-publhealth-032315-021913.

Lewis, Dustin A. Modirzadeh, Naz K. Blum, Gabriella. "Medical Care in Armed Conflict: International Humanitarian Law and State Responses to Terrorism." *Legal Briefing, Harvard Law School Program on International Law and Armed Conflict*, September, 2015. https://pilac.law.harvard.edu/medical-care-in-armed-conflict-international-humanitarian-law-and-state-responses-to-terrorism.

MSF. "'Double victims' – in conflict zones, people with HIV are twice as vulnerable." *Doctors Without Borders*, December 1, 2014. https://www.msf.org/%E2%80%98double-victims%E2%80%99-%E2%80%93-conflict-zones-people-hiv-are-twice-vulnerable.

MSF. “Humanitarian Issues.” *Doctors Without Borders*, 2022. https://www.doctorswithoutborders.ca/content/humanitarian-issues.

MSF. “Timeline.” *Doctors Without Borders*, September 22, 2016. https://www.doctorswithoutborders.ca/timeline.

MSF. “War and Conflict.” *Doctors Without Borders*, n.d. https://www.doctorswithoutborders.ca/content/war-and-conflict.

“Number of attacks on health care in Ukraine 2018 to 2022.” *Statista*, 2022. https://www.statista.com/statistics/1302077/attacks-on-health-care-ukraine/.

OCHA. “Ineffective Past, Uncertain Future: The UN Security Council’s Resolution on the Protection of Health Care: A Five-year Review of Ongoing Violence and Inaction to Stop It.” *reliefweb*, May 5, 2021. https://reliefweb.int/report/world/ineffective-past-uncertain-future-un-security-council-s-resolution-protection-health.

OCHA. “More Than 4000 Attacks Against Health Workers, Facilities, and Transports Since 2016 Underscore Need for Action to Protect Health Care in Conflict.” *reliefweb*, May 5, 2021. https://reliefweb.int/report/world/more-4000-attacks-against-health-workers-facilities-and-transports-2016-underscore-need.

Peters, Katie. El Taraboulsi-McCarthy, Sherine. “OPINION: Dealing with COVID-19 in conflict zones needs a different approach.” *Thomson Reuters Foundation*, March 30, 2020. https://news.trust.org/item/20200329200250-bj72i/.

“Protecting Health Care in Conflict Areas: Lessons from Ukraine to Tigray.” *The President and Fellows of Harvard College*, July 6, 2022. https://www.hsph.harvard.edu/event/protecting-health-care-in-conflict-areas-lessons-from-ukraine-to-tigray/.

Psaropoulos, John. “Timeline: Six months of Russia’s war in Ukraine.” *Al Jazeera*, August 24, 2022. https://www.aljazeera.com/news/2022/8/24/timeline-six-months-of-russias-war-in-ukraine.

Ratner, Kyle G. Katona, Lindsay B. “The peacebuilding potential of healthcare training programs.” *BioMed Central Ltd*, September 13, 2016. https://doi.org/10.1186/s13031-016-0096-3.

“Red Cross denies Kyiv's accusation of working 'in concert' with Moscow.” *France 24*, April 21, 2022. https://www.france24.com/en/live-news/20220421-red-cross-denies-kyiv-s-accusation-of-working-in-concert-with-moscow.

Red Cross, Médecins Sans Frontières Heads, Secretary-General Brief Members. “Security Council Adopts Resolution 2286 (2016), Strongly Condemning Attacks against Medical Facilities, Personnel in Conflict Situations.” *United Nations Security Council*, May 3, 2016. https://press.un.org/en/2016/sc12347.doc.htm.

Rubenstein, Leonard. Dr Haar, Rohini. “What Does Ethics Demand of Health Care Practice in Conflict Zones?.” *American Medical Association,* June 2022, https://journalofethics.ama-assn.org/article/what-does-ethics-demand-health-care-practice-conflict-zones/2022-06.

Sahloul, Adham Dr. Katoub, Mohamad. “The Failure of UN Security Council Resolution 2286 in Preventing Attacks on Healthcare in Syria.” *Syrian American Medical Society*, January 2017. https://www.sams-usa.net/wp-content/uploads/2017/03/UN-fail-report-07-3.pdf.

Schindler, Dietrich. Toman, Jiri. “The Laws of Armed Conflicts.” *Martinus Nijhoff Publishers*, 1988. pp.280-281.

Sherlock, Ruth. “Syria's Civil War Started A Decade Ago. Here's Where It Stands.” *National Public Radio*, March 15, 2021. https://www.npr.org/2021/03/15/976352794/syrias-civil-war-started-a-decade-ago-heres-where-it-stands.

“Sub-Saharan Africa: The devastating impact of conflicts compounded by COVID-19.” *Amnesty International*, April 7, 2021. https://www.amnesty.org/en/latest/news/2021/04/subsaharan-africa-the-devastating-impact-of-conflicts-compounded/.

Thomas, Jenny. “Making a Difference in Conflict Zones.” *BMJ Publishing Group Limited*, February 26, 2018. https://blogs.bmj.com/case-reports/2018/02/26/making-a-difference-in-conflict-zones/.

“UCDP Data for download.” *Uppsala University*, September 5, 2022. http://www.pcr.uu.se/research/ucdp/.

Vergun, David. “Medical Improvements Saved Many Lives During World War II.” *U.S. Department of Defense*, March 17, 2020. https://www.defense.gov/News/Feature-Stories/story/Article/2115192/medical-improvements-saved-many-lives-during-world-war-ii/.

WHO. “A guidance document for medical teams responding to health emergencies in armed conflicts and other insecure environments.” *World Health Organization*, June 18, 2021. https://www.who.int/publications/i/item/9789240029354.

WHO. “Building peace in fragile and conflict settings through health.” *World Health Organization*, n.d.
https://www.who.int/activities/building-peace-in-fragile-and-conflict-settings-through-health.

“Why is there a War in Syria?.” *Shelterbox Trust,* n.d.
https://shelterbox.org/syria/the-syrian-conflict-explained/.

Wihbey, John. “Bias in reporting of international conflict and war: Research on the Libyan Civil War.” *Harvard Kennedy School*, March 3, 2015.
https://journalistsresource.org/politics-and-government/bias-international-reporting-libyan-civil-war/.

World Health Assembly. “Global strategy on human resources for health: Workforce 2030.” *World Health Organization*, May 2014.
https://www.who.int/publications/i/item/9789241511131.

Protecting Healthcare Workers

Overview

The healthcare industry is composed of many companies that provide services, equipment, and support related to public health. It is one of the largest industries in the world and is only expected to broaden its horizons.[69] As populations and reliance on the services provided by the industry increase, the burden upon the healthcare industry to continue performing grows. The alarming weight placed upon the healthcare industry, specifically the vast number of healthcare workers, points to the need to support them. According to the World Health Organization (WHO), healthcare workers are exposed to a multitude of workplace hazards, including pathogen exposure, external stressors, and violence.[70] While some hazards are inevitable—such as pathogen exposure and overtime shifts—effects of other hazards may be mitigated by increased action. For example, extending or developing the existing training requirements for hospital administration improves the likelihood that workplace hazards are addressed before they can cause significant harm.

