

EUROPEAN MILITARY MEDICAL SERVICES



2018



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Dear Reader,

Europe is moving closer together – in many respects.

This also applies to the European Armed Forces and in particular to the co-operation between the medical services.

International collaboration in the field of military medicine has been tried and tested in many foreign operations and has proven its worth; the focus on EUROPE is new. This development will certainly be further intensified in the coming years.

As Beta Verlag, we have seen ourselves as partners of all medical services for almost 40 years with our publications, e.g. the Almanac, which is now available online at www.military-medicine.com, and have been very happy to accompany this European process from the very beginning. With this special edition of EUROPEAN MILITARY MEDICAL SERVICES we are providing a forum for European collaboration and are reporting for the first time to this extent on closer European cooperation. We hereby present the establishment of the „European Medical Command“ and report on the medium-term planning of its development. In addition, we provide you with a detailed insight into the medical services of the nations that have been involved from the very start.

A large number of people are always involved in the creation of such a special edition – on their behalf, my thanks go not only to the press and information centre of the Bundeswehr Medical Service for their ever-constructive support, but also to Mr Geschwill for bringing everything together.

I wish you a stimulating read and look forward to hearing your opinion!

Heike Lange

Publisher



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Brigadier General MC (ret)
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Security policy reality in Europe has changed both fundamentally and permanently – and as a result also the spectrum of deployment forms and types of operations that need to be dealt with by the German Armed Forces and supported by our medical service. The European Union has recently responded to these changes with the „Permanent Structured Cooperation (PESCO)“ initiative, in which Germany is initially responsible for five projects as the lead nation. One of these projects is the „European Medical Command“. The aim here is also to intensify multinational cooperation between the medical services at the European level in the future.

As early as 2017, a joint declaration of intent was signed by the inspectors of eight European medical services to set up the Multinational Medical Coordination Centre as part of the Framework Nations Concept (FNC) initiative. The aim of the FNC initiative is to strengthen NATO's European pillar, for which the German medical service has assumed responsibility. Before this year comes to a close, the initial ability to coordinate the medical services involved will be achieved. This is to be commemorated in the middle of 2018 with a commissioning ceremony.

There therefore exists an essential core competence for a future „European Medical Command“. The strengthened cooperation between NATO and the EU is now also being implemented at the medical service level in order to make efficient use of the existing resources and avoid any duplication. The medical service of the future must be capable of acting as an independent effector on the one hand – and therefore able to contribute towards a scenario of humanitarian aid or the fight against global epidemics, for example – but on the other hand must also be credibly capable of providing medical care in a scenario of national or alliance defence with larger bodies of deployed troops and a high level of dynamism. Dealing with the entire spectrum is the benchmark of the future and an enormous task for the armed forces who are optimised during the course of refocusing on national and alliance defence. However, the development of capabilities required for this can only take place in a synchronised manner with the other partners, which we support on the one hand – thereby enabling them to fulfil their mission – and on which we are dependent on the other hand in order to achieve our own goals.

Only close national and international – and in particular European – coordination and a common approach will lead to the goal of: Helping the comrades who need us. Because we are, as the motto of our medical service states, „Committed to humanity!“

Dr. Michael Tempel
Lieutenant General MC and
Surgeon General of the Bundeswehr

Committed to Humanity – A Look at the Future of the European Medical Services

Late summer 2022: An unusually prolonged drought leads to crop failures throughout the region. The supply situation of the local population is threatened with collapse. This is affecting a border region which, due to the longstanding civil war in the neighbouring country, is having to cope with a large number of refugees and in which state order is eroding. The state's inability to cope with the crisis and reduce the growing tensions between the population and the group of refugees is threatening to upset a fragile balance and thereby trigger a conflagration that would start largescale migration and destabilise a considerable number of nations. The United Nations has intervened and the African Union is adopting a common approach to respond to the rapidly evolving crisis.

