

## Moral dilemmas faced by hospitals in time of war: the Rambam Medical Center during the Second Lebanon War

Yaron Bar-El · Shimon Reisner · Rafael Beyar

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**Abstract** Rambam Medical Center, the only tertiary care center and largest hospital in northern Israel, was subjected to continuous rocket attacks in 2006. This extreme situation posed serious and unprecedented ethical dilemmas to the hospital management. An ambiguous situation arose that required routine patient care in a tertiary modern hospital together with implementation of emergency measures while under direct fire. The physicians responsible for hospital management at that time share some of the moral dilemmas faced, the policy they chose to follow, and offer a retrospective critical reflection in this paper. The hospital's first priority was defined as delivery of emergency surgical and medical services to the wounded from the battlefields and home front, while concomitantly providing the civilian population with all elective medical and surgical services. The need for acute medical service was even more apparent as the situation of conflict led to closure of many ambulatory clinics, while urgent or planned medical care such as open heart surgery and chemotherapy continued. The hospital management took actions to minimize risks to patients, staff, and visitors during the ongoing attacks. Wards were relocated to unused underground spaces and corridors. However due to the shortage of

shielded spaces, not all wards and patients could be relocated to safer areas. Modern warfare will most likely continue to involve civilian populations and institutes, blurring the division between peaceful high-tech medicine and the rough battlefield. Hospitals in high war-risk areas must be prepared to function and deliver treatment while under fire or facing similar threats.

**Keywords** Ethics of healthcare management · Mass casualty incidents · Medical ethics at war

### Introduction

The summer of 2006 is remembered in Israel for the Second Lebanon War. Over a 1 month period, while military troops fought in Lebanon, more than 3,000 rockets landed in northern Israel,<sup>1</sup> exposing a civilian population of about a million and a half to existential threat for an extended period of time. Forty-four civilians and 119 soldiers died in the war. More than 4,000 civilians suffered injuries, most of them from psychological reactions, and about 700 soldiers were wounded in battle. Many public services were paralyzed. Trains stopped running in the north and other public transportation was reduced to a minimum. Stores, day care centers, summer camps, clinics, pharmacies, and some of the social and municipal services curtailed their activities.

To recap the events: on July 12, a Hezbollah force (Lebanese-Shiite militia) entered Israeli territory from

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Yaron Bar-El: Deceased.

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Y. Bar-El  
Haifa, Israel

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S. Reisner · R. Beyar (✉)  
Rambam Health Care Campus (Medical Center), P.O.B. 9602,  
3109601 Haifa, Israel  
e-mail: R\_beyar@rambam.health.gov.il

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<sup>1</sup> In this context the “northern part” of Israel is the area within range of Hezbollah missiles—60 km from the border, covering about 5,000 km<sup>2</sup> (23 % of the nation) and affecting one and a half million people, approximately 20 % of the population.

Lebanon and attacked an army patrol, killing three soldiers, wounding two, and capturing two others. A few hours later the government of Israel took military action against Hezbollah, which had been stock-piling tens of thousands of short-range rockets capable of reaching all of Israel's north. The government of Israel declared a "special situation on the home front," a legal status that allowed security forces to act to protect civilian lives and maintain vital services. This status was one step short of full emergency measures. Consequently, work confinement orders, which are part of a full emergency, were not issued and only about a third of the northern population left their homes for shelter in the center or the south of the country. Among those left behind were many elderly and underprivileged. It is also noteworthy, that enough personnel kept showing up at work to preserve all basic services. Hence, military units did not have to be deployed for civil activities such as police or utility services.

In this difficult situation, hospitals in the north of the country stood out by continuing to provide comprehensive and dedicated medical care to the sick and the injured, at a time when their own employees were vulnerable to rocket fire. This paper focuses on the situation at the Rambam Medical Center in Haifa and on the professional and moral issues that had to be addressed during that difficult period. Specifically, this article describes several moral dilemmas faced by hospital management with regard to the protection of patients and staff, the mix of services offered during the war, and the manner in which we coped with these dilemmas.

