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Certain aspects of emergency medical assistance within NATO's multinational healthcare insurance system

PhD Thesis

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1. DEFINING THE SCIENTIFIC PROBLEM

János György Cramer's (Surgeon of the Rhein Troops, 1736) thought that *"Any physician or surgeon who goes to war, whether following his own intentions or the orders of his superiors, must be well versed in his profession as serving in a military camp is significantly more demanding than civilian service"* seems just as valid–or, in fact, more valid than ever–in the context of today's modern warfare if one considers the multinational composition of NATO's healthcare service levels, progressively stratified to provide healthcare support.

The documents based on NATO's principles and describing the healthcare doctrines and healthcare principles of the allied member state–MC 326/3[1], AJP 4. 102[2]–discuss in detail the concepts of healthcare support in modern warfare. These specify that deployed healthcare institutions are an efficient element of the healthcare support activities carried out in the military operating theatre. The disarmament and transformation of the regular army, as well as asymmetric warfare prove at the level of daily practical experience that, on their own, the nations participating in the operations are not always capable of deploying sufficient healthcare capabilities for providing the necessary healthcare support for the military operations. Accordingly, the organisation of healthcare support is also one of those fields of activity that the member states of the alliance base on multinational systems. International professional cooperation offers quite a number of advantages; however, it also generates a series of difficulties during the performance of daily tasks.

1.1 JUSTIFYING THE CHOICE OF TOPIC

Based on my experience obtained in military operating theatres as a member of multinational healthcare groups (2003: Bundeswehr MedEvac; 2005: German Role-III Field Hospital, Kabul, Clinical Director; 2006: Role-II Hospital of the Greek Command (KAIA), Kabul, traumatologist and chest surgeon) I became aware of a number of factors that generate difficulties in day-to-day operation. These have influenced my choice of topic for this thesis.

Throughout my extensive work in military operations, I have identified the following capability loopholes and variances in the field of multinational healthcare support:

a) The pool of professionals of the forces integrated into the deployed healthcare institutions show an extensively diverse professional cross section and generational composition.

[1]MC 326/3, NATO Principles and Policies of Operational Medical Support, 27 Sept 2011
[2]AJP 4.10 Allied Joint Medical Doctrine, NATO, www.nato.int/docu/stanag/ajp4/ajp-4.pdf

b) Multinational cooperation is made significantly more difficult in day-to-day practice by the incompatibility between the various professional levels between the individual member states.
c) The level of theoretical and practical preparation for the missions is different between the individual member states.
d) The healthcare materials, instruments, medical equipment, and medications used in the operating theatre are often different from those used back home; occasionally, the equipment being used when working together is not available back in the home country.
e) No NATO uniform emergency healthcare principles are available and therefore they cannot be implemented within the operating theatre.
f) The individual nations provide emergency medical assistance on the basis of the principles valid in their own home countries (there are differences even between the principles valid in the EU and those valid in the US).

My thesis aims at mapping and describing these anomalies and at introducing interventions aiming at tackling the problems identified. I believe it is an absolute priority that uniform standardised healthcare principles be elaborated within NATO at the level of specific protocols and that systemic education be provided during the training of healthcare personnel.

My scientific thesis covers an interdisciplinary area, touching on some of the topical issues of social and natural sciences as well as on the military art aspect of military science and on the military medical branch of general medical sciences.

2. RESEARCH OBJECTIVES

1. Providing a historical review of the development process of healthcare support in military operations; discussing the historical roots and the background of the modern-day factors that cause difficulties in the interoperability of the multinational healthcare institutions and troops.
2. Elaborating and applying new research and measurement methods in the context of interoperability in healthcare support, and processing and presenting the results achieved by such new methods.
3. Organising and summarising the theoretical knowledge available in the area and supplementing it with practical points of view, and publishing the results achieved on the basis of my own experiences.
4. Defining standardised emergency principles and making a proposal for utilising them within NATO in a uniform manner.
5. Launching a knowledge harmonisation process through the involvement of the NATO Centre of Excellence for Military Medicine.
6. Making a proposal for modifying education and healthcare training to incorporate these guidelines through developing a standardisable educational model that can also be applied successfully in multinational cooperation.

