

Member care versus humanitarian aid: using the Iraq conflict to examine the role of military medicine in war

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MILITARY MEDICAL PERSONNEL in war have a primary mission to provide medical support to their defence force members. When members of the local population present (as military or civilian battle casualties, or as civilians seeking other care), tension develops between the primary mission and the general medical duty of care. In this article, I use my experience in the United States Level 4 Field Hospital at Balad, Iraq, to discuss the role of military hospitals in war.

The US field hospital at Balad

In 2005, the US Field Hospital at Balad was the premier Coalition trauma centre for all of Iraq. Equipped with an emergency department, three operating theatres with six operating tables, three computed tomography scanners, three intensive care units (ICUs) and three general wards, it was the main referral centre for all seriously injured US soldiers in Iraq. Virtually all surgical specialties were available, including thoracic, neurosurgery, ophthalmology, trauma, orthopaedic, otolaryngology and vascular surgery. There was a well equipped haematology lab, capable of supplying blood products for truly massive transfusions.

Trauma care for US forces in Iraq begins with “buddy care” at the point of injury, then rapidly progresses through combat medics to rapid transport, usually by helicopter, to a Level 3 facility at a Forward Operating Base for initial surgical care. After initial surgery, patients are moved to the Level 4 hospital at Balad for further care and, in most cases, for airlift to Landstuhl Regional Medical Center in Germany, and subsequently to the US. US policy directs that their serious casualties be evacuated from Iraq within 3 days, and most are en route to Germany within 24 hours.¹

Consistent with this rapid evacuation policy, the hospital was intended to provide only short-term patient care and was constructed and equipped accordingly. The wards were tents, albeit with concrete floors, and the beds were canvas stretchers. Despite air conditioning, an aerosol of fine,

Abstract

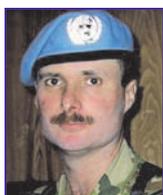
- ◆ Australian Defence Force medical and nursing staff worked with United States forces in the US Military Field Hospital at Balad, Iraq, in 2004–2005. Working in the intensive care unit, they experienced modern military medicine under wartime conditions.
- ◆ Examination of the work undertaken suggests that military hospitals in wartime carry out two separate and opposing missions: member care and humanitarian aid.
- ◆ These missions have different resource allocations, priorities and responsibilities, and are therefore in constant competition.
- ◆ Understanding this dichotomy is vital to allow appropriate triage, and thus efficient use of scarce military medical resources in wartime.

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powdery desert sand hung constantly in the air, creating significant maintenance challenges for the medical equipment technicians. The ICU itself was not set up for prolonged patient care, with simple ventilators, no circuit humidifiers and no facilities for haemodialysis. There were no hard-wired services, and the walls and floors were festooned with cables and pipes that brought oxygen, suction and electricity to each bedside. The sum of all these parts was a noisy and at times chaotic environment, with numerous hazards to patients and staff that would not be found in a peacetime trauma centre. The regular need for staff to work in body armour and helmets during indirect fire attacks only added to the difficulties faced.

Management of Iraqi military and civilians

In contrast to injured US service personnel, who received short-term care before being evacuated to Germany for definitive treatment, Iraqi patients were admitted to the military hospital at Balad in large numbers and remained there for extended periods. Far from comprising only fit young soldiers, the Iraqi patients covered the full spectrum expected in a war zone, with young and old, military and civilian, and injury and illness cases all presenting. The stated policy of the hospital was that Iraqi patients would be transferred to local facilities when stable.¹ However, local health facilities were under severe stress,²⁻⁴ and were generally unable to care for long-term high-dependency patients. Consequently, once admitted to the US facility at Balad, many of the Iraqi patients remained until they recovered sufficiently to be transferred, or died.



