

PERSPECTIVE

Roadblocks to Cancer Care in the Occupied Palestinian Territories

RU'A RIMAWI, BRAM WISPELWEY, AND NAVID MADANI

Introduction

The occupied Palestinian territories, as referred to in international humanitarian law since 1967, comprise 6,220 square kilometers divided into three regions: the Gaza Strip (360 square kilometers), the West Bank, and East Jerusalem (together, 5,860 square kilometers).¹ The occupied Palestinian territories have a population of approximately five million people—and 44% are children under 18 years, double the percentage in the United States (21.7%).² Population density for the whole region is 892 people per square kilometer, making it one of the world's most densely populated areas.³ For context, Palestine is similar in area to the US state of Delaware, but with five times Delaware's population.⁴

The existing health care system comprises fragmented services that have evolved across generations and various governing regimes. The main providers of health services include the Ministry of Health, the United Nations Relief and Works Agency for Palestine Refugees, nongovernmental organizations, and the private medical sector. The Ministry of Health is regarded as the primary provider.⁵ However, in the West Bank, the division of the region into areas A, B, and C limits the ministry's ability to serve Palestinians in Area C, which makes up 60% of the West Bank and remains under full Israeli control.⁶ This fragmented health care system is unable to meet people's needs during the best of times.⁷ Because it relies heavily on external actors, patients' care is placed at the mercy of third parties.⁸ This deliberate “de-development” and lack of independence hinders the system's ability to develop autonomously, contributing to what Yazid Barhoush and Joseph Amon describe as a form of medical apartheid.⁹

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Cancer remains among the top leading causes of death in Palestine.¹⁰ According to the International Agency for Research on Cancer, breast cancer is the most common cancer in the country. Although its cancer incidence rates are comparable to those of other Arab nations in the region and significantly lower than in Israel, Palestine has a higher mortality rate compared to most neighboring countries.¹¹ Despite the Palestinian Cancer Registry being almost 25 years old, the reported statistics are still elementary and cases are under-reported, which could indicate that prevalence is higher than what is documented.¹²

In this paper, we describe the landscape of cancer care in Palestine, focusing on factors that perpetuate violations of Palestinian cancer patients' fundamental right to health and how these violations were exacerbated after October 7, 2023.

Cancer care in Palestine

Cancer care in Palestine is divided primarily into two branches: governmental and nongovernmental. Treatment occurs at small oncology units within hospitals in the West Bank and Gaza, none of which have specialized pathology laboratories or advanced diagnostic facilities. While surgery and chemotherapy services are generally accessible, radiotherapy services are absent. The Augusta-Victoria Hospital Cancer Care Center in East Jerusalem stands as the main and only comprehensive cancer center in Palestine. Advanced hematology and bone marrow transplantation are still unavailable. Patients needing hematopoietic cell transplants for leukemia and other blood cancers must seek referrals to neighboring countries.¹³

Although one-third of cancers can be prevented by controlling known risk factors, cancer care in Palestine remains focused on treatment, with limited emphasis on screening and prevention.¹⁴ There are no effective national programs addressing preventable cancers, including lung, colon, tobacco-related, or cervical cancer in Palestine.¹⁵ The only active screening program is for mammography. Since 2009, there have been efforts to establish a population-based mammographic

screening initiative in the occupied Palestinian territories, but it remains opportunistic and not well-targeted. In 2021, just 2% of women in the target group for mammographic screening received a mammogram.¹⁶

According to the United Nations Population Fund, even before the 2023 war began, Gaza, in particular, had seen significant deterioration in living conditions, health care access, and basic infrastructure. Its hospitals regularly suffer from equipment and medicine shortages that prevent the detection of cancers at early stages where treatment is more successful and prognoses more optimistic. For example, Augusta-Victoria Hospital data indicate that more than 60% of breast cancer cases are detected at stage III or later—almost double the percentage in the United States (33%).¹⁷

