



Submitted: 12/01/2025

Accepted: 18/04/2025

Published: 30/04/2025

## Warzone Healthcare Struggle: The Case of Gaza— A Commentary

**Mohamed Mahmoud Marey**

Faculty of Medicine, Alexandria University, Alexandria, Egypt and Medical Research Group of Egypt, Negida Academy, Arlington, MA, USA

**Malak A. Hassan**

Faculty of Medicine, Alexandria University, Alexandria, Egypt

**Article Link:** <https://jmlph.net/index.php/jmlph/article/view/191/version/191>

**DOI:** 10.52609/jmlph.v5i3.191

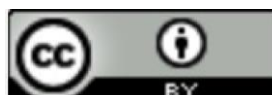
**Citation:** Marey, M. M., & Hassan, M. A., (2025). Warzone Healthcare Struggle: The Case of Gaza—A Commentary 5(3), 688–690.

<https://doi.org/10.52609/jmlph.v5i3.191>

**Conflict of Interest:** Authors declared no Conflict of Interest.

**Acknowledgement:** No administrative and technical support was taken for this research.

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# Warzone Healthcare Struggle: The Case of Gaza— A Commentary

Mohamed Mahmoud Marey, Malak A. Hassan

The chronic and rapidly evolving nature of Israel's ongoing attacks on Gaza makes it challenging to accurately quantify the unprecedented destruction that has ensued. This is the longest-standing conflict in recent Middle Eastern history. In 2007, Israel imposed a siege on Gaza, significantly hindering the provision of healthcare services, and the recent aggressions since October 7th, 2023 have had disastrous outcomes [1]. By September 2024, more than 41,000 Palestinians had been killed and more than 96,000 injured [2]. Statistics indicate that 90% of the population have faced displacement, while 96% have struggled with food insecurity [2]. There has been significant damage to Gaza's infrastructure, including housing, agricultural facilities, and water and sanitation systems [2]. The education system has suffered an alarming loss of students, staff, and school buildings [2]. A spatial statistical analysis found that, within the first seven weeks after October 7th, 2023, the damage from Israeli attacks was within 25 metres of 70.1% of health facilities, 75.8% of education facilities, and 51.3% of water facilities, suggesting violations of international humanitarian law (IHL) [3]. Correspondence published in 2024 reported disturbing death counts, suggested these were likely to be underestimates, warned of indirect deaths, and predicted a grave death toll in the event of no ceasefire [4]. Echoing countless other researchers and international organisations, it urged for an immediate and permanent ceasefire [2,4].

Israeli authorities have significantly hindered Palestinians' access to health care, even before the most recent aggressions [5], and the latest attacks have further damaged Gaza's healthcare system. By July 2024, more than 490 attacks on healthcare facilities had been recorded [2]. A study assessing the geospatial proximity of 2000-lb bomb Mohamed detonations found that, within the first six weeks

of Israel's attacks, more than 83% of Gaza's hospitals fell within the infrastructure damage and injury range of detonated bombs, 25% being within lethal range [6]. Within the same time-frame, 38 bombs were dropped within 800 m of hospitals in the evacuation zone, demonstrating that nowhere is safe [6]. By September 2024, almost 1,000 medical personnel had been killed and more than 300 others had been detained by the Israeli army [2]. Humanitarian organisations in Gaza have struggled to provide services due to restricted mobility, disrupted telecommunications, frequent checkpoints, destruction of facilities, and even the arrest of healthcare providers [7-9]. The lack of personal protective equipment (PPE) and the unsanitary conditions have made infection control nearly impossible [10], while fuel shortages, electricity outages, damaged roads, and security risks have impeded emergency medical services [6,10]. Moreover, the loss of family members, colleagues, and patients has placed a heavy emotional burden on healthcare workers in Gaza [11]. The ethical triage dilemma amidst limited resources further exacerbates the psychological impact of the war on medical personnel, and the lack of international support has led to feelings of disappointment and isolation [11]. Not only have these factors restricted the adequate delivery of medical care; they have also endangered the lives of healthcare workers.

The heightened transmission of infectious diseases resulted in 3,551 cases of diarrhoea, 8,944 cases of scabies and lice, 1,005 cases of chickenpox, 12,635 cases of skin rash, and 54,866 cases of upper respiratory infections, from October to November 2023 alone [11]. Furthermore, the emergence of poliovirus in Gaza for the first time in 25 years, amidst mass displacement, was alarming [12]. Destroyed clinics, drug shortages, repeated displacement, malnutrition, poor sanitation, communication blackouts, psychological distress, and the lack of medical supplies have left a number of high-risk groups particularly vulnerable, including dementia patients, pregnant women, newborns, children, and patients with chronic illnesses [13-16]. Despite our best attempts to capture the impact on the health system,

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Mahmoud Marey (Muhammedmarei2003@gmail.com) is with the Faculty of Medicine, Alexandria University, Alexandria, Egypt and Medical Research Group of Egypt, Negida Academy, Arlington, MA, USA; Malak A. Hassan (malakhassan786@gmail.com) is with the Faculty of Medicine, Alexandria University, Alexandria, Egypt.  
DOI: 10.52609/jmlph.v5i3.191

this is not an exhaustive list. There have been significant hurdles in data collection and reporting, making it difficult to assess the true extent of the damage. Nevertheless, the picture is one of moral failure. IHL mandates that all parties in armed conflicts refrain from targeting hospitals, healthcare providers, and humanitarian aid workers [17,18]. Parties must agree on and establish safe zones to protect civilians, ease identification of victims, and evacuate patients to safe areas with better healthcare facilities [18]. Those who violate these humanitarian laws are considered war criminals and should be held to account by international courts [17].

In recent years, we have witnessed the distressing humanitarian crisis caused by the Russia-Ukraine conflict. European nations have supported Ukraine with financial and humanitarian aid, medical teams, and refugee programmes, all of which interventions have been crucial in alleviating some of the challenges imposed by military aggressions [19]. In 2020, despite the war in Syria and the COVID-19 pandemic, UNICEF managed to deliver polio vaccinations to nearly 400,000 children [20]. In 2018, the United Nations (UN) was the primary mediator of the Hudaydah ceasefire in Yemen, facilitating the delivery of medical aid and healthcare services [21]. In light of the above-mentioned precedents, we call for a similar international response to Gaza's ongoing humanitarian crisis.

We urge the World Health Organization (WHO) to coordinate a large-scale medical evacuation operation in Gaza to facilitate disease control and improve access to healthcare. The UN must establish safe zones to safeguard civilians and health workers, and to ensure unrestricted access to medical aid under international agreements. Doctors Without Borders/Médecins Sans Frontières (MSF) should expand its presence by establishing field hospitals near the borders to provide critical trauma care. We note a dire need for international medical volunteer teams, under UN supervision, to provide essential healthcare services and address the shortage of human resources. In addition, such teams should aim to document violations against healthcare providers to ensure the responsible party is held accountable. Future interventions should also aim to improve the mental health and well-being of healthcare workers in Gaza [11].

This may be our final opportunity to save the remaining Palestinians in Gaza. It is our moral imperative to advocate for the civilians impacted by the

ongoing attacks, in alignment with the principles of medical ethics. We wish eternal peace for the victims, a quick recovery for the injured, strength and patience for their families, and a brighter future for this geographical region.

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