The impacts of a major migration movement would affect Europe. This is reason enough for the institutions of the European Union (EU) to deal with this crisis and decide on a European commitment. This is carried out by implementing the EU's wider concept of security – a crisis far outside Europe whose impact affects key European interests is a task of the EU – for the protection of its citizens.

The African Union decides to send in troops to reestablish control in the region and therefore create the basis for a coordinated aid campaign. However, the health care for the planned multinational alliance cannot be guaranteed, as no state considers itself to be in a position to build up health care for the soldiers. The joint approach threatens to fail.

This is where the Multinational Medical Coordination Centre (MMCC) comes in. The MMCC has been developed as a coordinating element of European medical services and, through its continuous work as an information hub for medical services and a platform for joint further development, has created an opportunity to rapidly bring about multinational cooperation in this respect. The MMCC's activities have achieved a degree of interoperability between the medical services involved, which means that the rapid deployment of a multinational medical task force is dependent only on the political will of the people's representatives of the nations and no longer, as has previously often been the case, on legal, personnel, material or organisational differences between the medical services. Through the MMCC's work as an independent element of voluntary cooperation between nations outside the NATO and EU command structure, it can support

both organisations as necessary and therefore provide the participating nations with the opportunity to make better use of the scarce resources of medical service capabilities.

Through the work of the MMCC, the multinational medical service association required for this task can be put together. After the nations' decision to intervene, ensuring the health care of the troops of the African Union can make a small but decisive contribution to overcoming the crisis – and in order for Europe's interests to be safeguarded far beyond European borders – fully in keeping with the understanding of security policy.

The scenario described here is fictitious, but allows us to look into the future of cooperation between European medical services. A future that is not fictitious, but a future that has already begun.

The Order of Events:

On May 2, 2017, a new chapter in the cooperation of European medical services was opened up at the Ehrenbreitstein Fortress, a former Prussian fortress above the banks of the Rhine in Koblenz with a view of the German Corner. As a result, the foundation stone for something historical was laid in a figurative sense in a historical location: the MMCC, which is to develop into the central element of the future cooperation structures of the European medical services.



*Signing of the Declaration of Intent for the future MMCC
(Source: Bundeswehr/Bannert)*

In an official ceremony, the inspectors of the medical services of a total of eight European nations signed the joint Memorandum of Understanding to intensify the cooperation between the participating medical services in order

6 to create the foundations for the MMCC and its further development.

For the participating nations, this is the next step in a more intensive cooperation that began almost three years ago within the Framework Nations Concept (FNC) initiative under the coordination and initiation of the German Armed Forces' medical service. Since the end of 2014, medical services of European NATO states, starting with Belgium, the Netherlands, Luxembourg, Norway, Poland, Slovakia, the Czech Republic, Hungary and Germany – and supplemented by Lithuania in the meantime – have decided to intensify – and above all structure – their cooperation. The idea of structured and coordinated cooperation under the leadership of a larger inspiring nation, the framework nation, is the guiding principle of the FNC initiative, which focuses on European NATO states and therefore intends to strengthen the European pillar of NATO.

