MEDICAL SUPPORT OF MILITARY OPERATIONS LED BY ORGANIZATIONS OF INTERNATIONAL CRISIS MANAGEMENT

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Abstract: Appropriate medical support is key factor that positively influences will of every soldier to conduct military operations and willingness to risk his or her own health and life. It is therefore task of all personnel responsible for planning of military operations to take all aspects of adequate medical support into account. The paper deals with medical support of military operations led by organizations of international crisis management. The author analyses approach of the United Nations, the North Atlantic Treaty organization and the European Union to medical support of their military operations.

Keywords: Medical support, medical support principles, medical planning, the United Nations, the North Atlantic Treaty Organization, the European Union.

1 INTRODUCTION

The ultimate role of military medical support - supporting the troops in performing their tasks by preserving and restoring their health and fighting strength – remains unchanged. [2] Effective medical support is fundamental to military operation success and the provision of appropriate and visible medical support demonstrates both military resolve and nation’s commitments to its forces. All organizations of international crisis management have their own methodologies for planning and execution of medical support and therefore it is important for those who are responsible for medical planning to have overview all of these methodologies, because 22 European countries are members of the European Union, the North Atlantic Treaty Organization and the United Nations at the same time.

What more, the current global environment, development in medicine and changes in the military pushes member nations of organizations of international crisis management and as well their contributing nations toward seeking a multinational approach to medical support of military operations.

Thus there may be substantial international cooperation to provide sufficient deployed medical support for a deployed military force, which may possibly influence the military forces of host nation.

2 MEDICAL SUPPORT PRINCIPLES

The mission of medical support in military operations is to support the mission through conservation of manpower, preservation of life and minimisation of residual physical and mental diseases. [3] Health is a key force multiplier of fighting power. Only a healthy force can function at maximum effort and sustain it. Health in principle is not merely the absence of injury or disease. In its widest sense it includes physical and mental wellbeing. Thus, in an operational context, health is the ability to carry out duties unimpeded by physical or psychological problems. Appropriate medical support makes a major contribution to both force protection and morale by the prevention of disease, rapid evacuation and treatment of the sick, wounded and injured and the return to duty as many individuals as possible. [6]

Miscellaneous documents of different organizations of international crisis management define medical support principles differently, but there are some points that have common ideas and therefore basic medical support principles can be defined as follows:

1. Compliance with the Law of Armed Conflict and Humanitarian conventions;
2. Quality and standards of medical care;
3. Time-related constraints of medical care;
4. Continuity of care;
5. Medical triage and;
6. Levels of medical capabilities;
7. Multinationality.

2.1 Compliance with Law of Armed Conflict and Humanitarian Convention

Each organization of international crisis management strictly defines that medical support of its operations will comply with The Hague and Geneva Convention and its protocols, as well as the laws of war. [1, 2, 4, 6]

Without any adverse distinction founded on the ground of racial or ethnic origin, sexual orientation, religion or belief, age and disabilities, or on any other similar criteria, all entitled sick, injured, wounded and shipwrecked, to whichever party they belong, shall be treated on the basis of their clinical needs within the medical resources available and within the missions constraints. In all circumstances they shall be treated humanely, taking into consideration religious and socio-cultural factors. [4]

2.2 Quality and Standards of medical care

Military medicine is highly specialized due to the environment and extreme conditions in which it is frequently practised in and the procedures will not always be the same as practise in the peacetime
although the outcome has to be the same. The quality and standards of care available can have a permanent effect upon outcome and the effects of poor quality can rarely be reversed later. [3]

Medical support to forces taking part in military operations must meet standards acceptable to all participating nations, whilst providing adequate information to the potential troop contributing nations (TCNs), prior to their decision to support [4] military operations led by individual organization of international crisis management.

Even in crisis or conflict, the aim of medical support is to provide a standard of medical care to achieve outcomes of treatment equating to best medical practise, [3] but definitely not less than outcomes of treatment equal to results of medical treatment in the sending state.

