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Military Medical Services in the 21st Century: Quo Vadis?

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Abbreviations:

CBRN = chemical, biological, radiologic nuclear
COMEDS =
NATO = North Atlantic Treaty Organization
WMD = weapons of mass destruction

Abstract

The impacts of current and foreseeable developments on society, medicine, and the military are unclear. The rapidly changing politico-military environment likely will produce many challenges for future security. Given the broad spectrum of hazards to which we will be exposed, there likely will occur crises in remote parts of the world that will affect our supply lines for energy, stock markets, weather patterns, the global economy, and the jobs and families of the citizens of the world. This is fueled by the unchecked exchanges of information currently available and the lack of accountability by multinationals and the global networking of organized crime. This fuels asymmetric means to achieve political and financial aims.

The role of NATO has changed and is changing from constituting a deterrent to nuclear warfare to peacekeeping and out-of-area operations. This process is complicated further by the creation of smaller, lighter, and more mobile forces that can be sustainable for long periods of time in place of the classical military means used to meet previous challenges. This must be done in the face of falling defence budgets, rising costs, and new, expanding roles and missions. Such changes will force greater dependence on stabilizing techniques, rapid aero-medical evacuation, and the

increased use of telemedicine and teleconsultation. To meet these roles, NATO has created a Response Force to be deployed and operate in high intensity environments.

A positive evolution is a better understanding within the military of the importance to address pre- and post-deployment health issues. Medical support concepts will need to focus on supporting smaller, more mobile units. In the new, asymmetric environment, the current line between military and civilian medical care increasingly will prove artificial. All of these situations must be addressed within the broader civil-military dialogue. Bio-defence will not be possible without capable medical support. Decision-makers must include the medical function in order to meet the new challenges with appropriate medical responses.

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Introduction

Since none of us has the perfect crystal ball, this only can be an attempt to look a few years ahead and sense what current and foreseeable developments in society, medicine and the military could mean for our profession as military medics. Which trends and evolutions inevitably will become the future challenges for our younger colleagues?

Security Challenges of a Changing Politico-military Environment

Over hardly a decade, the speed of change within our societies has increased dramatically. Some of the most striking phenomena fundamentally affect, both as individuals and as societies, our perception of the hazards that may hamper our safety, well-being, and way of life. One factor is the unprecedented globalisation and inter-dependence of human activities. This leads to increased mutual contacts and mobility of people, goods, and ideas. People are well aware that lingering crises in remote parts of the world may indirectly affect supply lines of energy, stock markets, weather patterns, global economy and finally their jobs and families. But, at the same time, it may confront them directly with terrorism while taking their next business or holiday flight.

This evolution already had been accelerated by the media revolution. The so-called CNN factor became famous during the first Gulf war. What has been added over the last years is the incredible expansion of web-accessible information and E-mail contacts. Today, hundreds of millions of almost instantaneous, individual information exchanges take

place, without any state authority controlling this flow. This fact is an incredible factor of freedom, as well as an enormous risk factor. This is because the quality of the information can be quite poor, and that the mass magnitude of this medium can turn it into a real psycho shock wave, which is an identified prime terrorist goal. Let alone the so called “cyber attacks”, which virtually can paralyse entire sectors of society. Defending against these hazards has become a multi-billion dollar business.

Add to this the fact that there is a diagnosed “democratic deficit” in an increasing number of inter- and multi-national organizations. This phenomenon is exacerbated by the lack of accountability for decisions taken by multinationals and by the global networking of organised crime.

All of these factors lead to a *de facto* decreasing influence by the individual States on the course of action in crucial domains, such as defence, finance, and even provision of welfare. At the same time, this situation increases the likelihood that relatively small states, or non-state actors, organizations, or groups of extremist use asymmetric means, in order to impose their political or financial aims on a global scale.

The sociological fact that aging western societies face growing immigration pressures, due to demographic evolutions, mainly in the south, fits in this anxiety model.

Sociologists predict increasing competition for shrinking natural resources, such as water and energy, will boost instability in major parts of the globe. Even without further proliferation, some states in these regions are known to have weapons of mass destruction (WMD) today.