Working conditions, additionally, differ greatly between different countries. In Less Economically Developed Countries (LEDCs), healthcare facilities lack human resources, and therefore, place excess stress on the healthcare workers that are available to help out.[71] As a result, the workers experience increased working hours, steeper rates of workplace injury and higher rates of disease contraction.[72] Furthermore, LEDC workplaces generally have weaker workplace regulation, many of such countries' occupational health and safety laws only cover about 10% of their workforce. While general statistics can be drawn regarding the work environment in LEDCs, the specifics are lacking due to the absence of reported information and infrastructure in LEDCs. Providing a remedy to the staggering difference in workplaces amongst countries requires improved statistics to improve certainty on LEDC healthcare outlook.[73]

---

[69] Imanuel, "Healthcare Industry," *Predictive Analytics Today*, 2022, https://www.predictiveanalyticstoday.com/what-is-healthcare-industry/.

[70] "WHO calls for healthy, safe and decent working conditions for all health workers, amidst COVID-19 pandemic," *World Health Organization,* 2020, https://www.who.int/news/item/28-04-2020-who-calls-for-healthy-safe-and-decent-working-conditions-for-all-health-workers-amidst-covid-19-pandemic.

[71] Midori Cortice, "Less Economically Developed Countries Need Help to Create Healthy Workplaces," *frontiers*, September 6, 2019, https://www.frontiersin.org/articles/10.3389/fpubh.2019.00257/full.

[72] Joseph LaDou, "Occupational health: a world of false promises," *Springer Nature*, November 21, 2018, https://ehjournal.biomedcentral.com/articles/10.1186/s12940-018-0422-x.

[73] "The Big Challenge is to Improve Poor Countries' Healthcare Systems," *Groupe AFD*, October 1, 2019, https://www.afd.fr/en/actualites/big-challenge-improve-poor-countries-health-care-systems-christophe-paquet.

What can be certain right now is that the pandemic has served to intensify the burden on healthcare workers. Pre-pandemic, the stressors in healthcare were already multitudinous, especially with the demanding environment of healthcare jobs, such as overtime hours, a lack of personal protective equipment (PPE), and meagre pay. Post-pandemic, these stressors have been amplified, as many healthcare workers experienced a surge in workload to accommodate busier facilities. Due to the pandemic, burnout now affects 41 to 52 percent of healthcare workers.[74] Resources have also been depleted with the onslaught of the pandemic, leaving healthcare workers with less PPE, resulting in increased infection rates.[75] As a preventative measure, virtual alternatives were provided for many physician check-ins; approximately 27 to 57 percent of visits were provided virtually.[76]

Timeline

April 1847 — Ignaz Semmelweis, a Hungarian physician working in Vienna General Hospital, becomes one of the first doctors to mandate handwashing for those working in a maternity ward after observing the varying death rates in two maternity wards with different sanitation levels. This new policy boosts overall sanitation levels of the workplace environment, benefitting both workers and patients alike.[77]

August 31st, 1848 — The Public Health Act of 1848 is passed in Great Britain.[78] This act, spearheaded by British Sanitary reformer Edwin Chadwick, is the first step towards proper sanitation of patients entering healthcare facilities.[79]

---

[74] "World failing in 'our duty of care' to protect mental health and well-being of health and care workers, finds report on impact of COVID-19," *World Health Organization,* October 5, 2022, https://www.who.int/news/item/05-10-2022-world-failing-in--our-duty-of-care--to-protect-mental-health-and-wellbeing-of-health-and-care-workers--finds-report-on-impact-of-covid-19.

[75] Nishtha Gupta, "Impact of COVID-19 pandemic on healthcare workers," *Pubmed*, October 22, 2021, https://www.ncbi.nlm.nih.gov/pmc/articles/PMC8611576/.

[76] "COVID-19's impact on physician services," *Canadian Institute for Health Information*, December 9, 2021, https://www.cihi.ca/en/covid-19-resources/impact-of-covid-19-on-canadas-health-care-systems/physician-services.

[77] "History," *The Global Handwashing Partnership*, https://globalhandwashing.org/about-handwashing/history-of-handwashing/.

[78] "The 1848 Public Health Act," *UK Parliament*, https://www.parliament.uk/about/living-heritage/transformingsociety/towncountry/towns/tyne-and-wear-case-study/about-the-group/public-administration/the-1848-public-health-act/.

[79] Richard Pizzi, "Apostles of Cleanliness," *The Timeline*, publication date, https://pubsapp.acs.org/subscribe/archive/m.

August 13th, 1946 — Following World War II (WWII), there is a surge in demand for healthcare. The Hill Burton Act is passed this year and it provided funds to expand and construct community hospitals.[80]

1960 — Isabel Menzies, a psychoanalyst, performed the first assessment on work stress in nursing and also analyzed the extent of benefits given by the social defence system to nurses. It was found that while the defence system in place aided nurses in evading anxiety, it wasn't as effective in true modification and reduction.[81]

February 1981 — The British Columbia Nursing Union (BCNU) was formed in February in order to advance the health, safety, social and economic well-being of nurses. Throughout the 1980s, the BCNU secured a 22% wage increase for nurses, allowing nurses the freedom to be financially secure.

April 7th, 2006 — The 2006 World Health Report from WHO emphasizes healthcare worker shortages in 57 different countries, primarily in Africa and Asia, resulting in worker overexertion due to the lengthened work periods. The report outlines a "pipeline for recruitment" spanning primary, secondary, and tertiary education and defines the lack of proper educational institutions as a source of healthcare worker shortage. Additionally, a ten year plan of action was formed with short term solutions such as revitalizing education strategies and long term solutions such as management of migratory flows.[82]

April 18th, 2009 — The first case of the H1N1 virus (Swine Flu) was reported in Mexico.[83] In a survey conducted on ICU workers in the midst of the H1N1 pandemic, it was found that the regulations regarding PPE were vague and varied. ICU workers stated that they felt "unvalued" and "unprotected".[84]

December 2019 — The first case of coronavirus disease (COVID-19) was reported in Wuhan, China and forced many patients into the Intensive Care Unit (ICU) which requires a generous supply of materials to maintain, such as PPE.[85] The virus' proliferation has forced healthcare workers in some

[80] "History of Hospitals," *Penn Nursing*, https://www.nursing.upenn.edu/nhhc/nurses-institutions-caring/history-of-hospitals/.
[81] "A Case-Study in the Functioning of Social Systems as a Defence against Anxiety," *Sagepub*, 1960, https://journals.sagepub.com/doi/pdf/10.1177/001872676001300201.
[82] "The health of the healthcare workers," *NCBI*, https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5299814/.
[83] "Swine flu (H1N1)," *National Health Service*, https://www.nhs.uk/conditions/swine-flu/.
[84] Amanda Corley, "The experiences of health care workers employed in an Australian intensive care unit during the H1N1 Influenza pandemic of 2009: A phenomenological study," *Pubmed*, October 1, 2020, https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7125717/.
[85] "Coronavirus disease (COVID-19) update," *World Health Organization*, https://www.who.int/bangladesh/emergencies/coronavirus-disease-(covid-19)-update.