3. RESEARCH METHODOLOGY

1. Studying and analysing the studies, regulators, and doctrines that affect the organisation, structure, and operation of healthcare support.
2. Studying PhD theses, research programmes, and related scientific articles, studies, and papers published in military healthcare within general military science.
3. Organising and processing my own experience obtained in military operating theatres, including my notes, publications, and lectures based on such experience, and incorporating these into the general train of thought of my thesis.
4. Carrying out a survey within operating theatres using a questionnaire compiled on the basis of the above.

4. THE STRUCTURE OF THE THESIS

In the ***first chapter*** of the thesis, I present the development process of healthcare support in military operations in the general context of the evolution process of forms of warfare, providing literature references and specific professional examples to support the difficulties identified in the course of such development. To a great extent, the demand of healthcare support is determined by the form of warfare typical in any specific era. While consecutive generations overwrite and supplement the accumulated knowledge, the different models may overlap as much as by several decades, wherefore defining any starting and ending dates for any era is only possible at the theoretical level. We may, however, find guidance in what the predominant form of armed conflicts is. For example, in actual practice, the transition between the second and third generations has not yet concluded: even as we speak, there still are armed forces that insist on second generation doctrines and principles of warfare. I provide an analysis of the development and transformation of NATO in the post cold war era. I provide a detailed discussion of the military operation related factors and challenges of healthcare support. I present NATO's patient care standards.

The main element of **the *second chapter*** is a presentation of the data obtained and factors identified throughout my personal experience, including the planning and implementation of my scientific research. For the first time in literature, I present the deficiencies and capability loopholes observed in practical operation, these being the most neuralgic points of interoperability. While providing a rational analysis of the problems identified, I have determined the factors whose examination is by all means justified in order to further develop the existing multinational healthcare support systems. The study has been carried out using a complex questionnaire covering several areas. The questionnaire was compiled by myself in English. The content and the logic of the questionnaire have been developed and defined on the basis of my nearly one decade of personal experience and my logical conclusions.

In the ***third chapter***, I present and discuss my research results in respect of all the factors identified. I provide an analysis of the healthcare indicators and of the factors determining multinational professional cooperation. The outcome of my research supports my practical experience, namely, that the pool of professionals of the forces integrated into the deployed healthcare institutions show an extensively diverse professional cross section and generational composition. The members of the alliance struggle with the well-known and unresolved human resources challenge that they need to be able to dedicate the appropriate number of sufficiently qualified healthcare professionals in order to provide successful support for the missions. The differences must be identified in due course of time, and harmonisation in these areas should be made a priority.

In the ***fourth chapter***, I present certain practical opportunities for resolving the deficiencies identified. I present and provide a detailed analysis of the medical professional and organisational methods that may promote multinational cooperation. I draw attention to the opportunities offered by cultural interoperability. I conclude that it is high time that a standardised knowledge harmonisation process be launched. I provide a detailed account of the role of the NATO Centre of Excellence for Military Medicine in such standardised knowledge harmonisation process. I present a modular standardisable educational model in the development and accreditation of which I participated personally, and that can be applied in both the training of medical specialists in my home country and in their preparation for missions in a multinational context.

5. A SUMMARY OF THE SCIENTIFIC RESULTS

NATO's multinational healthcare insurance system is a well designed structure operating in a highly organised fashion. However, some of its elements call for certain changes. In my opinion, every soldier participating in military operations should receive standardised healthcare education. There is a need for a multinational core curriculum that corrects the differences identified and discussed above.