While conventional war will remain the means of last resort to resolve inter-state confrontations, the majority of future conflicts will be asymmetrical. The rise of non-state threats is a tremendous problem for Western governments and militaries, because we are legally and behaviourally prepared to fight other legal-basis states. Furthermore, although the human suffering is the same, cynically, one could say that personnel casualties within typical four member families have greater society impact than in societies with a traditional demographic overflow. The reluctance within our western-type nations to cope with the inevitable casualties of conflict is a well-known weakness known worldwide. This makes terrorism using guerrilla-type actions that cause large numbers of casualties the more attractive method for those who technically are in the underdog situation. Obviously, it has made it crucial to “win the media war”. Media coverage now has a dramatic effect on public opinion, on the morale of troops, and finally, on political sustainability within worldwide coalitions.

How about NATO?

The North Atlantic Treaty Organization (NATO) has spent decades in the so-called “Cold War era”. This period was characterised by the mutual nuclear deterrent and a vast geographical spread of numerous army divisions along a static border. Nations had draft systems in place, so manpower was not a problem. Plans anticipated huge casualty rates in case of a major combat between these heavily armed and mechanised forces. The mutual nuclear deterrent, a predictable way to mutually assured destruction, worked.

Since the collapse of the former Warsaw Pact, which culminated in the fall of the Berlin Wall and the whole Iron Curtain, the strategic environment has changed dramatically. This period was followed by the NATO-led operations in the Balkans, which started in the early nineties and still are ongoing. This is the era of the Peace-Support Operations. Its characteristics are quite different from those in the preceding era. After having agreed, or forced to agree by the multinational community to a peaceful end of a war situation, a multi-national force separates belligerents. They gradually evolve under military presence and political guidance towards a peaceful cohabitation. These ongoing peace-support operations continue, as a shared burden, whilst NATO Nations continue to downsize their post-Cold War Forces, and the Alliance will have expanded to twenty-six Nations. Yet, a new historical trend has profoundly changed the transatlantic Alliance, since the nine-eleven terrorist attacks on the United States. The NATO was focused on the state-centred threat and was not geared for non-state menaces.

In fact, last year's NATO summit in Prague set-out the new beacons for the NATO in the new security environment. It stated, “NATO needs the capability to field forces that can move quickly to wherever they are needed, and to be able to sustain operations over great distance, including in an environment in which they might be faced with biological, chemical, and/or nuclear weapons.” This declaration ended the “out-of-area” debate in NATO. Now, the NATO is heading for out-of-area operations, starting with Afghanistan.

Key evolutions within this new approach are the creation of the NATO Response Force, which is designed to operate in a high intensity environment. It will be kept at short notice, will be sustainable on its own for at least 30 days, and will be able to draw on designated specialist capabilities, including NBCR defence.

A permanent matter of concern in NATO is the capability gap between the United States and its European Allies. This could lead to a “*de facto*” role for the US and coalitions of the willing in high intensity war fighting and a specialisation of European Nations in “mop-up operations”. Indeed, the European Rapid Reaction Force is more oriented towards peace and stability operations around Europe.

The Changing Military in Nations

Now, many European Allies are creating smaller, lighter, more mobile Forces, which are sustainable over longer periods. The war in Iraq again demonstrated the increasing use of precision weapons, and a dramatic evolution towards network-centric warfare techniques. It also shows us that despite a quick dismantling of the classical military means of the adversary, keeping the peace in regions in which the population traditionally is armed, can pose a serious and costly challenge in both forces needed and casualties suffered.

In the end, what matters most in war, is what is in the mind of one's adversary. It is clear that asymmetric warfare is one aspect emerging from the superpower unbalance in classical conflict. Modern western technology created the

intelligent weapon. Ironically, this million-dollar weapon also is to strike pre-emptively to destroy or deter so called “rogue states”, but also terrorist groups of all kind. These groups easily recruit amid thousands of fanatic, frustrated, and religiously determined young people. Once “loaded” with some explosives, they become cheap and deadly accurate “intelligent, human bombs”.