communities into isolation due to those around them not wishing to contract the disease. Furthermore, numerous cases of violence against healthcare workers have appeared in countries like Syria because of the enforcement of unpopular yet standard social distancing methods.[86]

September 17th, 2020 — The Global Charter for the Public's Health is written by the World Health Organization (WHO) for World Patient Safety Day due to the lack of global common understanding of a well-established healthcare system. The charter seeks to provide a practical implementation guideline to public health associations. It outlines actions for governments to take in order to protect healthcare workers by pushing for collaboration with Non-Governmental Organizations (NGOs) and universities.[87]

Historical Analysis

The structure of a hospital's functioning over a century ago was not nearly as regimented as it is now. The sanitation standards were much lower, little effort was devoted to the proper sanitation of equipment, and smoking on the facilities' premises remained a common practice, contributing to a work environment where nurses and doctors were exposed to a variety of hazards each day.[88] Furthermore, historical hospitals lacked the presence of qualified nurse practitioners, forcing the task of prescriptions and diagnoses on doctors.[89] Comparatively, in the present day, nurses are given the role to distribute medications regularly in conjunction with pharmacists.[90] The reason for such a difference is due to education. The level of education for healthcare workers has varied drastically from the past to now. The route to education for nurses back in the early 20th century was through a school that would provide two to three years of hospital training with very little formal classroom training. Once these years were complete, one was fit to receive their diploma.[91] While the length of time to become a registered nurse in developed countries has only increased by a couple of years, the variety of training

[86] "Prevalence of abuse against frontline health-care workers during the COVID-19 pandemic in low and middle-income countries," *World Health Organization*, https://www.emro.who.int/emhj-volume-27-2021/volume-27-issue-5/prevalence-of-abuse-against-frontline-health-care-workers-during-the-covid-19-pandemic-in-low-and-middle-income-countries.html.
[87] "World Patient Safety Day," *Canadian Patient Safety Institute*, https://www.patientsafetyinstitute.ca/en/Events/World-Patient-Safety-Day-September-2020/Pages/default.aspx.
[88] "EFCI annual report - resilience through crisis," *European Cleaning Journal*, December 21, 2021, http://www.europeancleaningjournal.com/magazine/articles/business-reports/efci-annual-report-resilience-through-crisis.
[89] Gannett, "Health care: Patients found hospitals a lot different 100 years ago," *USA Today*, 2019, https://www.usatoday.com/picture-gallery/news/health/2019/10/13/what-a-hospital-looked-like-100-years-ago/40266863/.
[90] "What is a Registered Nurse's Responsibilities?," *Regis College*, https://www.regiscollege.edu/blog/nursing/registered-nurse-responsibilities.
[91] "American Nursing: An Introduction to the Past," *Penn Nursing*, https://www.nursing.upenn.edu/nhhc/american-nursing-an-introduction-to-the-past/.

has changed significantly. Now, nurses expect to receive overwhelming amounts of formal classroom training on standard hospital procedures.[92] In developing countries, the educational standards have been reworked only recently. For example, in the last decades, Iran has made significant reforms to the educational system following the Islamic revolution, taking inspiration from the United States and England. These changes include curricular changes and program philosophy changes. However, improvements can still be made regarding their admission methods, research, training, and evaluation methodologies.[93] With regards to nurse education in the past, the procedures have become more standardized across the globe, creating workers that understand the risks posed to patients as well as to themselves and properly employ PPE and transmission reductive methods.

On the other hand, it required many struggles for hospitals to accept heightened sanitary standards for working conditions. In the past, healthcare workers transmitted disease from their patients and their toxic environment, which was a common ground for bacteria. The most influential scientific discovery contributing to the acceptance of sanitation as a bottom-line standard within the healthcare system is regarded to be "The Great Sanitary Awakening," which was a study conducted by physician Stephen Smith regarding the lack of waste management in New York. Smith used this information to push for alternative waste management methods such as revamping the sewage system. With the immediate changes seen regarding well-being in a cleaner city, healthcare sanitation was improved, as well as the outlook on standard cleanliness.[94] Overall, significant realizations such as the one made by Stephen Smith contributed to change in hospital procedures, making the process of caring for patients much safer in a well-maintained environment. While the story pertains to the US, similar changes were made elsewhere as most developing countries model their healthcare systems after the US.[95]

Past UN/International Involvement

World Health Organization Charters

A primary driving force advocating for the protection of healthcare workers is the World Health Organization (WHO). Much of its work includes developing standards for occupational risk prevention, advocating for strengthening worker protection, and supporting countries in developing

[92] "What Does a Nurse Practitioner Do?," *Regis College*, https://www.regiscollege.edu/blog/nursing/what-does-a-nurse-practitioner-do.
[93] Zahra Farsi, "Comparison of Iran's nursing education with developed and developing countries: a review on descriptive-comparative studies," *Springer Nature*, May 6, 2022, https://bmcnurs.biomedcentral.com/articles/10.1186/s12912-022-00861-x.
[94] "Modern Drug Discovery," *ACS Publications*, https://pubsapp.acs.org/subscribe/archive/mdd.
[95] Anne Mills, "Health Care Systems in Low- and Middle-Income Countries," *Massachusetts Medical Society*, publication date, February 6, 2014, https://www.nejm.org/doi/full/10.1056/nejmra1110897.

occupational health programmes.[96] Dr Tedros Adhanom Ghebreyesus, WHO Director-General, has stated that "[n]o country, hospital or clinic can keep its patients safe unless it keeps its health workers safe. On September 17th, 2020, WHO released the Charter for World Patient Safety Day. Its creation was the result of the idea that patient safety stems from healthcare worker safety. Ultimately, the charter reframed the way governments approach healthcare for patients by holistically including the workforce in the picture. However, the charter is only comprised of recommendations for countries to take rather than definite actions. The Charter outlines five separate actions to protect healthcare workers:

1) Protecting workers from physical and biological hazards;
2) Protecting workers from violence;
3) Improving workers' mental health;
4) Advancing national programmes for health worker safety;
5) Connecting health worker safety policies to existing patient safety policies.[97]

Labour Unions

A common practice for countries possessing a more established form of healthcare is the formation of a labour union for nurses. For example, the Canadian Federation of Nurses Unions (CFNU) is a large body that represents nearly 200,000 nurses across Canada and is dedicated to protecting their rights as healthcare workers.[98] The union advocates for the enforcement of nurses' legal rights as well as the addition of new ones as they see fit, ensuring the safety of the workers—whether it be through remuneration or workplace improvements. According to the BCNU's mission statement, "The BC Nurses' Union protects and advances the health, safety, social and economic well-being of our members, our profession and our communities."[99] In Kenya, there is the Kenya National Union of Nurses (KNUN), established recently in 2011 compared with the CFNU's founding in 1981. The KNUN held a Labour and Health Workforce Scientific Conference at Mombasa Wild Waters on September 18-19th, 2019. This conference was the first of its kind ever in East Africa and it discussed