The paper offers a unique perspective in which those people responsible for the hospital administration recount some of the ethical, moral, and other considerations behind their reasoning. Since the central government gave much liberty to local hospital management, Rambam's story is also the story of the largest hospital-level gear-up in the face of these missile attacks and how responsibility for both civilians and soldiers on the front was handled by a tertiary medical center.

### **Background: the Rambam medical campus during the war**

Rambam is a 1,000-bed Israeli government hospital serving as the main hospital in northern Israel, and the only tertiary care center for the region. Rambam serves as a referral center for twelve district hospitals, including hospitals in Afula, Nahariya, Safed, Tiberias, Nazareth, and in Haifa. Rambam is also home to the north's only Level One trauma center, and neurosurgery and thoracic surgery departments. A large and experienced trauma unit allows for efficient treatment of severe and complex injuries and coping with

mass casualty events. The hospital is managed by a medical director and two associate directors, all of whom are physicians aided by an administrative managerial team. The medical management team is responsible for the safety and wellbeing of all patients and staff, and report to the Director General of the Ministry of Health.

Over the years, the Haifa area has experienced several severe terror attacks resulting in many casualties who were treated at Rambam. In periods of war the most seriously injured were referred to Rambam.

To maintain a high level of preparedness, the Israeli Ministry of Health and the Home Front Command conduct numerous hospital drills involving various scenarios of mass casualty events. However, while the hospital was well prepared for singular disasters such as suicide bombings or poisonous gas leakage, the hospital was never prepared for direct exposure to missile fire and other similar attacks. On July 12, 2006, Rambam received a warning from the security authorities and made the necessary preparations by reinforcing the trauma and surgical units. Two days later a rocket fired from Lebanon struck the slope of the Carmel mountain some 1,000 m from the hospital. There were no injuries. Three days later there was a massive rocket attack on Haifa and the north. A direct hit on a railway depot in Haifa killed eight workers and injured many others. The injured were taken to hospitals in the city, with the severely injured taken directly to Rambam. From that day on Rambam and the other area hospitals found themselves in a situation never before encountered: having to maintain full operations while at the same time being exposed to rocket attacks and possible injury.

Rambam was not built to sustain direct or even indirect explosive assaults. Only a few sections of the hospital, mostly located in the basement, were regarded as relatively safe and durable. Most of the hospital, including all the inpatient departments and the emergency room, were not unfortified and offered no protection, not even against shrapnel or explosive fragments. Located by the seashore, most of the hospital faces directly north, the direction from which the rockets were being fired (Bar-El et al. 2009).

### **Dilemmas and decisions**

To function effectively, a hospital must protect its staff as well as its patients. Whenever technical solutions that meet the needs of all hospital contingents are available, the choices are essentially administrative and professional. Given infinite time and resources, all decisions are based on well-weighted administrative constraints. However, this rarely happens in the real world. When choices must be made rapidly under conditions of limited resources, significant ethical dimensions are faced. Moral dilemmas

enter the picture when you must start allocating resources and rationing services. During the 2006 war fortified spaces had to be improvised and were a limited resource at Rambam. While many “bioethical dilemmas” may and should ordinarily be regarded as problems in need of creative approaches, the exigencies of war pushed forward quick decisions and ad-hoc resolutions.

A direct result of imminent danger, the moral dilemmas were deeply felt. Some 60 rockets fell within a radius of half a kilometer (one-third of a mile) from the hospital. One rocket fell directly on the plaza next to the hospital’s main entrance. Many fell into the sea, close to the hospital; other hospitals were less fortunate. The Nahariya hospital, located 10 km from the Lebanese border, sustained a direct hit in an inpatient department; fortunately it had been evacuated prior to this attack. Rockets fell in the immediate vicinity of other hospitals as well.