The Framework Nations Concept

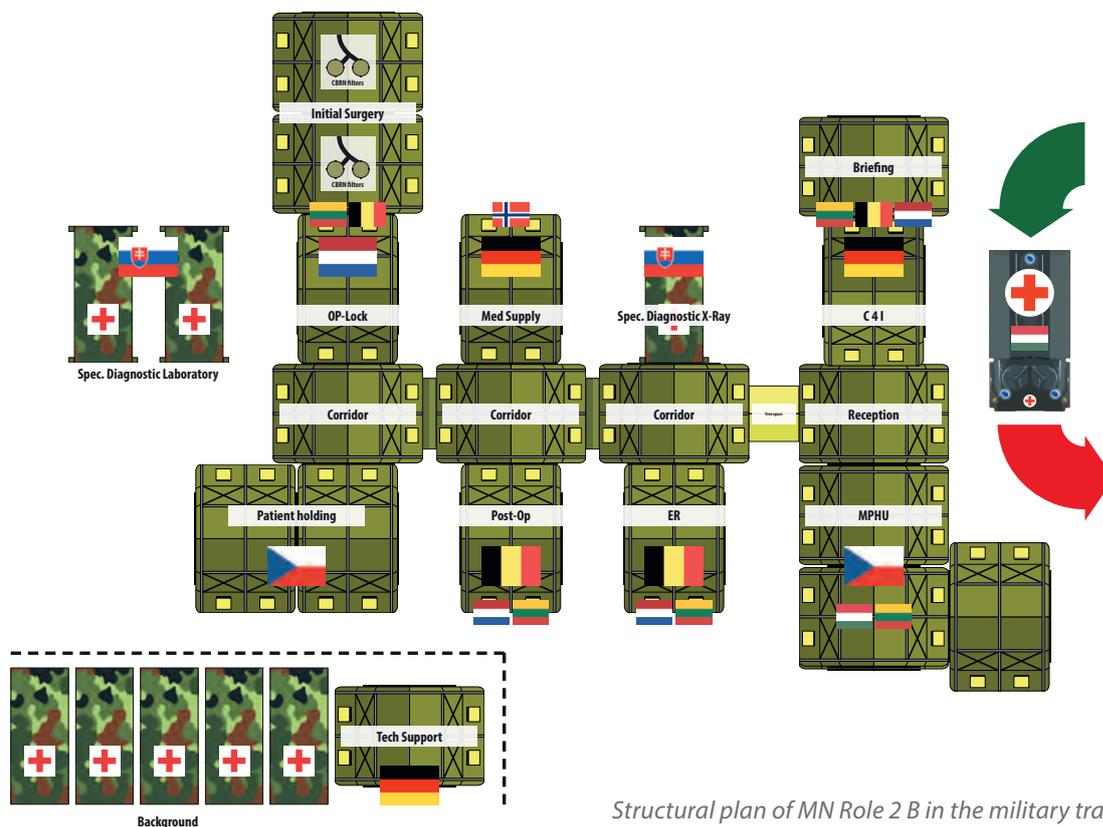
NATO has reacted to the serious changes in the security situation since 2014 with the summit resolutions of Wales in 2014 and Warsaw in 2016, and has taken fundamental decisions on the future direction that place the security and protection of the Allies in the foreground. The core element is NATO's Readiness Action Plan (RAP). In addition to the immediate measures that have already been im-

plemented (known as: Assurance), this also relates to the medium- to longterm adaptation of the overall capability disposition of the Alliance, with the aim of improving NATO's response capability and responsiveness.

These new demands on the capabilities of the NATO nations are covered as individual planning targets for each ally in the NATO defence planning process. The Framework Nations Concept (FNC) serves to better fulfil these NATO planning goals through closer voluntary cooperation and systematic, mutual coordination under the moderation of a framework nation in this group.

The foundation for the development of the framework nation concept was a NATO initiative formulated by Germany as early as 2013. Since then, the concept has gathered 15 other nations around Germany as the framework nation. In addition to widening the circle of participants, the defence ministers of the 16 FNC nations decided in 2015/2016 to align their cooperation on NATO's RAP, to jointly build up large, deployable troop units and to open it up to European partner nations.

In the FNC Group, which is moderated by Germany, an architecture of cooperation has developed which connects the political decisionmaking level of the Ministers of Defence with the implementation levels of the ministerial planners and armed forces of the participating nations on the basis of regular meetings.



Structural plan of MN Role 2 B in the military training area LEHNIN 2017 (Source: Bundeswehr/PIZ SanDstBw)

At the end of 2014, the German medical service took over responsibility for the „Medical Support“ cluster. Today, nine European nations work together on a large number of projects. Other nations have decided in favour of observer status and might become actively involved in the cluster in the future. The fields of the cooperation and individual projects have been jointly identified and cover the existing capability gaps. As a result, the small circle of nations enables faster progress, with the cluster providing the coordinative framework for structured cooperation that was previously unavailable.