2.3 Time-Related Constraints of Medical Support

Time is fundamental factor in the effectiveness of medical care [2] and therefore patient’s survival and recovery. Hence, time is the major factor driver dictating the type and location of medical assets in military operations. [3] The principal medical planning timelines for military deployments, which can be seen as minimal standard, are:

- **enhanced first aid** - immediate life saving measures: bleeding and airway control for the most severely injured casualties to be achieved within 10 minutes of wounding [2] applied by personnel having received a tactical combat casualty care course or comparable civilian training.

- **damage control resuscitation** – measures commenced by medical personnel within 1 hour of wounding.

- **damage control surgery** – are emergency surgical procedures and treatment by a surgical team to stabilise casualties, in order to save life, limb or function [3] and should be provided within 1 hour but no later than 2 hours of wounding. [4]

Responsiveness, which is providing timely and effective medical care, is a cornerstone.

2.4 Continuity of Care

Continuity of care means uninterrupted and appropriate medial attention and response to the needs of casualties throughout the chain of their medical treatment and evacuation. [2]

Patients passing through the medical system must be given care, which is continuous, relevant and progressive. [4] Casualties must be managed continually until they reach definitive care. In transit care must be available during medical evacuation and the clinical condition of the individual is the key factor governing the timing, means and destination of the patient’s evacuation. [3] Medical care is normally provided in a progressive manner through the four levels of medical care, from point of injury or sickness through evacuation to specialised care and eventually to define treatment and rehabilitation, although specific injuries or diseases might require bypassing levels of medical care as they require specialist care at an early stage.

During all stages of evacuation the provision of qualified medical personnel must be guaranteed. [4]

2.5 Medical Triage

Medical triage is the categorization of patient or casualty based on clinical evaluation, for the purpose of establishing priorities for treatment and evacuation. This facilitates the effective use of limited medical resources and ensures the survival of the greatest possible number [1] of casualties.

Triage is essential when several events leading to casualties occur simultaneously and the number of casualties exceeds the capacity of the medical treatment facilities. The goal is to optimize care for the maximum number of salvageable patients. Patients who will do well with a minimum level of care are thus distinguished from those who will die despite maximal care. Attention is addressed to those who will benefit most from optimal care and rapid surgical intervention. [4]

2.6 Levels of Medical Capabilities

In general, are medical resources and assets distributed into four tiers [3], echelons [4] or levels of medical support [1] on a progressive basis to conduct treatment, evacuation, re-supply and other essentials functions to the maintenance of the health of deployed personnel to military operation. All medical facilities are categorized into four Roles, defined according to the minimum clinical capability available in a facility.

“Medical Support Manual for United Nations Peacekeeping Operations” defines one more level of medical support called “Basic Level” which provides first aid and preventive medicine practised at the smallest sub-unit level.

All others levels of medical support are defined almost identically by all organizations of international crisis management.

The **Role 1** medical treatment facility (MTF) is the first level where a doctor is available [1] and provides primary health care, specialized first aid, triage, resuscitation and stabilization [4], within the time related constraints of medical care and the provision of medical evacuation assets [3]. Role 1 medical support is integral or allocated to unit [4] and is ultimately a national responsibility and must be readily and easily available to all force personnel.

The size of Role 1 facilities need to be mission-
tailored. Role 1 comprises as well the provision of basic occupational and preventive medical advice to the chain of command, routine sick call and the management of minor sick and injured personnel for immediate return to duty, as well as casualty collection from point of wounding or casualty collection point and preparation of casualties for evacuation to higher level [3] of medical support.

The Role 2 MTF can be further sub classified into “Role 2 Basic” in NATO labelled as “Role 2 Light Manoeuvre” (Role 2LM) and “Role 2 Enhanced” (Role 2E). UN recognizes only MTF Role 2.

Role 2 Basic MTFs are light, highly mobile MTFs to support designed to support component formations (normally brigade or equivalent level). Normally these are only used for initial crisis or warfighting deployments. These MTFs act as a focal point for Role 1 in the formation, but may be bypassed if situation and resources allow. They will usually evacuate its post surgical cases to Role 3 or Role 2E for stabilization and possible primary surgery. [3] In addition to Role 1, Role 2 Basic MTF includes resuscitation led by a specialist medical officer with all elements to support it; routine damage control surgery (DCS) with post-operative care; field laboratory capability; basic imaging capability (e.g. X-ray or ultrasound); reception, regulation and evacuation of patients and limited holding capability.