Our armed forces are faced with three pressures: (1) Falling defence budgets; (2) Rising costs of both equipment and personnel; and (3) Demands for more spending for increasing new roles and missions. The transition in most Nations to an all-volunteer force, has driven the manpower costs. Most armed forces have a massive shopping list for both new equipment and personnel, which far exceeds the available means. As a result, not all of these requirements can be met and harsh choices are to be made. For equipment, the choice might be cancellation or delays for new programmes and smaller orders. For military personnel, the result usually is over-stretch, longer periods away from home, shortages, and a greater willingness to substitute reserves and civilians.

Today, the individual casualty is a substantial loss for any deployed force. One consequence is that the pressure to improve the so-called “tooth-to-tail” ratio will ever increase. The ratio was one-to-one during the Cold War. For example, it is currently 70% in favour of non-combat support and infrastructure functions in the US Defense budget. It is precisely this trend to make logistics, medical, and general infrastructure pay more within shrinking defence budgets that pushes these support functions to adopt ever “lighter “ and more flexible solutions. We also see the implementation of the civilian “just-in-time delivery” principle on military logistics. In civilian life, this has dramatically increased the number of trucks on our roads and decreased the number of warehouses. Thus, the trend to reduce the “logistics footprint” in operations continues. It also is the main driver behind options for out-sourcing; for example: third-party logistics support and off-the-shelf commercial solutions. So the “lean-and-mean” force, focused mainly on the combatant core business of the future is coming up quickly.

This evolution pushes medical support further on the road of stabilising techniques and consequent, early aero-medical evacuation. Medical support installations providing the comprehensive package of specialist care in theatre will become ever more rare an asset. They increasingly will be found in modular and containerized, task-tailored formats on board of support ships or as host nation support facilities in adjacent counties.

In the civilian sector, rationalisation through automation often is the option. Ultimately, the question of the replacement for some of combat functions by remotely controlled drones and robots comes nearer.

The Changing Medical Profession

In civilian health care, ever more emphasis is put on preventive action in order to reduce morbidity as a whole. Great effort is performed to restore social functionality of the individual patient. Budgetary pressure will continue to promote new techniques, which should produce more out-patient

care and shorten hospitalisation periods. A well-established emergency care system continues to enhance its responsiveness, even in remote areas. Helicopter evacuation and emergency intervention care teams bringing advanced trauma support techniques to the spot of the traffic accident are a quite common standard in most of our Nations.

Telemedicine and tele-consulting techniques as well as medical data transmission continue to develop. These means offer “off-the-shelf solutions” for situations in which scarce medical staffs should be engaged in more cost-efficient ways. Although still considered as inadequate by many, civilian authorities recently have made efforts to enhance the responsiveness of the civilian medical infrastructure in dealing with the potential consequences of WMD.

What Does It Mean for Medical Services?

The inevitable trend to do more with less is likely to continue. At the same time, society, the operational commander, and the individual soldier and his family expect nothing less than the top performance to reduce the number and the consequences of casualties. Senior medical staffs must continue to make the case for their function. This must be done in an environment in which budget constraints boost inter-service competition and concurrence amongst functions.

Military decision-makers, quite naturally, tend to minimise health and medical support matters, especially in the planning phase of operations. Taking into account that casualties mean some degree of defeat or failure, and that medical support installations are a considerable logistical burden to move and support, operational planners generally tend to see things too optimistically.

A positive evolution is a better understanding within the military of the importance to address pre- and post-deployment health issues. Preventive and post-deployment reconnaissance and screening can substantially reduce both the occurrence and consequences of deployment-related health issues. The myth of the young, healthy, well-trained, and invulnerable fighter has vanished in favour of a more prudent approach of preventive health and veteran issues. Medical support concepts will need to focus ever more on supporting smaller, more mobile units, equipped with greater precision firepower. This might imply the need to push forward life-saving techniques to smaller units levels, especially in Special Forces type of operations. It will speed up the debate of which medical, paramedical, and non-medical personnel should be trained and equipped to perform which medical life-saving acts in operational crises situations.