[96] "Protecting health and safety of health workers," *World Health Organization*, https://www.who.int/activities/protecting-health-and-safety-of-health-workers.
[97] "Charter health worker safety," *World Health Organization*, 2020, https://www.who.int/docs/default-source/world-patient-safety-day/health-worker-safety-charter-wpsd-17-september-2020-3-1.pdf?sfvrsn=2cb6752d_2.
[98] "About Us - Canada's Nurses," *Canadian federation of Nurses*, https://nursesunions.ca/about.
[99] "History, Mission and Vision." 2022. BC Nurses' Union. https://www.bcnu.org/about-bcnu/history-mission-vision.
"History, Mission and Vision," *BC Nurses' Union,* https://www.bcnu.org/about-bcnu/history-mission-vision.

raising Kenya's national healthcare spending to meet the WHO recommended 5% of total budget. This decision, if fully realized, would provide higher quality equipment for healthcare workers.[100] However, unionization rates—the rate of individuals entering a unionized workforce—have been on a steady decline. This applies to both nursing unions and trade unions in general.[101] While some of this change can be attributed to shifts in employment, the industries themselves have fundamentally changed regarding their partnership with related unions.[102] Furthermore, despite there being vast country diversity for unionized healthcare workforces spanning from Uruguay's Sindicato Unico de Enfermeria del Uruguay to India's United Nurses Association, unions do not exist for every healthcare worker. In fact, authorities have repressed independent union activity in a wide variety of countries including Argentina, Algeria, Egypt, India, Turkey, and Zimbabwe, to name a few. Many of the globe's unions facing repression reside geographically in the Middle East and North Africa (MENA).[103]

Federal Supports

Since the beginning of the COVID-19 pandemic, 25 countries have implemented new programs to support their healthcare workforce including mental health, childcare, and financial support. In Poland, the Supreme Medical Chamber created a database of mental health specialists willing to offer their services to medical staff free of charge. Additionally, Poland's Minister of Health enacted a policy where healthcare employees working in close contact with COVID-19 patients are not permitted to work in more than one place. To compensate for the losses in income, the National Health Fund provided the workers with monthly cash benefits financed from the Ministry of Health's budget.[104] In Malta, while there was not any additional financial support offered, mental health support conducted by psychiatrists and psychologists has been organized for public health workers on the frontline of the pandemic.

Current Situation

With mounting pressures on healthcare due to the pandemic, more focus has been placed on ensuring the safety of healthcare workers, causing the issue to be addressed.

---

[100] "KNUN Conference 27th-28th November 2019, Wildwaters Mombasa Country," *Kenya National Union of Nurses*, https://knun.or.ke/knun-conference-27th-28th-november-2019-wildwaters-mombasa-county/.
[101] "Trade Union Dataset," *OECD*, https://stats.oecd.org/Index.aspx?DataSetCode=TUD.
[102] "Unionization rates falling," *Statistics Canada*, https://www150.statcan.gc.ca/n1/pub/11-630-x/11-630-x2015005-eng.htm.
[103] "2019 ITUC Global Rights Index - The World's Worst Countries for Workers," *International Trade Union Confederation*, 2019, https://www.ituc-csi.org/IMG/pdf/2019-06-ituc-global-rights-index-2019-report-en-2.pdf.
[104] Gemma Williams, "How Are Countries Supporting Their Health Workers During COVID-19?," *Eurohealth*, 2020, https://apps.who.int/iris/bitstream/handle/10665/336298/Eurohealth-26-2-58-62-eng.pdf.

Stress and Psychological Strain

The psychological strain from rigorous work in the healthcare industry is widely agreed to be the most damaging to the livelihood of healthcare workers. This is especially true when combined with the longevity of the strain, which easily leads to burnout. According to a survey performed by the European Foundation for the Improvement of Living and Working Conditions (EuroFound) in 2010, approximately 20% of all healthcare workers surveyed were experiencing emotional exhaustion, defined as "feelings of being emotionally overextended and exhausted by one's work."[105] Another 4% surveyed were experiencing other manifestations of burnout, including depersonalization, defined as "an unfeeling and impersonal response towards patients," and reduced personal accomplishment, defined as lacking "feelings of competence and successful achievement in one's work". Working in healthcare where one's passion for work is of high importance, burnout reduces the quality of performance and leads to nurses quitting their jobs at hospitals due to depression.[106] The prominence of burnout is most often attributed to hectic work schedules with long and physically demanding shifts. Nurses often work in 8 hour to 12 hour shifts, which may be extended with little notice as they are called in as needed. Furthermore, the nature of their jobs demand overnight shifts which harms the natural circadian rhythm of the human body, a system in charge of determining natural sleep cycles.[107] While the pay for nurses is stated to guarantee overtime and be equitable, there are many occasions in which this is not upheld, and it is not only in developing countries. In the UK, significant staffing problems have forced 72% of the National Health Service's staff to work additional unpaid hours outside of their regular schedules. Nearly 60% of these workers labour without compensation on a weekly basis.[108]

In addition, despite the mounting pressures on healthcare workers, stress has only been defined as an occupational hazard since the mid-1950s.[109] Furthermore, workplace stress was seen as an extreme detriment. Following the new inclusion of stress into occupational hazards, Isabel Menzies became the first to assess stress in nursing in 1960. With this assessment, four causes of nursing stressors were

[105] "Maslach Burnout Inventory - Human Services Survey for Medical Personnel," *Mind Garden*, https://www.mindgarden.com/315-mbi-human-services-survey-medical-personnel.
[106] Manfred Krenn, "Working conditions in healthcare professions," *Eurofound*, 2010, https://www.eurofound.europa.eu/publications/article/2010/working-conditions-in-healthcare-professions-0.
[107] Anne Garde, "Working hour characteristics and schedules among nurses in three Nordic countries – a comparative study using payroll data," *Springer Nature*, March 28, 2019, https://bmcnurs.biomedcentral.com/articles/10.1186/s12912-019-0332-4.
[108] Tim Becker, "Healthcare Employees Report Troubling Rates Of Unpaid Overtime," *Wage Advocates*, publication date, https://wageadvocates.com/healthcare-employees-report-unpaid-overtime/.
[109] Bonnie Jennings, "Work Stress and Burnout Among Nurses: Role of the Work Environment and Working Conditions," *NCBI*, https://www.ncbi.nlm.nih.gov/books/NBK2668/.

identified: patient care, decision making, responsibility, and change.[110] Since Menzies' assessment, the global healthcare system has undergone changes in policy and procedure and because of them, more individuals outside of the upper classes were able to receive its benefits. Such changes include healthcare accessibility, treatment costs, and new technologies.[111] Furthermore, the healthcare industry's place in society was further solidified as it grew to be more reliable, resulting in regular interactions between citizens and their respective practitioners. While this is considered to be a beneficial change in progressing the universality of healthcare for individuals around the globe, it unintentionally burdens those who work behind the industry as a whole, resulting in the current status quo where healthcare workers are prone to psychological burnout.