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I estimate that during my deployment about 80% of patient care effort in the ICU at Balad went to Iraqi citizens, a figure concordant with another estimate that, across the country, more than 80% of US military hospital bed-days were occupied by Iraqis.⁴ This meant that a temporary facility, under canvas, was attempting to manage chronic critical care patients, often with complex injuries and established multisystem failure. Such patients consumed large amounts of the limited human and medical resources available. They occupied beds that were intended for short-term care of Coalition forces. They competed directly with Coalition forces for health resources, and, by overloading the facility, risked adverse outcomes both to themselves and to Coalition patients. Their care needs frequently fell outside the expected mission, and thus the equipment inventory, of the facility. For example, there was no haemodialysis, no paediatric suction equipment, and no pressure care mattresses. In a hot, dry desert environment, there were no circuit humidifiers for the ventilators. At one point, I was forced, at the bedside, to make a paediatric suction catheter out of fine-bore feed tubing to rescue a 20 kg paediatric patient who was critically hypoxic after pulmonary secretions obstructed a bronchus while being ventilated on unhumidified gases.

Severe overloading of the unit also resulted in staff shortages, particularly among the nurses. The intensive care nurses worked 12-hour shifts, 6 days a week, looking after two to three ventilated patients at a time. When absent (eg, for toilet breaks, or to collect meals, which were eaten at the bedside), their colleagues would cover for them, meaning at times that a single nurse might be supervising five or six ventilated patients. This level of effort is unsustainable; it risks staff burnout⁵ and adverse outcomes for the patients.

Many of the long-stay Iraqi patients did not recover to leave the ICU. They tended to accumulate more and ultimately fatal intensive care complications (such as sepsis, pressure sores, and system failures) until they died after about 30 days. In



Intended only as a short-term holding facility, the field hospital was largely fitted with equipment suitable only for short-term patient care.



Equipped with three operating theatres, three computed tomography scanners, three intensive care units and three general wards, the United States Field Hospital at Balad was, in 2005, the principal Coalition trauma centre for all of Iraq.

many cases, this outcome was predictable early. Iraqi citizens with severe penetrating head trauma and cervical cord injuries were repeatedly admitted to the ICU, despite there being no realistic prospects for their recovery. The lack of robust admission, discharge and withdrawal-of-care criteria for Iraqi patients was a major cause of ICU overload. At one point, three of the 12 Iraqi patients in the unit were ventilator-dependent high cervical quadriplegics. Each remained an inpatient in our unit for about 14 days, and received multiple surgical procedures (bony fixation, tracheostomy, feeding gastrostomy) before being transferred by helicopter to an Iraqi hospital for chronic care.

Iraq is a country at war, with daily interruptions to basic services such as water and power. Iraqi hospitals regularly receive dozens of trauma patients after major bombings. Sometimes a follow-up bomb targets the hospital as well. Under such circumstances, these facilities may not welcome the transfer of totally dependent patients from US military hospitals.

The role of a military medical service in war

Notwithstanding its legal⁶⁻⁸ and moral responsibility to care for sick or injured enemy combatants and civilians, it may be argued that the principal duty of a military medical service in war is to preserve the fighting strength of the friendly forces. First and most efficiently, preservation of the fitness of a deployed force is met by a preventive health service, for, while easily forgotten today, infectious disease remains a major threat to deployed forces, and in many campaigns, casualties from illness have dwarfed those from enemy action.⁹ Second and less effectively, a military health service may direct resources towards returning the sick and injured to duty. Clearly, the greatest return-to-duty rate will come from those who are only lightly injured. Relatively few intensive care patients, for example, will return to duty swiftly or indeed at



Severe overcrowding in the intensive care unit, largely due to long-stay Iraqi patients, created serious patient care and staff management issues.

all. This is particularly true in Iraq, where the nature of the conflict, and the widespread use of body armour, has resulted in high rates of limb loss and severe head injury among the gravely injured.¹ Notwithstanding its poor success in terms of return-to-duty rates, there may be important positive effects on the morale of the soldiers and the civilian population at home, which justify the continued expenditure of significant medical resources on the gravely injured. Third, a military medical service may expend significant resources in the treatment of civilians or enemy combatants. While such activity is a legal⁶⁻⁸ and moral requirement, it should be recognised that such efforts intrinsically compete for resources that might otherwise be used in preservation of friendly forces.