Dilemma resolution was always a process that started by facing an issue when meeting reality while being in the same situation as the hospital teams. It is important to understand that the constant visits by the leadership and administration to hospital staff at the time of conflict was extremely important in understanding the source of the dilemmas and in reaching creative solutions. Each day, and sometimes several times a day, there were conference calls with the Ministry of Health during which they were presented with problems being faced. However, these conference calls did not help to resolve these ethical dilemmas. The resolutions to the dilemmas presented below could only be achieved via an iterative process between hospital leadership and the clinical and administrative departments at the hospital.

#### Dilemma 1: protecting patients

From the onset of events it was clear that our first duty was to treat the injured civilians and soldiers, whether they arrived directly from the field or were referred from other hospitals. Our main problem was to provide maximum protection for our patients and for the injured who arrived at the hospital.

With the assistance of the Home Front Command and the Ministry of Health, the management undertook several measures to reinforce and add some protection to the hospital. Windows were covered with plastic sheets to protect against shattering and oxygen repositories were protected with sand bags. The top floors of the hospital, as well as wards facing north were evacuated, those patients were transferred to other departments on lower floors and in the southern wing. Patients were also placed and treated in underground corridors.

But there was not enough room for everyone. After several days, when it became apparent that the state of

emergency was not going to change, and the rocket attacks continued and even intensified, we decided to convert an underground storage area that lacked any infrastructure (water, sewage, electricity, air conditioning) into a patient area. Within 3 days the area was cleaned out and supplied with water tanks, mobile chemical toilets, electricity, and air conditioning. Some 100 patients were moved into this area; although the conditions were highly overcrowding the protection offered was far better at their previous locations. However a group of oncology patients, whose ward was on the top floor and facing north, asked not to leave the department. They argued (correctly, one might add) that their chances of being injured by rockets was relatively lower than their chances of being killed by their disease. Therefore they preferred the greater comfort of their ward over enhanced safety. The hospital’s management decided to honor their request, and not to impose the safest standards possible. The same held true for patients in bone marrow transplantations units under isolation; moving them to a common fortified location would have increased the risk of infection.

Obviously, in the face of heavy bombardment and similar emergencies, there is little choice but to evacuate. However, because the risk incurred by not evacuating was not unreasonably high, the special situation at Rambam during the war presented the patients and staff with a new kind of dilemma. Risk of injury had to be weighed against the risk of compromised care in non-ideal hospitalization conditions, together with psycho-moral issues such as exposure to rockets versus staying in an overcrowded basement. Whereas emergencies typically call for centralized and paternalistic policies, the hospital management considered their role more as a facilitator of protection (i.e., clearance of fortified spaces) while being open to patients’ autonomous choices regarding evacuation, at least in the cases of vulnerable patients who could understand their medical condition fairly well.

#### Dilemma 2: continued elective activities

A second dilemma was whether to continue the hospital’s regular and elective activities. While some of Israel’s northern population moved to the south of the country, thereby reducing the hospital’s elective activities, many patients remained in the area and needed medical services that for the duration could not be provided by the community. For example, almost all dialysis clinics outside the hospitals were shut down. Patients were referred to hospitals that could offer somewhat better protection than the local clinics, by moving dialysis services to basements. Other patients came to ask for medication. After each rocket attack, in addition to those who sustained bodily injuries, numerous people suffering from acute stress

reactions were rushed to the hospital to be examined and treated appropriately. In total, 849 patients were treated in Rambam's emergency department, 351 of which suffered from acute reactions to stress and were not hospitalized. Of the 281 patient hospitalized, 215 were soldiers and 66 were civilians. All of these patients arrived at a hospital that was mostly not fortified. Rambam found itself challenged by the requirement to serve the soldiers and civilians wounded and injured in the war, while at same time having to continue to offer necessary medical care to northern Israel's population. The hospital leadership decided to continue all possible medical activities, both emergency and elective in parallel to each other. We assumed that if there were patients who preferred to continue their routine treatments and to undergo planned surgery under these conditions, we must comply with their wishes. We informed patients through the media about the situation at the hospital and about the risks involved, so that they could make informed and reasonable decisions. But we did not discontinue any activities and we did not suspend any of the services that Rambam provided under normal circumstances.