Healthcare Worker Shortage: Developing Countries

A prominent issue in many developing countries is the alarming shortage of healthcare workers, placing excessive stress on the available healthcare workers. Since approximately half of the global healthcare workforce is composed of nurses, nurses play a significant role in providing care for patients.[112] However, in 2014, the WHO calculated a global shortage of 9 million nurses and midwives.[113] Half of the member states within the WHO report having less than 3 nurses per 1000 people while another half of those member states report having less than 1 nurse per 1000 people. These are countries primarily located in Africa or the Middle East.[114] The Bhore Committee, which assessed the healthcare industry in India, recommended at least 2 nurses per 1000 people to be sustainable. However, more is needed in an efficient environment.[115] Sitting at the top are countries such as Switzerland with 18.0 nurses per 1000 people while, on the other hand, South Africa has 1.1 nurses per 1000 people.[116] Therefore, it becomes important to address the clear inequalities in the distribution of nurses. Finally, the third facet is performance, relating to the quality of care given by the

[110] "A Case-Study in the Functioning of Social Systems as a Defence against Anxiety," *Sagepub*, 1960, https://journals.sagepub.com/doi/pdf/10.1177/001872676001300201.
[111] "Health Care/System Redesign," *Agency for Healthcare Research and Quality*, https://www.ahrq.gov/ncepcr/tools/redesign/index.html.
[112] "Nursing and midwifery," *World Health Organization*, March 18, 2022, https://www.who.int/news-room/fact-sheets/detail/nursing-and-midwifery.
[113] Vari Drennen, "Global nurse shortages-the facts, the impact and action for change," *Pubmed*, June 19, 2019, https://pubmed.ncbi.nlm.nih.gov/31086957/.
[114] "Global Shortage of Nurses," *McGill University*, 2019, https://www.mcgill.ca/nursing/files/nursing/nurse_shortages.pdf.
[115] Suresh Sharma, "Nurse-to-patient ratio and nurse staffing norms for hospitals in India: A critical analysis of national benchmarks," *Pubmed*, June 30, 2020, https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7491754/.
[116] Frederic Michas, "Number of practicing nurses by country," *Statista*, 2022, https://www.statista.com/statistics/283124/selected-countries-nurses-per-1-000-inhabitants/.

available practitioners. Because of these alarming shortages, the workload that would have been taken by additional workers is instead delegated to the small population of workers that are pre-existing.

Healthcare Worker Shortage: Developed Countries

According to the University of Southern California's School of Medicine, staffing shortages in developed country healthcare can be attributed to a variety of reasons: aging population, burnout, and education and training. Firstly, a developed country generally has an older population since life expectancy is greater in these regions. This affects the healthcare industry twofold. First and foremost, an aging population means a higher percentage of individuals requiring care in senior retirement or hospitals which require more healthcare workers. Additionally, more healthcare workers are entering retirement, resulting in a greater rate of workforce reduction. Burnout is the origin of poor work performance as well as feeling of guilt for many healthcare workers. According to a survey done by staffing agency Incredible Health, 34% of nurses said they would leave their profession by the end of 2022 with 44% of these individuals stating that burnout was their associated reason. Finally, as one example, university nursing faculties often lack resources and funding to expand the number of students that they are able to take in. Overall, this lowers the number of new nurses entering the field each year. The same applies to other professionals such as doctors.[117]

Currently, a common practice employed by developed countries to combat healthcare worker shortage is international migration. By providing economic incentives that outweigh the home countries of those immigrating, practitioners in developing countries may make the choice to work in a developed country to secure better career prospects.[118] While it does prove to be beneficial to developed countries, this puts developing countries in a worse position where they are unable to provide the same economic benefits as a developed country.[119] Ultimately, the results of the shortage are exacerbated, forcing workers to care for more patients at a time and work longer shifts to account for the lost hours with a reduced workforce. An intensive work schedule such as this leads to worsened mental health, reducing the quality of their job performance—in the best case—and making the workers more susceptible to depression in the worst case.

---

[117] "How Immigrants Contribute to Developing Countries' Economies," *OECD Development Centre*, January 24, 2018, https://www.oecd-ilibrary.org/development/how-immigrants-contribute-to-developing-countries-economies_9789264288737-en;jsessionid=o_SYWR9gkrCRqeV_O23c1JKiu2rXG2yskzRPePDa.ip-10-240-5-112.

[118] Linda Ogilvie, "The exodus of health professionals from sub-Saharan Africa: balancing human rights and societal needs in the twenty-first century," *Pubmed*, June 14, 2007, https://pubmed.ncbi.nlm.nih.gov/17518823/.

[119] "Immigrants' contribution to developing countries' economies: Overview and policy recommendations," *OECD,* January 24, 2018, https://www.oecd-ilibrary.org/sites/9789264288737-4-en/index.html?itemId=/content/component/9789264288737-4-en.

Workplace Violence

The WHO defines workplace violence as both physical and psychological harm, including attacks, verbal abuse, bullying, sexual harassment, and other harmful actions.[120] Workplace violence is often categorized in the following four categories by occupational health researchers: criminal intent, customer/client, worker-on-worker, and personal relationship. Of these four types, customer/client is the most common, and it is defined as violence directed towards workers incited by patients or other individuals that visit the hospital.[121] It has been found that the main causes of hospital violence were patients' death (50.44%), dissatisfaction with the treatment effect (11.73%), out-of-hospital disputes (11.14%), and dissatisfaction with the arrangement of healthcare workers (7.04%).[122] According to a survey conducted by the National Center for Biotechnology Information (NCBI), over 70% of nurses worry about workplace violence, with 20% being extremely worried.[123] The incidence rate of non-fatal workplace violence against healthcare workers in the United States (U.S.) has increased from 6.4 per 10,000 workers in 2011 to 10.4 per 10,000 workers in 2018.[124] On occasion, the violence often leaves healthcare workers unable to return to their jobs temporarily, which may contribute to financial strain. Furthermore, workers are prevented from performing their jobs effectively and in more severe cases, they feel fear when going to work.[125] Though some cases of workplace violence require worker compensation—a fund given from the hospital to treat any sustained injuries—unexpected leaves are not covered in the same manner.[126] Furthermore, workplace violence is often not reported; workers may believe workplace violence is normal and happens all the time.[127] According to an alternative study, another reason for underreporting is due to the perception that reporting actually does very little to combat the violence.[128] While the rate of incidence is particularly high in North American countries,