Role 2E MTFs are effectively small field hospitals. They provide basic secondary healthcare built around surgery, ICU and nursed beds. In comparison with Role 2 Basic MTF, Role 2E MTF are able to stabilise post-surgical cases for evacuation to Role 4 without needing to put them through a Role 3 MTF first. [4]

Role 2 MTF may also include preventive medicine and environmental health capabilities, primary dental care, stress management, psychiatry or psychology, telemedicine and the capability to coordinate patient evacuation [3] through the PECC positioned at staff level. [4]

**Tab. 1 Comparison between Role 2LM a Role 2E**

<table>
<thead>
<tr>
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<th>Examples of Operation Environment</th>
<th>Tactical mobility</th>
<th>Evacuation of patients</th>
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<tbody>
<tr>
<td>Role 2 Basic (2LM)</td>
<td>Potential high intensity combat.</td>
<td>Highly mobile, quick to establish and redeploy.</td>
<td>Post-surgical cases evacuated to Role 3 or Role 2E.</td>
</tr>
<tr>
<td>Role 2E</td>
<td>Potential low intensity combat.</td>
<td>Medium to low mobility.</td>
<td>May be the last MTF before strategic evacuation.</td>
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</tbody>
</table>

*Source: author.*

Role 3 MTFs provide highest level of medical care by deployed units [1] and are designed to provide theatre secondary health care within the restrictions of the Theatre Holding Policy. Medical support Role 3 is deployed with hospitalisation and the elements required to support it. Depending on mission characteristics it includes a mission-tailored variety of clinical specialities. They can include specialist surgery (neuro-surgery, maxillo-facial, burns, etc.), advanced and specialist diagnostic capabilities to support clinical specialists (CT-scan, arthroscopy, sophisticated lab tests, etc.) and major medical, nursing specialities (internal medicine, neurology, intensive care, ophthalmology). [3]

Its minimum capability includes sufficient holding capability to allow for diagnosis, treatment and holding of those patients, who are expected to return to duty after receiving adequate treatment, resupplying of Role 2 MTFs and control of and or ready access to patient evacuation assets. [4]

It is important to note, that Role 3 is rarely deployed within peace support efforts and is generally obtained from existing civilian or military hospitals as a part of host nation support.

Role 4 MTF provides definite medical care and specialist medical treatment unavailable or impractical to provide within area of operation. [1] Role 4 would normally include definitive care specialist surgical and medical procedures, reconstructive surgery and rehabilitation. [3] Role 4 medical care is usually highly specialized, time consuming and normally provided in the casualty’s country of origin (home nation), but it also may be provided through bi- or multi-national arrangements in another country. [4]

### 2.7 Multinationality

Multinationality is a factor that will play the most important role in medical support of military operations in the future, because of budget cuts of military expenses, including expenses on medical support of military operations. Multinational medical solutions have considerable potential to reduce burden of medical capability provision upon individual nations. However, the existence of national differences such as varying clinical protocols, different languages and legal restrictions, mean that achieving multinational cooperation in practice can be complex and challenging. [6]
3 MEDICAL PLANNING CONSIDERATIONS

Requirements for medical support of every military operation differ and are influenced by a number of aspects. Developing of the Medical Support Plan require understanding of the objectives and decisive points of military operation, an assessment of the existing medical infrastructure and prevailing health treats in the area of military operation. Medical support must take into account complicated factors, e.g. number of participating nations in military operation, variations in national standards of medical care, geography and climatic variations, hostile, criminal or terrorist interference, availability of medical resources and many others.

The medical resources available at the outset of any military operation must be sufficient to collect, evacuate, treat and hospitalise all casualties whilst taking into account possible mass casualty situations. [4]

Factors, that influence planning of medical support most include:
1. Population at risk;
2. Type of military operation;
3. Local medical treatment infrastructure;
4. Time and space factors;
5. Casualty estimate.