Even though procrastination of elective care would have reduced some of the burden, especially the competition over fortified space and the exposure of patients and professionals to war-related risk, it has also been assumed, as discussed below, that dilution of medical services is harmful to many patients. If the patients are willing to receive care, the hospital must be responsive. Moreover, maintenance of routine life even in conditions of emergency and war is part of the Israeli national ethos and mode of coping. Lastly, it is possible that adherence to peaceful routines (as much as possible) also reduces the overall risk of post-trauma and other psychological reactions to the stress of war (Solomon and Benbenishty 1986). Although overall activity declined by about 50 % during the war, many thousands of patients were received by Rambam for routine medical treatment. Seven thousand people were treated in the emergency room for conditions not related to the war, 4,700 of them were hospitalized while 26,000 people were treated at the outpatient clinics. We performed a variety of surgical procedures that were not urgent. No medical services were suspended during the war. Two hundred women came to give birth. Patients arrived at the hospital dental clinics; others arrived to complete their diagnoses. Emergency and non-emergency procedures continued throughout this period.

We believe that it was important to continue routine activity for other reasons as well. The injured arrived in waves. During the day, a large number of injured and emotionally stressed patients arrived at the hospital following each rocket attack (6–12 rockets each time); however between those peaks activity ebbed significantly. Although no rockets were fired at night, this was the time

when the injured soldiers were evacuated to the hospital. We found that it was entirely possible to maintain a basic level of clinical activity and ramp it up upon the arrival of the injured, as needed. The hospital's system worked at only a portion of its capacity in all disciplines and no conditions were encountered where emergency services could not be provided due to the on-going elective activities.

#### Dilemma 3: protecting medical staff

One of our central dilemmas concerned the presence of the staff during alarms. The instructions of the security authorities to the population were to remain in their homes or in places from which it was possible to quickly reach protected spaces (places such as staircases and basements, which can provide a measure of protection against shrapnel and explosions). Within the hospital, these areas were mapped and marked. During alarms, those staff, visitors, and patients able to do so rushed to these places. However, there were no protected places in every building; hence, at times staff members had to run from one building to another during alarms. Naturally, bed-ridden patients could not move to other buildings. While doctors and nurses would never abandon patients in need, they would often move to safer areas when their presence at the bedside was not medically indicated. Although this practice was safe and justifiable by utilitarian considerations (overall least risk of exposure), a strong sense of moral discomfort set in nevertheless. This situation is borne out by the following vignette.

An injured soldier recently recounted his hospitalization experience at Rambam following a severe injury in Lebanon. He said that when he had regained consciousness in his bed in the intensive care unit, he felt a great sense of relief, knowing that he was being cared for and in a safe place. He believed that he was already out of danger. To his great surprise, soon afterward he heard the siren announcing a new wave of rockets and saw the staff that was caring for him leave for the protected space, outside the intensive care unit. This injured soldier did not criticize the medical team openly. Obviously every attempt should be made to prevent unnecessary risks to the staff. However, this activity clearly generated a distraction that could potentially impede medical care and is not aligned with the ethical rules of the doctor patient relationship: if the patient is deserted, even if only for 2–3 min, it may affect their medical care.

#### Dilemma 4: protecting administrative staff

A further dilemma concerned our general guidelines directed at hospital employees. Throughout history, despite

well ingrained fiduciary commitments, many doctors fell under criticism for running for their lives during plague outbreaks. The most recent discussion of the boundaries of medical altruism has been discussed in the wake of Hurricane Katrina (Jacob et al. 2008). Less clear are the fiduciary commitments of supportive staff such as secretaries and technicians. This is not a mere personal question. If they are not committed to altruistic self-risk and exposure to stress, then, the hospital management may have the duty to refrain from exposing them to direct and indirect pressure to remain at work. Ninety-six percent of Rambam's employees presented themselves to work, a much higher percentage than that of the population that remained in the area. Consequently, all hospital systems continued to function normally, although, as noted, the level of activity was lower than usual. It is not clear, however, to what extent this high rate of attendance reflected conscientious choice, or misperception of legal duty, or even fear of some form of retaliation or contempt by their peer. However, it is evident that a very high rate of attendance was achieved without an official declaration of a "state of emergency" and martial law.