One of the visible signs of this successful cooperation was the participation in the largest medical service exercise known as NATO VIGOROUS WARRIOR 2017 (VW17) in the autumn of 2017 at the military training area in Lehnin, as well as in Rostock-Warnemünde and Holzdorf (Elster). During this exercise, a mobile medical service treatment facility from the participating nations was integrated into the exercise scenario.

Examples of this coordinated cooperation are the jointly developed „Standing Operating Procedures (SOP)“ of this treatment facility, which will benefit all participating nations in the future and can serve as a basis for further work. The final evaluation result of the FNC treatment facility – „capable/minor risks identified“ – exceeded the expectations. The NATO Centre of Excellence for Military Medicine (MILMED COE), which has been making a significant contribution to the transformation of the medical services for many years, was also involved in the success of VW17. The experiences of VW17 will certainly influence future planning. Nevertheless, there is still plenty of work that needs to be done in order to enable the interaction of the medical services of German and multinational forces within the framework of a large joint organisation, possibly within a symmetrical scenario.



*Transfer of an injured individual at VW17
(Source: Bundeswehr/Minh Vu)*

In order to ensure more effective and target-oriented multinational cooperation of the medical services, the MMCC is set up as a multinational planning and coordination element under the leadership of the medical service of the German Armed Forces and operated together with our FNC partners. The main task of the MMCC will be to create the necessary preconditions for the multinational medical service support of armed forces across the entire spectrum of tasks. In this way, the MMCC is accelerating the development that is already taking place of much more international cooperation and acting as an interoperability accelerator.

The setup personnel of the MMCC will be put into service on April 1, 2018 in the Rheinkaserne in Koblenz. The task consists in the resourcesaving networking of the existing and required providers of expertise and the corresponding coordination of the work.



Logo of the MMCC (source: Bundeswehr/Dittrich)

Here, a small group of permanently present soldiers will coordinate the targeted exchange of information of a very much larger network of medical service experts from the participating nations and other providers of expertise from NATO, the EU and the nations and therefore create the preconditions for increasing the interoperability of the medical services. It is already clear that there will need to be new ways of working together for this purpose, as the experts are often already fully involved in this in their nations or multinational organisations. Nevertheless, in order to be able to use their knowledge for the joint further development of European medical services, new forms of collaborative decentralised cooperation need to be developed and established. Although this requires a rethink on the part of all those involved, as aspects of work organisation – some of which have been practised for decades – will give way to new approaches, it is nevertheless necessary in the assessment of all those involved in order to overcome the upcoming challenges with the greatest possible multinational participation. Digitisation, networked decentralised working, the office of the future and Work 4.0 are just a few of the keywords that provide an outlook of the innovations that need to be established.

8 The European Defence Union

In order to further underline the importance of increased cooperation between European medical services, here is a look at the European Union.

The EU recently set a milestone in European security policy with the official launch of the „PESCO initiative“. At the beginning of December 2017, the European Council for Foreign Affairs approved the fundamental document at the level of the Heads of State and Government. All the EU Member States, with the exception of the United Kingdom, Denmark and Malta, have agreed on closer cooperation in terms of their defence and security policy. Permanent Structured Co-operation (PESCO): „Permanent Structured Cooperation“ is the name of the mechanism of the EU Treaty which is to make this cooperation possible in the future.

The main objective of the initiative is to strengthen cooperation agreed on the basis of treaties with respect to projects aimed at strengthening the EU's common security and defence policy. For this purpose, the nations propose projects and implement them under the coordination of the EU together with the participating nations. At the beginning of the initiative, a list of 17 projects is to be initially approved by the European Council of Foreign Affairs in the spring of 2018 and these projects then implemented by the nations.

As the „Lead Nation“, Germany is responsible for the projects „Network of Logistic Hubs in Europe and Support to Operations“, „Military Mobility“, „European Union Training Mission Competence Centre“ (EU TMCC), „EUFOR Crisis Response Operation Core“ (EUFOR CROC) and the „European Medical Command (EMC)“.