The lack of screening and diagnostic capacity leaves little room for effective treatment and long-term survival in cancer patients. For example, the five-year breast cancer survival rate among Palestinian women in Gaza and the West Bank is estimated to be as low as 40%; in most other countries with access to screening technology, the survival rate is nearly 90%.¹⁸

Pre-war challenges and limitations

Referrals

For patients in the West Bank and Gaza, the lack of tools for cancer diagnosis and treatment makes it necessary to seek care outside of the territory.¹⁹ In 2021, the majority of referrals (48%) were to nongovernmental hospitals in the West Bank, followed by 38% to hospitals in East Jerusalem. Referrals to Israeli hospitals accounted for 5%, as did those to nongovernmental hospitals within the Gaza Strip. The remaining 4% were to hospitals in other countries, mainly Jordan, Egypt, and Turkey.²⁰ Gaza's hospitals in particular face significant challenges in delivering treatment for cancer patients, primarily stemming from chronic shortages of medicines and a lack of essential medical equipment; certain specialized surgeries are simply unavailable. In 2018, many key chemotherapy drugs remained at less than one month's supply.²¹

Seeking treatment outside Gaza requires obtaining an Israeli medical permit. This process involves receiving a physician referral and a Ministry of Health approval, as well as submitting a request to Israeli authorities. A similar permit process is required for any companion, including the parents of young children.²² Patients leaving Gaza must cross the Erez checkpoint, where they undergo permit checks, body and luggage searches, and the possibility of interrogation, arrest, or detention. As outlined in the World Health Organization's 2022 timeline for Gaza patient referrals, applying for a permit is a lengthy and unpredictable process that can take several months (Table 1). After getting the permit, crossing the checkpoint—even in urgent cases—can take up to seven hours.²³

In 2022, 20,295 permit applications were issued for Palestinian patients in Gaza. Most (35%) were cancer patients. Of the 20,295 permit applications, 33% were delayed or denied. Nearly one-third (29%) of the patients applying for a permit were minor children who needed a companion, but 62% of companion permit applications were delayed or denied, and 25% had to proceed to treatment without their companion.²⁴ The vast majority of unsuccessful patient permit applications do not receive any explanation of the reason for denial or delay.²⁵ A survival analysis conducted by the World Health Organization for Gaza patients referred for cancer therapy from 2008 to 2017 revealed that delays or denials of permits increased the likelihood of death from cancer by 1.5 times.²⁶

Patients in the West Bank seeking treatment in East Jerusalem or Israel go through a similar process that includes obtaining Israeli permits and crossing checkpoints. In early 2023, 565 movement barriers in the West Bank were documented. These

include Israeli checkpoints, roadblocks, earth walls, and trenches.²⁷

Lack of equipment and facilities

Those seeking to build or equip a health care facility must get permission for these materials from Israeli authorities. Permits are frequently delayed or denied.²⁸ In 2021, for example, the Palestinian Authority submitted to Israel 120 requests to import X-ray machines and spare parts for imaging equipment into the Gaza Strip. Of these applications, 83 (69%) were denied, 6 (5%) were canceled, 1 (1%) was delayed for further study, and 30 (25%) were approved an average of 58 days after request submission. Similarly, of 13 requests submitted for the entry of oxygen generators and related installation or spare parts, 9 (69%) were denied.²⁹

Although Israel's stated concerns about theft of radioactive materials for nonmedical use have never materialized, Israel unilaterally blocks radiotherapy machines entering the West Bank and Gaza.³⁰ This means that the two linear accelerators in East Jerusalem must serve all Palestinian oncologic needs. Thus, Palestinians have an access rate of one machine per 1,000,000 inhabitants; for comparison, the United States has an access rate approximately 11 times higher.³¹

Financial challenges

The Palestinian economy has witnessed a significant deterioration and accelerated "de-development" characterized by poor public investment, infrastructural deterioration, and a deepened dependence on Israel.³² Although nearly half (47%) of the 2022 Ministry of Health budget for disease treatment was utilized for cancer treatment, since September 2021, the main Palestinian cancer cen-