### End of the war and lessons learned

The fighting ended and quiet returned after 34 days. People returned to their homes and public and community services resumed in full. This was the time to summarize the lessons we learned in the course of the war. Our analysis showed that:

1. It was only luck and statistics that prevented casualties among hospital patients and staff due to a direct or indirect hit by a rocket.
2. There is a high likelihood, that this was not the last war in this volatile region. Therefore, the opportunity to use the rockets amassed in large arsenals will present itself again.
3. In the next war there is a high likelihood that other parts of the country will be exposed to rocket attacks. In that event, our ability to evacuate patients and the injured to other more secure hospitals may not exist.

Based on these assumptions and on our long term experience from involvement in wars, we reached the conclusion that a situation in which the lives of hospital patients and staff are in danger is intolerable. We understood that we must make every effort to fortify the entire hospital. The first decision was to build a completely fortified emergency room. We had started planning the construction of the emergency room before the war. At the end of the war, based on what we had learned, we decided that the emergency room had to be entirely fortified against

conventional and chemical war fare. We raised funds from a variety of sources, and 3 years later, in November 2009, we inaugurated the new, fully fortified emergency room.

However, this was not enough as it did not meet our requirement for a safe place to treat thousands of patients under fire. The second major decision was to redesign the planned underground parking for the hospital as a dual purpose facility. The parking was redesigned so that under emergency conditions, it could be converted into a fortified underground hospital. A great deal of attention was given to this matter; the final design enabled conversion into a 2,000-bed hospital within 72 h. In addition, the three-floor underground parking lot can accommodate treatment stations, operating rooms, a maternity ward, dialysis services, labs, and nearly everything else required for treating patients and the injured in an emergency caused by conventional or non-conventional warfare. The redesigned parking structure will be operational by the end of 2013.

### Discussion

The problems, dilemmas, and decisions we faced during the 2006 Second Lebanon War are not unique to the Middle East or even to war scenarios. We know from the medical literature about the difficulties of operating hospitals in London during the blitz (Tarrant 1943) and elsewhere during World War II (Weisskopf 2008) as well as in other wars (Hebrang et al. 2006). Hospitals operating in areas where there are natural disasters face similar difficulties. The stories of the hospitals that treated the SARS victims in 2002 (Svoboda et al. 2004) and of hurricane Katrina in 2005 (Bergron and Curiel 2006) illustrate the number one moral imperative of the medical profession everywhere: treating the sick and the injured even when the caregivers themselves are in danger.

Unfortunately, war is a common human experience. But fortunately, modern hospitals located literally in the war zone are a very rare occurrence.

This paper has presented a few moral dilemmas faced by the physicians-managers who experience armed conflict involving the civilian population. Whereas commands are passed down from the top down in many war situations, we had the benefit of a great deal of independence. As hospital managers we were not in a position of having to "obey orders," and the civilian population, inclusive of hospital workers, were not mobilized. Our story shows, that at least in similar situations of war, voluntary efforts and local autonomy are compatible with efforts to cope with emergency situations. These reflective testimonials serve the middle ground between abstract ethical reasoning and clinical case reports. The emergencies described herein are unique because, even under fire, the hospital strove to

maintain very high levels of safety and to deliver high-end medical care. We had to reassess the standards of risk for both patients and caregivers. Under bombardment, the hospital management benefited from considerable leeway of discretion, not being subjected to strict orders from the “top.” These kind of reflective testimonials may draw attention to an under-discussed set of bioethical problems in which disaster or mass-emergency medicine may cultivate rich and far-reaching standards of ethical reflection and decision making.

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