The main task of the EMC is to provide and coordinate medical skills and services. Other tasks will be to create synergies through the harmonisation of common standards, the improvement of the rescue chain, personnel management and material support for deployments and the bringing together of measures for medical care in

NATO and the EU. Initially, this is to be carried out with the participation of Italy, the Netherlands, Spain, Romania, Sweden, Slovakia and the observers of Bulgaria, the Czech Republic, France, Lithuania and Luxembourg.

The duality of two initiatives with similar content (MMCC and EMC) from the medical service perspective can be explained by the necessity of responding to current security policy developments in both organisations (NATO and the EU). First and foremost it is therefore necessary to synchronise the two projects – the MMCC within the NATO FNC initiative and the EMC within the EU PESCO initiative – in terms of content, to highlight the interrelationships and possibilities to the participating nations and to avoid any duplication of effort. To this end, the efforts undertaken in the coming months will be necessary in order to interweave the developments of the European PESCO initiative in a meaningful way in terms of content with that which already exists – in addition to the consistent progress on the already planned path to the MMCC.

The plans for a central coordinating element of European medical services are ambitious, require imagination and perseverance and are being met today with a certain degree of scepticism. But everything that is new needs to be convincing and therefore earn its justification. And this will be achieved. And it is necessary to point out one further aspect to the sceptics: What we know today as the European Union started with six nations – eight nations have already committed themselves to the establishment of the MMCC.

The attainable progress is worth all the effort – as the European medical services are jointly „Dedicated to humanity!“ – fully in line with the motto of the medical services of the German Federal Armed Forces

Alexander Jäckel
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A Step into the Future with MMCC's First Director

In December last year, the Surgeon General of the Bundeswehr, announced to the nations participating in the project that Brigadier General (Medical Corps) Bruno Most is to be the first Director of the „Multinational Medical Coordination Center“ (MMCC).



Interview with Brigadier General Bruno Most

What does your task involve?

During the course of the security policy upheavals of the past few years, in particular the impressions resulting from the Ukrainian conflict and the annexation of the Crimea, NATO has adopted a Framework Nation Concept (FNC) in which key questions of operational readiness are being further developed by the larger framework nations with partner states. Among other things, Germany has declared its willingness to perform this guiding function in the area of medical assistance. As a result, we have developed the idea of an „MMCC“, which among other things is designed to optimise the setting up and management of medical staff. This project is currently being developed here in Koblenz. My task as the first Director is to get this centre up and running.

What has already been achieved and what steps do you see for the near and distant future?

The signing of a letter of intent by eight Surgeon Generals on May 2 last year at Ehrenbreitstein Fortress was a symbolic starting signal for us. Since then, we have been drawing up the tasks together with a small team which the Centre is to carry out in the future and have identified and included their expectations in numerous discussions with the participating nations. With the decision of the Surgeon General of the Bundeswehr to appoint me as the Director of the Formation Staff, we have a direct contact person for the Surgeon Generals of the partner nations for any questions. On 1st April 2018, we have moved into our new location in the Rhine Barracks with the installation staff and will be visibly demonstrating in May with an „Initial Operating Capability Ceremony“ that we have the initial capabilities to do our work. Our two Liaison Officers from the Netherlands and Norway, who are actively involved in the MMCC Task Force, are playing a major role in this.

10 How is the cooperation with the Liaison Officers developing?

With their arrival, our two Liaison Officers have indicated that in addition to their classical liaison work, they consider the core of their task to be their involvement in the MMCC project. In the coming year, I hope that other nations will follow this path and advance our project, either by being present in Koblenz or by participating in it from their respective national workplaces.

What form does the daily interaction take?

My colleagues and I are increasingly internationalizing our staff work. This also means that the staff meetings at our centre are conducted in English as the working language. Our products are understandably all in English. However, the idea of multinationalisation must not end at the entrance to our new centre. We also have to consistently multinationalise the entire Medical Service more and more in order to fulfil our role as a leading and framework nation. I am expecting impetus for our work in this respect from our subordinate medical service skills units. I have high hopes in particular for English-language training courses offered by the Bundeswehr Medical Service Academy.