Examination of the activities of the hospital in Balad suggests that, while set up principally as a treatment facility for Coalition forces, the hospital actually dedicated much of its effort to treating injured Iraqi civilians, a process more akin to disaster medicine or humanitarian aid.

Triage

Wars are disasters by definition, where medical demands can be expected to exceed medical resources. As such, triage principles must be followed. The term “triage”, however, is widely misunderstood. Contrary to general civilian usage, triage is not simply a process of identifying the worst injured and treating them first. Triage (from the French *trier*, to sift) is the process of sorting the injured to allow subsequent resource allocation decisions to be made. Such decisions will depend on the resources available. The US military medical services in Iraq are actually caring for two different groups of patients, with markedly differing resource allocations.

The first group are the Coalition forces. They have access to the vast resources of the US medical system, so virtually any effort can be expended to preserve the life of a Coalition soldier.¹⁰ Triage for Coalition soldiers is therefore aimed at saving lives at any cost. Even those with little chance of returning to duty, or indeed of survival, generally receive full

active care, and are rapidly transported back to the First World facilities of Germany or the US.

The second group of patients are the Iraqi citizens. They have access to fewer medical resources, particularly for rehabilitation and chronic care in the Iraq health system, and thus require a different set of triage priorities. Injured Iraqi citizens are not eligible for transfer to the First World for ongoing care. They remain in Iraq for the duration of their treatment and, even if given acute care in a US facility, will ultimately depend on local ongoing care. Triage for these patients must consider the overall availability of resources for the full duration of their care. There is little benefit in expending huge amounts of early surgical and critical care resources on a quadriplegic Iraqi patient who will inevitably die when subsequently transferred to a local facility that cannot manage a tracheostomy, or provide tube feeding or pressure area care. Failing to make appropriate triage decisions early not only subjects these patients to futile care, it wastes resources that could instead be spent on those who have a better chance of recovering and returning to useful life. It also leads to facility overload, which puts staff at risk,⁵ and compromises the medical facility’s ability to provide First World care for Coalition forces.

Reasons for failure to apply holistic triage in wartime

The triage process must take account not only of the severity of the patient’s injuries, but also of the health resources available, both immediately and long term. US field hospitals in Iraq are essentially transplanted First World trauma centres, replicating those available in the US.¹ Initial triage decisions at Balad were made by US trauma surgeons in the emergency department and appeared to be principally driven by immediate surgical need, rather than long-term prognosis.

Perceived obligations under the Geneva Conventions may influence clinical decision making. The four Geneva Conventions and two of the Protocols do address the responsibilities of a military medical service with regard to friendly, enemy and civilian casualties in wartime. The relevant passages are very general, and create conflicts for the clinicians. The Conventions require that all three classes of wounded are “collected and cared for”,⁶⁻⁸ and that enemy combatants be “treated humanely... without any adverse distinction founded on sex, race, nationality, religion, political opinions, or any other similar criteria”.¹¹ They also stipulate that “only urgent medical reasons” (rather than long-term prognosis, for example) “will authorise priority in the order of treatment”.¹¹ This poses a new challenge for military medicine, for it would appear that the clinical realities of military medicine have moved ahead of the text of the Geneva Conventions.

Conclusions

War zones are disaster areas and it is to be expected that medical demands will routinely exceed supply. It therefore

follows that triage principles must apply. Triage, however, should be viewed as a process that fully considers all the resources available and required for the duration of a patient's illness. The US military hospitals in Iraq are actually caring for two divergent groups of patients, each with access to different resources. Injured Coalition patients are rapidly transported back to an environment that has effectively unlimited resources, and a "save lives at any cost" approach can be taken. In contrast, injured Iraqi citizens must remain in country, where there are severe limitations to rehabilitation and chronic care facilities. Consequently, realistic initial assessments must be made concerning the patients' potential for rapid recovery and return to independent life. Care, once commenced, must be continually reviewed, and modified or withdrawn promptly if shown to be inappropriate. Failure to triage holistically, and allocate care appropriately, will result in wasted effort and limit the good that can be done with the resources available.

Competing interests

None identified

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