[120] Wallace Stephens, "Violence Against Healthcare Workers: A Rising Epidemic," *American Journal of Managed Care*, 2019, https://www.ajmc.com/view/violence-against-healthcare-workers-a-rising-epidemic.
[121] "Types of Workplace Violence," *Centers for Disease Control and Prevention,* https://wwwn.cdc.gov/WPVHC/Nurses/Course/Slide/Unit1_5.
[122] Yuanshuo Ma, "Causes of Hospital Violence, Characteristics of Perpetrators, and Prevention and Control Measures: A Case Analysis of 341 Serious Hospital Violence Incidents in China," *Pubmed*, January 7, 2022, https://www.ncbi.nlm.nih.gov/pmc/articles/PMC8777225/.
[123] Maria Clark, "Shocking Workplace Violence in Healthcare Statistics," *Etactics*, 2021, https://etactics.com/blog/workplace-violence-in-healthcare-statistics.
[124] "Workplace Violence in Healthcare, 2018," *US Bureau of Labor Statistics*, April 2020, https://www.bls.gov/iif/factsheets/workplace-violence-healthcare-2018.htm.
[125] "Workplace Violence in Healthcare," *PSHSA*, https://www.pshsa.ca/emerging-issues/issues/workplace-violence-in-healthcare.
[126] "Injuries, Illnesses, and Fatalities," *US Bureau of Labor Statistics*, https://www.bls.gov/iif/oshwc/cfoi/workplace-violence-healthcare.
[127] "Campaigns and Initiatives," *BC Nurses' Union,* 2022, https://www.bcnu.org/news-and-events/campaigns-and-initiatives/.
[128] Judith Arnetz, "Underreporting of Workplace Violence," *Pubmed*, May 22, 2015, https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5006066/.

Asian countries also tend to have comparative rates of hospital violence.[129] In total, 459 criminal cases involving patient-initiated workplace violence against health care workers in China were reported and processed between 2013-2016.[130]

Exposure to Pathogens

Healthcare worker exposure to pathogens is nearly inevitable and being comfortable to exposure is a prerequisite to the job, given its nature. Exposure to pathogens is most common through the blood when using needles. Diseases such as hepatitis and HIV can be transmitted this way. Transmission through needles is attributed primarily to improper disposal.[131] By the turn of 2020, a novel threat revealed itself to healthcare workers globally: Covid-19, a highly transmissible respiratory illness. With prolonged hours in contact with the pathogen, healthcare workers were at high risk for the disease in comparison to other workers that are not in continuous contact with infected individuals.[132] Not only were healthcare workers affected by the COVID-19 pandemic, but also outbreaks that came before it such as the Ebola epidemic. For example, nurse Nina Pham working at the Dallas Hospital had contracted Ebola while caring for a patient in the ICU who tested positive for Ebola. Pham had stated that the information given to her by the hospital after stating she would possibly be treating a patient with Ebola was "what her manager Googled and printed out from the Internet."[133] In this case, it becomes apparent that lack of proper preparation and handling is also a contributor to disease contraction amongst healthcare workers in novel situations.

Possible Solutions and Controversies

When delegates are tackling the issue of healthcare worker shortage, it is important to address two facets of the issue.[134] First and foremost is the facet of availability, which refers to the number of individuals entering the healthcare industry. A solution geared towards availability will most likely be a

[129] "Violence Against Healthcare Workers: A Worldwide Phenomenon With Serious Consequences," *NCBI*, 2020, https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7531183/.
[130] Ruilie Cai, "Violence against health care workers in China, 2013–2016: evidence from the national judgment documents," *Springer Nature*, December 25, 2019, https://human-resources-health.biomedcentral.com/articles/10.1186/s12960-019-0440-y.
[131] "Bloodborne Pathogens and Needlestick Prevention," *United States Department of Labor*, https://www.osha.gov/bloodborne-pathogens.
[132] "Coronavirus disease (COVID-19) pandemic," *World Health Organization*, https://www.who.int/emergencies/diseases/novel-coronavirus-2019.
[133] "Nurse Who Caught Ebola Settles Suit Against Dallas Hospital," *NBC News*, October 24, 2016, https://www.nbcnews.com/storyline/ebola-virus-outbreak/nurse-who-caught-ebola-settles-suit-against-dallas-hospital-n672081.
[134] Jenny Liu, "Global Health Workforce Labor Market Projections for 2030," *Springer Nature,* February 3, 2017, https://human-resources-health.biomedcentral.com/articles/10.1186/s12960-017-0187-2.

long-term solution. The second facet is distribution which is primarily a logistical issue that focuses on evening the spread of healthcare workers.

Improving Education

This is a long-term solution that seeks to directly combat the lack of human capital in the healthcare industry and is critical to implement in developing countries. Most importantly, by seeking to improve accessibility and quality of education, there are more individuals that are entering the healthcare field, relieving the strain placed upon the existing workforce. Secondly, properly adjusting the curriculum and improving the scope of practitioner's education results in more standard procedures of cleanliness being used, reducing the rates of transmission from client to practitioner. Seeking to adjust the curriculum or improve volunteer and residency training experiences are crucial to developing the holistic nature of healthcare education. Furthermore, they are methods that do not directly require intense funding and are accessible changes to most countries. However, it takes more work to ensure an effective curriculum. Additionally, healthcare faculties in universities could be funded to increase their capacity, resulting in a larger flow of certified practicing nurses. This method is more costly but tackles directly at increasing the steady stream of practitioners entering the profession.

Mental Health Services

While there are existing general mental health services, by creating services specifically tailored to healthcare workers, there is an immediate understanding of the stressors and issues faced at large. These services would be designed to handle the mental health of practitioners, creating a more effective service. Some services may be exclusively done over a text line or website while other services can be done in person but will require locations to be set up. Regardless of the actions, a variety is necessary in order to accommodate as many healthcare workers as possible. The need for anonymity is crucial in reducing their fear of stigma and thus encouraging healthcare workers to seek help. Specialized educational programs for practitioners could be implemented as well, seeking to normalize the discussion around burnout and mental health within the industry.

Union Formation/Reforms

Without the wider body of a union, a healthcare worker does not possess strong legal negotiating power. Unionization ensures a better working environment for those in developing and developed countries alike through the protection and formation of worker rights and acts as a secondary force that encourages more to join the line of work by promoting the cause of becoming a practitioner. Unions can be organized in different ways. One option is to create a global union that guarantees a

baseline of protection for all nurses, regardless of their country or employer. While this issue does combat disparities between developed and developing countries, it also poses an issue for countries and/or institutions that are unable to uphold the standard to the same extent as other countries. What may be accessible for one country is not guaranteed for another. Therefore, there is also the option of separating unions by regions or countries which allows for healthcare workplace reforms that fit the social and economic context of the specific country better.

Heightened Hospital Security

This is an action that can be taken primarily to combat the violence within hospitals. While it is most effective at stopping criminal intent hospital violence, it can also be used for patient to worker violence depending on the approach. Hospital security could manifest as standardized usage of security cameras, hospital alarm system methods, and/or security personnel. While security personnel allow for immediate responses to violent outbreaks in a hospital, it also can serve to negatively impact the general mood for admitted patients. Security cameras and alarm systems are more discreet methods but they do not allow for a similar level of immediate action.