Where do you see the core tasks of the future MMCC?

We see ourselves as a working muscle for operational medical service issues – primarily of the European NATO nations – but equally for the military staff of the European Union and as a partner for missions of the United Nations (UN). Specifically, we want to coordinate the development of medical services capabilities, create products for medical services planning for NATO and the EU, harmonize medical services deployment planning in various areas such as NATO, the EU and the UN with one another and also offer services such as management of the wounded and medical logistics for the future. One special building block will be products and information in the area of health protection for the operational contingents. Together with our partners, we want to further develop the internationally acclaimed system of our „Medical Intelligence“.



„Thinktank“ for designing the MMCC

Germany is not only the leading nation for the „MMCC“ NATO project, but also for the „European Medical Command (EMC)“ PESCO project of the EU. What is the relationship between the two projects?

PESCO (Permanent Structured Cooperation) is an expression of the EU's security policy efforts to be able to meet challenges with its own forces and concepts. However, this does not compete with the idea of the NATO Framework Nation Concept, which is intended to strengthen the European pillar. On the contrary, it is important to reconcile the two initiatives with the same resources. My team and I see the EU's mission as an addition and a further mainstay. As an idea, EMC does not describe a claim to leadership that builds on instructions, but rather an institution that coordinates services and is therefore a service provider for deployments of the EU. This means that we are moving in the same territory that I described earlier for the MMCC task. The challenge for me as the Director is now to harmonise the two projects with one another and to win over the various accession countries for this common approach in numerous individual discussions.

I would like to thank you for the interview, Brigadier General, and wish you every success in this task!

The interview was conducted by Matthias Frank, Lieutenant Colonel Press and Information Centre of the Bundeswehr Medical Service



Kingdom of Belgium

Capital: Brussels
Area: 30 526 km²
Population: 11 303 528
Official Language: Dutch, French, German
Armed Forces Personnel: 27 594
Medical Officers: 61
Military Hospitals/Institutes: 1/0
Missions: multiple



Surgeon General
Geert Laire MD
 Major General MC



Medical Component Commander
Pierre Neirinckx MD
 Major General MC

Defence Staff
 Operational Command of the Medical Component (COMOPSMED)
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 Rue d'Evere 1
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 BELGIUM

Basic Task of the Military Medical Service

The main mission of the Belgian Medical Component is to ensure the provision of medical support to all defence activities assigned to the Land, Air and Navy Component, according to their level of ambition, both at home and abroad, and subsequently to secure adequate medical evacuation from the operational theatre.

Structure

The Belgian Medical Component is – similar to the Land, Air and Naval Components – part of the Intervention Force under custody of the Assistant Chief of Staff Operations and Training, who is ultimately supervising the overall preparation and deployment of military operational units and capacities. In agreement with the operational ambition, the Medical Component spans FIVE Elements for Medical Intervention geographically spread across the country and ONE military hospital in the capital city of Brussels.

The **Elements for Medical Intervention** (EMI 1 to 5) are static facilities containing all the personnel and material resources necessary for the deployment of a Role 1 or a Role 2 MTF in direct support of the combat units, except for the specialized medical care providers who are employed

within the Military Hospital. One out of five has been assigned the responsibility of the production, storage and distribution of medical equipment and supplies. Each of the other EMI is mainly oriented towards particular needs and/or assets of medical support, such as aeromedical evacuation, CBRN decontamination, or in specific aid to maritime, light brigade, paratroopers or Special Forces Group operations etc. An EMI is also where the Medical Component envisions, designs, prepares and trains its own medical teams and modules up to combat readiness for the required spectrum of military activities. The central **Military Hospital Queen Astrid** (Role 4) on the other hand, provides a limited lying-in facility as well as an outpatient clinic in selected medical disciplines, medical imaging and laboratory services and hosts among others an emergency and disaster medical services system, a burn care unit, a centre for hyperbaric oxygen therapy, a physiotherapy and rehabilitation unit, a centre for mental health care, the military centre for aviation medicine, the centre for medical fitness assessment etc. (see the section 'Military Hospital')