The efficiency of the educational core curriculum in daily practice could be attested to by a ***NATO Healthcare Quality Assurance System*** set up and operated for the purpose. Of course, moving around the human resources available within the military operating theatre can cover up professional differences. Conferences of a scientific value and professional experience exchange workshops may promote multinational military medical cooperation. Harmonisation is needed in terms of the national, professional, and mentality related differences. On the basis of my personal experience, every single point of the multinational healthcare cooperation process should be regulated. Based on my experience, breaking the monotony of the daily routine and promoting the personal exchange of ideas have had a definitely positive influence on multinational cooperation and on mutual recognition. The amount of knowledge is increasing at an astonishing rate; knowledge, quality and up-to-date training, and flexible training systems are becoming ever more valuable and important, while the education cycle is becoming shorter. Today, the objective is to obtain efficient, high-standard knowledge and skills, and to keep these up-to-date. The transition to modular education has given rise to a series of questions that

are worth considering in the context of change and permanence or quality and quantity. Changes are necessary, but they must represent an added value because change in itself is not a value.

During mission preparation, great emphasis is to be placed on historical and cultural knowledge about the nations participating in multinational healthcare support. This is also supported, already at an initial stage, by language acquisition. It is only in possession of this rich wealth of knowledge that one can effectively focus on healthcare materials and knowledge. This knowledge may promote the harmonisation process that will eventually lead to a balanced interpretation of the military operations.

6. NEW SCIENTIFIC RESULTS

1. I was the first to carry out complex research in a military operating theatre using a questionnaire based on practical experience in order to map anomalies in the field of multinational healthcare cooperation.
2. On the basis of personal experience, I surveyed the healthcare service locations of the NATO partner countries (ISAF) in Afghanistan, determining their real capabilities and identifying their problems in the field of emergency medical assistance. I was the first to use a scientific method to prove that the partner countries participating in multinational cooperation send out professionals of widely varying levels of training and knowledge to the military operating theatres.
3. In parallel with establishing the NATO Centre of Excellence for Military Medicine, I was the first to elaborate a standardisable educational model and curriculum that may support the mission preparation process through international cooperation.
4. I was the first to integrate the professional staff of six institutions in order to implement the educational standard (Honvédkórház-ÁEK [*State Healthcare Centre of the Military Hospital*], MH HEK [*Military Health Centre of the Hungarian Armed Forces*], MH ÖHP [*Joined Forces Command of the Hungarian Armed Forces*], NATO CoE, the Legal Department of the Hungarian Defence Ministry, and the Pécs University of Sciences). Furthermore, a successful accreditation process has been concluded in the area through the support of the Department of Military and Disaster Medicine of Semmelweis University of Sciences.
5. Through the support of the NATO Centre of Excellence for Military Medicine, I was the first to organise and successfully conclude in Hungary a five-day knowledge and practice-oriented course and workshop offered in English as part of the multinational knowledge harmonisation process in 2010, 2011, and 2012.

7. THE APPLICABILITY OF THE SCIENTIFIC RESULTS

The experience and outcomes obtained through the scientific research programme may be used as source material in healthcare support preparation programmes of military operations as well as in planning the operations themselves.

On the basis of the above, I propose the following in terms of applicability:

1. Standardising high-level training in military medicine: organising uniform basic training for physicians involved in military medicine and offering uniform postgraduate courses in military medicine within NATO.
2. Harmonising leadership skills.
3. Joint multinational healthcare preparation prior to missions.
4. Regular further training and refreshing courses both in theory and practice.
5. Using the outcomes of the research programme, the critical elements and risk factors identified in multinational cooperation in the field of healthcare support can be eliminated.
6. The scientific results may be used in planning the military operations.
7. The educational model may be applied in the training of residents and specialists in Hungary on the basis of the accreditation received by Semmelweis University.

8. HUMAN RESOURCES AND MOTIVATION

All scientific conferences, lectures, and further training programmes offered in the military operational area should be accredited within the country's university system in order to ensure that the credit point pool of those participating in the military operations is continuously filled up. A massive training and credit accreditation process may prove to be a stabile, reliable, and valuable tool of motivation throughout the selection process.

8. FUTURE RESEARCH OPPORTUNITIES IN THE FIELD

Certain elements of the scientific work performed may offer young Hungarian and international researchers opportunities for engaging in further studies and formulating novel proposals in the field of multinational healthcare support in military operations. Building on the knowledge base represented by the NATO Centre of Excellence for Military Medicine, further training systems may be elaborated and introduced.

10. LIST OF PUBLICATIONS