In the new, asymmetric environment, the current clear-cut line between military and civilian medical care increasingly will prove artificial: Press and interpreters accompanying troops, urban warfare in a chaotic civilian environment, guerrilla-type suicide attacks on troops in such an environment must be anticipated. Co-ordination with non-governmental organizations (NGOs) in the post-conflict environment will be required. The potential for bio-attacks on troops and civilians in a “mixed environment”, and how a restriction-of-movement policy would affect the overall sanitary situation. All of

these situations must be addressed within the broader civil-military dialogue.

Let's not forget the evolution to the use of non-lethal weapons. We look at laser-blinding, high energy-beam shocking, foam-immobilising, psycho-vapours, or rash-provoking means. All of these will not be lethal, but surely will have some strong "incapacitating" medical effect. This means that medical-specialised surveillance and care for the users and for those incapacitated will be needed. If this trend continues, we might need the ophthalmologists, psychiatrists, dermatologists, and others back. These are the specialists we are dismissing today in trying to further downscale our military medical services.

In the longer run, we will need to move towards common capabilities in Europe. The greater size medical support such as Role-3 field hospitals and strategic aero-medical evacuation) certainly are up for potential pooling of efforts; especially if we want these facilities to be able to function in CBRN environments. The ability to medically support troops in a CBRN operational environment is key to the overall credibility of WMD defence. The medical function

should dispose of the staffing and means to handle this kind of challenge. Too often, concepts and plans dismiss CBRN as a prevention, warning, and decontamination problem. Whilst this may be true for the CRN aspect, bio-defence will not be credible without capable medical support.

All this enhances the need for sound medical staffing and the profile of medical advisors within our organizations. Unfortunately, there currently is no consensus amongst nations about where to fit adequately the medical function within multi-national staff structures, and at which level it should be allowed to sit at decision-makers' tables. Time will show if our political and military masters had the vision to give us the means and flexibility we need to confront the new challenges with the appropriate medical responses the public expects from us.

I see a lot of question marks and the need to answer them together, sooner rather than later. Within its Terms of Reference, COMEDS is certainly trying to push these matters to the highest decision-making levels, I hope these ideas will spark lively discussions, which should make this Conference a success.

Plenary Sessions

NATO Joint Medical Committee Mission and Functions

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The presentation covers the establishment of the Joint Medical Committee in 1991 and parts of the Terms of Reference (TOR). An overview of the tasks is presented. The Committee's place in the Civil Emergency Planning (CEP) in NATO is outlined together with the CEP roles. The other Planning Boards and Committees and the cooperation with them is mentioned. Field of activities and responsibilities is described as well as organization and procedures. Activities are described in more detail, for example the work programme and the CEP Action plan regarding activities in the field of weapons of mass destruction and the protection of population against attacks with chemical, biological, and radio-nuclear agents.

Keywords: civil engineering; field activities; planning; protection; WMD

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Civil-Military Cooperation in an Asymmetric Security Environment

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The terrorist attacks of 11 September 2001 and the subsequent anthrax incidents clearly demonstrated the asymmetric nature of the current security environment. In response, the NATO has initiated a series of measures to

cope with the threat of terrorism, a number of which are in cooperation with Partners. Among these are various initiatives that address the Consequence Management aspects of an attack against civilian populations with chemical, biological, or radiological agents. These include an inventory of national CBR response capabilities, a Civil Emergency Planning Action plan (endorsed by Heads of State and Governments in Prague) and a multi-faceted Military Concept of Operations for Defence against terrorism. These and other initiatives not only call for more extensive civil-military cooperation, but in certain cases, a transformation of that cooperation.

Keywords: 11 September 2001; anthrax; civil-military cooperation; consequence management; defense; NATO; plan; security; terrorism

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Medical Organization in NATO

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The author gives a broad overview of the key operating principles, the basic organisation, and the medical bodies in North Atlantic Treaty Organisation (NATO). The process of adaptation of the Alliance during its >50 years of life, and the NATO response to the most recent and ongoing challenges are highlighted. The medical structures within NATO Headquarters and the constellation of the medical groups belonging to the civil and military organisation of NATO are presented focusing on their new missions and emerging functions.

Keywords: adaptation; civilian; function; military; mission; NATO; organization; principles, operating

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