The Component has also a **Medical Competence Centre** for teaching both medical and combatant (non-medical) personnel, with the exception of the graduate and post graduate education of all medical professionals (physicians, physiotherapists, veterinarians, nurses etc.) which takes place in civilian universities and medical

12 schools. This Centre is collocated with the Military Hospital and thus easily allows for increased educational efficiency and interchangeability of human resources.

Finally, the **Staff of the Operational Command** of the Medical Component (COMOPSMED), situated on the same campus as the Defence Staff in Evere, nearby Brussels, is responsible for the organization and implementation of the military garrison and operational health care portfolio to the beneficiary Defence personnel.

Military Hospital

The mission of the Military Hospital Queen Astrid is three fold: (1) to hold medical capabilities in stand by and to preserve and train medical skills, necessary to support operations, in theatre as well as on the national territory; (2) to contribute to the medical readiness of the deployable forces; (3) finally, with all non-deployed capacities, to participate in the Defence aid to the nation.

One of the main service objectives to achieve this mission is providing specialist medical care tailored to the military duty. The Military Hospital is not a distinct hospital in the traditional sense, but manages a number of specialized health care services in specific domains of military interest. That is why its activities are primarily focused on pre-hospital emergency care and disaster medicine,



Military Hospital "Koningin Astrid"

burn care, traumatology, orthopedic surgery and rehabilitation, travel medicine, hyperbaric medicine, mental health care and crisis psychology. These hospital facilities are merely dedicated for the treatment of beneficiary active military and civilian Defence personnel. However, the burn care centre, being a national centre of excellence, the centre for hyperbaric oxygen therapy and the emergency medical services, both integrated in the Capitals emergency and disaster relief system, are open to the pub-

lic through cost refund. Especially in these three fields of expertise, the Military Hospital contributes in the context of aid to the nation.

Since, as a consequence, the Military Hospital is not a genuine general hospital, multilateral collaboration with civilian partners have become of utmost importance. In this way, the Military Hospital holds several partnerships with university hospitals in the neighbourhood and even provides to one of these, part of its infrastructure. Besides, where necessary, Defence personnel will be referred to the civilian health care services and can get their costs reimbursed.

Secondly, the Military Hospital holds an important role as a medical training facility to maintain skills and competencies tailored to military operational medicine and serves as a reach back capability for the deployed medical forces. Moreover, the hospital is a key player when it comes to scientific research and development of innovative technology and treatment in certain niche activities that are of military concern such as infectious diseases, septic surgery, wound healing etc. The laboratory for molecular and cellular technology works closely together with several national and international (academic) partners and concentrates on the development of skin substitutes, on safety improvement of skin and keratinocyte grafts, on the molecular epidemiology of resistant micro-organisms and on bacteriophages therapy. The laboratory for clinical biology, on the other hand, has been recognized as a national centre of reference for zoonotic diseases (*Coxiella burnetii*, *Rickettsia* and *Anaplasma*).

Number of the Medical Service Personnel

The Belgian Medical Component numbers approximately 1500 service members, of which 61 are medical officers (almost 65 % qualified general physicians and emergency physicians), 18 qualified physiotherapists, 5 dental officers, 9 veterinary doctors and 25 pharmacists. An aggressive recruitment campaign will result during the coming years in a significant increase of this Medical Technical Corps with about 67 employees. Beside these medical technicians, another 60 officers constitute the Medical Support Corps of the Component. Moreover, 10 occupational medicine and 8 medical advisors serve within the Well-being staff department of the Belgian Armed Forces Command.