TABLE 1. World Health Organization timeline for Gaza patient referrals in 2022

Type of case	Medical decision	Medical approval	Financial approval	Appointment date	Permit process	Total time from referral to permit
Regular cases	2–7 days	3–4 days	7–20 days	14–60 days	7–30 days	33–121 days
Urgent cases	1 day	1–3 days	1–3 days	2–3 days	1 day	6–11 days

Source: World Health Organization, *Timeline for Gaza patient referrals: 2022* (2022), https://www.emro.who.int/images/stories/palestine/WHO_infographic_timeline_for_gaza_patient_referrals_2022.pdf?ua=1.

ter has been forced to turn away nearly 500 cancer patients due to its inability to afford expensive chemotherapeutic drugs and other cancer treatments.³³ The economic crisis led the Palestinian Authority to default on US\$72 million in loans intended to support cancer treatment for Palestinian patients.³⁴

Political instability

Before October 2023, 100 cancer patients traveled daily from Gaza to the West Bank and Jerusalem for radiotherapy, chemotherapy, or surgery. When checkpoints close, these patients are deprived of access to hospitals and necessary treatment. The Israeli authorities' five-day closure of the Erez checkpoint in May 2023, for example, meant that nearly 500 patients missed scheduled treatments. Many had to reapply for permits, leading to further delays.³⁵

The Israeli occupation also harms Palestinian health care workers, facilities, and patients.³⁶ In 2022, 187 attacks on health care workers and facilities were documented. These attacks affected operations at nine health care facilities, injured 105 health care workers, and obstructed, damaged, or otherwise impeded 108 ambulances.³⁷ We cannot know the impacts of these incidents on cancer care, as some individuals whose treatment is disrupted or prevented may simply decide not to seek further care in the face of violence.

Consequences of the current war in Gaza

In 2007, Israeli authorities initiated a land, sea, and air blockade on Gaza, isolating Gaza's residents from the rest of the world.³⁸ Since then, multiple acts of oppression and aggression have been inflicted on Palestinians in Gaza.³⁹ However, the current war has been unprecedented in its scale. Following the Hamas attack on October 7, 2023, which resulted in the deaths of 1,200 Israelis, and the subsequent Israeli military invasion, over 41,500 people in Gaza have been killed in Israeli attacks, nearly 100,000 have been wounded, and thousands remain missing under the rubble of destroyed buildings. More than 1.9 million people have been displaced.⁴⁰ Only 10

of Gaza's 36 hospitals remain partially operational, hundreds of health care workers have been killed, and at least 26 such workers have reportedly been kidnapped by the Israeli military.⁴¹

Cancer patients in Gaza urgently need basic health care services—a situation further complicated by restrictions on essential medical supplies, including chemotherapy drugs. The Turkish-Palestinian Friendship Hospital, the sole facility in Gaza specializing in treating cancer, has closed because of frequent Israeli attacks and a lack of fuel and medical supplies. The deaths of at least 12 cancer patients were documented 10 days following its closure.⁴² Despite some international efforts to evacuate cancer patients, of Gaza's estimated 10,000 cancer patients, approximately 3,800 have been granted permission to leave. However, in reality, only around 600 have been evacuated since the start of the war.⁴³

The way forward

Despite the enormity of the obstacles facing cancer care in Palestine, we as physicians and scientists must work to mitigate the dreadful consequences. We join with many other health professionals to urge the global medical community to demand a humanitarian ceasefire to protect innocent lives. Concurrently, we must advocate grand-scale humanitarian aid, launch fundraising campaigns to restore health infrastructure in Gaza, and facilitate the transfer of cancer patients to safer hospitals for continued treatment with a guarantee of return when appropriate. Establishing accessible cancer care in Palestine necessitates a robust referral system for timely access and a long-term commitment to the protection of health care professionals and facilities. Most crucially, we must foster autonomy by building sustainable health care capacity and ensuring that health care in the occupied Palestinian territories has an independent budget dedicated to supporting cancer patients.

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