Improved Personal Protective Equipment and Tools

Higher quality PPE and tools are an effective method to create a safer working environment for healthcare workers. Transmission rates will be lowered as the equipment is better suited to protect workers against infections and diseases. One challenge to bear in mind though is that a solution such as this one requires copious amounts of funding. While funding for hospitals may be transferred from one aspect to purchase improved PPE, another facet of the workplace experience may be negatively impacted. A way to prevent this is through cooperation with NGOs and other countries, both of which may be able to provide sufficient funding.

Bloc Positions

Europe

With Western Europe being more economically prosperous, these countries use their healthcare budget to attract workers with better benefits and salaries. This in turn results in a larger workforce due to worker immigration from developing countries, making Western European countries supportive of competitive benefits to retain proper practitioner numbers. In comparison to Western Europe, Eastern Europe has less free funding to dedicate to healthcare. This means the quality of their PPE and tools do not meet the same standards. Not only that, but general hospital amenities and technology access

differs as well, subjecting healthcare workers to environments with a higher risk of transmission. These countries would look to improve the quality of their equipment by securing outside funding or relocating their current funding. Overall, the European bloc, due to differences in alignment, may be most effective playing into the West/East schism between the two.

Middle East

The Middle East is the most labour union repressive region in the world. Because of the stifling of labour groups, these countries would be the most interested in pushing for more global union connections that span a wider variety of countries. This takes away some of the governments' sole power to repress union rights as the management of union rights shifts to become a global responsibility. While some global union connections already exist such as the Global Nurses Solidarity, the assemblies held by such a group only comprises 25 countries, none of which are from the Middle East.[135]

Canada

Canada, recently being subject to a healthcare worker shortage, would be in support of two different policies. Firstly, Canada would strongly support worker immigration from developing countries in order to build their hospital workforce. This is because nurses residing in developing countries can obtain a higher degree of financial security working in a developed country like Canada. Secondly, they would emphasize the importance of improving education by adjusting the curriculum, funding university nursing programs, and/or improving volunteer and residency experiences.

Africa and Southeast Asia

Not only do these regions have fewer healthcare workers, but they also have increased hospital demand. Citizens of countries within these regions are more likely to be admitted to the hospitals and have longer stays due to poor hygiene conditions. Safe water, sanitation, hygiene, and equipment are the keys to quality hospital care and, as stated by the World Health Organization, "a prerequisite to health," not only for patients, but for healthcare workers as well.[136] These countries would prioritize the formation of standardized procedures for treatments as well as funding for more PPE in order to prevent rates of transmission. Furthermore, these regions are often targeted by developed countries for

[135] "Global Nurses Solidarity Assembly Convenes with Nurses from Around the World," *National Nurses United*, September 10, 2019,
https://www.nationalnursesunited.org/press/global-nurses-solidarity-assembly-convenes-nurses-around-world.
[136] "Water, sanitation and hygiene (WASH)," *World Health Organization*,
https://www.who.int/health-topics/water-sanitation-and-hygiene-wash.

immigrant workers, and therefore, would be against the competitive salaries of developed countries in order to retain a larger healthcare workforce population.

Scandinavian Countries and Switzerland

These countries are widely regarded to be in possession of superior healthcare systems and larger percentages of healthcare workers. The entire Nordic population functions under a healthcare system that is publicly financed, allowing their hospitals to have more advanced PPE and tools set as an industry standard.[137] Additionally, in the 2020 World Index of Healthcare Innovation, Switzerland ranked first for having the best healthcare system.[138] These countries would most likely support the reformation of union rights, primarily for developing countries with little union involvement; its more progressive healthcare system and methods results in a preference for more organized and widespread changes for a country's healthcare system.

United States of America

The U.S. has a unique style of healthcare in which there is no single nationwide form of health insurance. Health insurance can be purchased by private companies or provided by the government if the individual is part of a certain group.[139] Because of its structure for healthcare, the U.S. would, in opposition to many Scandinavian countries, avoid direct changes to government policies or placing aspects of the industry under governmental control. Rather, the U.S. would support specific hospitals and businesses to make policy changes and would fund these changes. Finally, the U.S. has among the highest rates of hospital violence when compared to other countries. Therefore, the U.S. would push for changes that combat hospital violence such as hospital security personnel.

Discussion Questions

1. How can stress be managed or addressed in healthcare workers? Should their job involve stress to begin with?
2. Should changes be made to the way nursing unions function? If so, what changes? Why or why not?

[137] "Overview of the Healthcare Systems in the Nordic Countries," *HealthManagement.org*, 2020, https://healthmanagement.org/c/it/issuearticle/overview-of-the-healthcare-systems-in-the-nordic-countries.
[138] Roy Avik, "Why Switzerland Has the World's Best Health Care System," *Forbes*, 2011, https://www.forbes.com/sites/theapothecary/2011/04/29/why-switzerland-has-the-worlds-best-health-care-system/?sh=765437577d74.
[139] Goran Ridic, "Comparisons of Health Care Systems in the United States, Germany and Canada," *NCBI*, https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3633404/.

3. What should be done to remedy the staggering differences in healthcare worker protection quality between countries?
4. Who should be held responsible for excessive work stress? Can the responsibility be given to a mix of parties?
5. How should workplace violence be addressed?
6. How can anonymity be ensured through counselling services for nurses? How can these be made accessible? Should they be implemented at all?
7. To what extent should legal protections be provided to healthcare workers for malpractice?

Additional Resources

A discussion on improving education to fit healthcare industry needs:
https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4869094/

The World Health Organization's official website:
https://www.who.int

The British Columbia Nurses' Union:
https://www.bcnu.org/about-bcnu

Workplace violence statistics:
https://www.thestar.com/news/world/2022/12/05/global-survey-workplace-violence-harassment-is-widespread.html

Global health workforce statistics:
https://www.who.int/data/gho/data/themes/topics/health-workforce

Mental health impact on healthcare workers due to COVID-19:
https://jpro.springeropen.com/articles/10.1186/s41687-022-00467-6

Bibliography

Avik, Roy. "Why Switzerland has the World's Best Health Care System." *Forbes Media LLC*, 2011. https://www.forbes.com/sites/theapothecary/2011/04/29/why-switzerland-has-the-worlds-best-health-care-system/?sh=765437577d74.

BC Nurses' Union. "Campaigns and Initiatives." *BC Nurses' Union*, n.d. https://www.bcnu.org/news-and-events/campaigns-and-initiatives/.

BC Nurses' Union. "History, Mission and Vision." *BC Nurses' Union*, January 4, 2023.. https://www.bcnu.org/about-bcnu/history-mission-vision.

BC Nurses' Union. "Home." *BC Nurses' Union*, n.d. https://www.bcnu.org/about-bcnu.

Brannan, Vari M, and Fiona Ross. "The health of the healthcare workers." *NCBI*, June 19, 2019. https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5299814/.

Canadian Federation of Nurses Unions. "About Us - Canada's Nurses." *Canadian Federation of Nurses Unions,* n.d. https://nursesunions.ca/about/.