3.1 Population at Risk

Capacity of medical support is beside the strength of deployed force into military operation [1] directly influenced by the population at risk defined by operational concept of military operation. Population at risk should be derived from expected casualty load and the health and medical risk at the area of operation. [2]

The numbers and the dispersion of forces deployed to military operation are main determinants in the overall size and shape of the required medical support. [4]

Medical rules of eligibility to medical support system for allied forces, host nations forces, civilian population should be considered before deployment.

3.2 Type of Military Operation

Medical support is determined by the type of military operation and as well mandate of military operation. It is anticipated that “observer military operations” require relatively less medical support than higher risk military operations like “Peace Enforcement”. [1]

3.3 Local Medical Treatment Infrastructure

Extent of medical support is strongly influenced by medical treatment infrastructure. Question is, whether local hospitals and clinics within area of operation are able to meet standards acceptable by participating nations. In case these are not readily accessible, there is requirement to deploy a higher level of medical support [1] within area of operation, regardless on force of deployed troops.

3.4 Time and Space Factors

One of the most critical factors for medical planning is time. The clinical timelines, described in chapter 2.3, put a high emphasis on providing the different levels of medical care to the wounded and injured as soon as possible. [6]

However, the clinical timelines are not the only determining factor for medical planning in general and the appropriate medical support of military operation is influenced by other factors, such as terrain, accessibility by land and air, physical distance, climate and other geographical factors have a major influence on the medical assets required and their deployment within area of operation. [1]

3.5 Casualty Estimate

Casualty estimates are one of the core tools of medical planning considerations. In any scenario the analysis of likely casualty rates and numbers has a great political and operational significance and is fundamental in establishing the medical support requirements. [3]

Estimation of casualties is an essential but challenging element of medical planning. As with all estimates, they are based upon assumptions and the results they produce need to be treated accordingly. [6]

The calculation of possible or likely casualties provides an estimate of the numbers of disease and non-battle injuries (DNBI) and the number of battle casualties (BC) to be expected. Casualty estimates are expressed in number per day.

3.5.1 Battle Casualties

Battle casualties are those caused as a result of combat. Battle Casualties comprise four elements:
1. Killed in action (KIA);
2. Captured and missing in action (CMIA);
3. Wounded in action (WIA);
4. Battle stress (BS) casualties.

Different types of military operations produce different casualty profiles. Trench warfare of WW1 produced a high proportion of head injuries whilst armoured warfare tends to produce higher proportions of burn injuries. Estimation of an operationally specific casualty profile requires military judgement, operational analysis and examination of historical medical databases. [3]
Determination of this estimate is responsibility of the operational staff in consultation with the medical staff. Even in military operations, which do not include combat, casualties could, however, result from the operational environment (e.g. from residual miners, snipers, etc.). These casualties would also be counted as “battle casualties”. [4]

3.5.2 Disease and Non-Battle Injuries

Both incidence and the impact of DNBI are of operational importance. [3] DNBI is an indicator of the daily workload for deployed medical units. [1]

A detailed analysis of DNBI data from historical and current sources will enable medical and operational staff, to produce a provisional DNBI rate for the military operation. DNBI rates provide a technical estimation of the probable rate of diseases and injuries not resulting from combat. DNBI is mission dependent, dynamic, related to the level and nature of activity, acclimatization, training and living conditions of the deployed personnel. [4]

For example average expected DNBI rate for UN peacekeeping operations is 1.34 % of all deployed personnel per day, with 10 % requiring hospitalization.

4 CONCLUSION

Medical support is one of the key factors that influence success of military operations. It is therefore of great importance to pay all possible attention to planning of medical support. At a time, when multinational approach becomes one of the key aspects of medical support to military operations of organizations of international crisis management thorough planning of medical support is even more important.

In the article are analysed principles of medical support and medical planning considerations. Author defines medical support principles that are the same for or in like manners for all major organizations of international crisis management. Furthermore, the most important medical planning considerations for planning of medical support are described.

The article is likely to be beneficial for military personnel that will plan medical support of military operations of different organizations of international crisis management.

References


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