Canadian Patient Safety Institute. "World Patient Safety Day." *Canadian Patient Safety Institute*, September 17, 2021. https://www.patientsafetyinstitute.ca/en/Events/World-Patient-Safety-Day-September-2020/Pages/default.aspx.

Clark, Maria. "Shocking Workplace Violence in Healthcare Statistics." *Etactics*, May 6, 2021. https://etactics.com/blog/workplace-violence-in-healthcare-statistics.

Campbell, Kristen. "Crossing the Border: Doctor Salary US vs. Canada." *Dr. Bill.*, May 8, 2020. https://www.dr-bill.ca/blog/practice-management/doctor-salary-us-vs-canada.

Einhorn, Eric S. "Healthcare in the Nordics." *Nordics Info*, February 25, 2019. https://nordics.info/show/artikel/healthcare-in-the-nordic-region.

Global Handwashing Partnership. "History." *The Global Handwashing Partnership,* n.d. https://globalhandwashing.org/about-handwashing/history-of-handwashing/.

"Global nurse shortages-the facts, the impact and action for change." *PubMed*, 2019. https://pubmed.ncbi.nlm.nih.gov/31086957/.

Government of Canada. "Canada's Health Care System." *Canada.ca*, 2019. https://www.canada.ca/en/health-canada/services/health-care-system/reports-publications/health-care-system/canada.html.

Jennings, Bonnie M. "Work Stress and Burnout Among Nurses: Role of the Work Environment and Working Conditions." *NCBI*, n.d. https://www.ncbi.nlm.nih.gov/books/NBK2668/.

Kanyangarara, Mufaro, Savannah Allen, Safia S Jiwani, and David Fuente. "Access to water, sanitation and hygiene services in health facilities in sub-Saharan Africa 2013–2018: Results of health facility surveys and implications for COVID-19 transmission." *BMC Health Services Research*, June 25, 2021. https://bmchealthservres.biomedcentral.com/articles/10.1186/s12913-021-06515-z.

Krenn, Manfred. "Working conditions in healthcare professions." *Eurofound,* August 9, 2010. https://www.eurofound.europa.eu/publications/article/2010/working-conditions-in-healthcare-professions-0.

Liu, Jenny X., Yevgeniy Goryakin, Akiko Maeda, Tim Bruckner, and Richard Scheffler. "Global Health Workforce Labor Market Projections for 2030." *Human Resources for Health*, February 20, 2017. https://human-resources-health.biomedcentral.com/articles/10.1186/s12960-017-0187-2.

Maslach, Christina, and Susan E. Jackson. "Maslach Burnout Inventory." *Mind Garden*, n.d. https://www.mindgarden.com/315-mbi-human-services-survey-medical-personnel.

McGill Nursing Collaborative for Education and Innovation in Patient- and Family-Centered Care. "Global Shortage of Nurses." *McGill University*, November 2019. https://www.mcgill.ca/nursing/files/nursing/nurse_shortages.pdf.

MDD. "Modern Drug Discovery." *ACS Publications*, n.d.https://pubsapp.acs.org/subscribe/archive/mdd.

Menzies, Isabel E. P. "A Case-Study in the Functioning of Social Systems as a Defence against Anxiety." *Sagepub*, 1960. https://journals.sagepub.com/doi/pdf/10.1177/001872676001300201.

Michas, Frédéric. "Number of practicing nurses by country." *Statista,* April 14, 2022. https://www.statista.com/statistics/283124/selected-countries-nurses-per-1-000-inhabitants/.

Penn Nursing. "History of Hospitals." *Penn Nursing*, n.d., https://www.nursing.upenn.edu/nhhc/nurses-institutions-caring/history-of-hospitals/.

Pizzi, Richard. "Apostles of Cleanliness." *The Timeline*, https://pubsapp.acs.org/subscribe/archive/mdd/v05/i05/html/05ttl.html.

Predictive Analytics Today. "Healthcare Industry." *Predictive Analytics Today*, n.d. https://www.predictiveanalyticstoday.com/what-is-healthcare-industry/.

Ridic, Goran, Suzanne Gleason, and Ognjen Ridic. "Comparisons of Health Care Systems in the United States, Germany and Canada." *NCBI*, n.d. https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3633404.

Stephens, Wallace. "Violence Against Healthcare Workers: A Rising Epidemic." *American Journal of Managed Care*, May 12, 2019. https://www.ajmc.com/view/violence-against-healthcare-workers-a-rising-epidemic.

Vento, Sandro, Francesca Cainelli, and Alfredo Vallone. "Violence Against Healthcare Workers: A Worldwide Phenomenon With Serious Consequences." *NCBI*, September 18, 2020. https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7531183/.

UK Parliament. "The 1848 Public Health Act." *UK Parliament*, n.d. https://www.parliament.uk/about/living-heritage/transformingsociety/towncountry/towns/tyne-and-wear-case-study/about-the-group/public-administration/the-1848-public-health-act/.

USA Today. "Health care: Patients found hospitals a lot different 100 years ago." *USA Today*, October 13, 2019. https://www.usatoday.com/picture-gallery/news/health/2019/10/13/what-a-hospital-looked-like-100-years-ago/40266863/.

U.S. Bureau of Labor Statistics. "Workplace Violence in Healthcare." *US Bureau of Labor Statistics*, n.d. https://www.bls.gov/iif/oshwc/cfoi/workplace-violence-healthcare.

WHO. "WHO calls for healthy, safe and decent working conditions for all health workers, amidst COVID-19 pandemic." *World Health Organization*, April 28, 2020. https://www.who.int/news/item/28-04-2020-who-calls-for-healthy-safe-and-decent-working-conditions-for-all-health-workers-amidst-covid-19-pandemic.

WHO. "Charter health worker safety." *World Health Organization*, September 17, 2020. https://www.who.int/docs/default-source/world-patient-safety-day/health-worker-safety-charter-wpsd-17-september-2020-3-1.pdf?sfvrsn=2cb6752d_2.

WHO. "Keep health workers safe to keep patients safe." *World Health Organization*, September 17, 2020. https://www.who.int/news/item/17-09-2020-keep-health-workers-safe-to-keep-patients-safe-who.

WHO. "Coronavirus disease (COVID-19) pandemic." *World Health Organization*, n.d. https://www.who.int/emergencies/diseases/novel-coronavirus-2019.

WHO. "Coronavirus disease (COVID-19) update." *World Health Organization*, n.d. https://www.who.int/bangladesh/emergencies/coronavirus-disease-(covid-19)-update.

WHO. "Protecting health and safety of health workers." *World Health Organization*, n.d. https://www.who.int/activities/protecting-health-and-safety-of-health-workers.

WHO. "Water, sanitation and hygiene (WASH)." *World Health Organization*, n.d. https://www.who.int/health-topics/water-sanitation-and-hygiene-wash.

World Medical Association. "World Medical Association Condemns Attacks on Health Care Professionals." *The World Medical Association*, April 21, 2020. https://www.wma.net/news-post/world-medical-association-condemns-attacks-on-health-care-professionals/.