Field Deployments

The Belgian medical evacuation chain concept starts with thorough self-aid and buddy-aid at the combatant level (combat life saver and aidman) all the way through EMT support, followed by emergency nursing and physician medical care, ending up, as needed, in initial surgical care (light forward surgical teams) and definitive surgery in variable compositions of MTF modules.

Flying the upcoming light transport helicopter NH-90 might soon result in new challenges for the flight surgeons when it comes to optimizing the tactical aeromedical evacuation policy.

State-of-the-art retrieval of the sick and wounded soldiers from the operational theatre completes this process of care. To that purpose, the Belgian Medical Component operates a dedicated strategic aeromedical evacuation program in close collaboration with the European Aviation Transport Command (EATC). Specialized assets include certified aeromedical crews and various types of patient transport units.

According to the political guidance, the mission of the Belgian Medical Component is to participate to joint medical support in the framework of EU, NATO or UN operations by filling either advisory or international staff positions either delivering Role 1, Role 2B and Role 2E capabilities conform and tailored to the activities, operations and level of ambition of the other components or independently on its own.

Missions

Belgian military medical teams contribute to several EU-, NATO- and UN-led operations worldwide providing medical support to Belgian contingents and multinational forces. Medical Component personnel are currently deployed with units serving in Afghanistan (RSM), Iraq (OVP), Jordan (ODF), Mali (EUTM), the Central African Republic (EUTM), the Baltic States (EAPM and EFP), Refugee Relief Operations in the Mediterranean Sea (EUNAVFOR-MED), and on various locations in the Democratic Republic of Congo. Previous overseas missions have included i.a. Lebanon (UNIFIL), ISAF-theatres in Afghanistan and the Indian Ocean / Somalia Coast (ATALANTA). Since the terrorist attacks of 22 March 2016, Belgian military medical personnel participate in Homeland Ops. Moreover the medical component contributes to stand-by operations such as EUBG and NRF/VJTF.



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Czech Republic

Capital:	Prague
Area:	78 866 km ²
Population:	10 553 800
Official Language:	Czech
Armed Forces Personnel:	31 248
Medical Officers:	454
Military Hospitals/Institutes:	3/3
Missions:	multiple



Surgeon General
Zoltan Bubenik MD
Brigadier General



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CZECH REPUBLIC

Basic Task of the Military Medical Service

To guarantee the soldiers of the Armed Forces of the Czech Republic (AFCR) outstanding medical support in operations and to ensure both the physical and mental welfare. The medical care is based on prevention and treatment procedures, however if they get injured, they will receive the standard care.

Structure

The Surgeon General is double-hatted as the CHOD Medical Advisor and the Director of the Military Medical Agency. He is subordinated to the Director of the Support Division of MoD to whom he directly reports. The Surgeon General as the highest representative of the Czech Military Medical Service is the Director of the Military Medical Agency, which has three departments directly dealing with medical service command and control: Medical Services Department, Pharmacy and Medical Material and Veterinary Service Department and Operational Psychology Department. The Military Medical Agency is responsible for medical command and control, health care quality, medical development and cooperation with other authorities regarding force health protection, medical supply activities, medical assistance and crisis management.

The **Military Medical Department**, which is within the MoD Support Division structure, is responsible for medical strategy and policy, medical concepts and medical legality. It is also responsible for cooperation with the Department of Organization Management of MoD, Ministry

of Public Health, Ministry of Interior, and other authorities and organisations, i.e. Red Cross. The Director of the Military Medical Department is subordinated to the Director of the Support Division of MoD to whom he directly reports.

The primary health care within the Armed Forces of the Czech Republic is mostly covered by Regional Medical Treatment Centres (7) and Battalion Aid Stations (17). Regional Medical Treatment Centres provide the initial care for the military personnel and other related beneficiaries and ensure the primary contact members of the armed forces with the medical service. The Role 1 medical units - battalion aid stations as an integral part of the military units, perform tasks mainly within the area of medical training, medical support for military training, exercises and missions abroad.

Military Hospitals

There are three military hospitals in the Armed Forces of the Czech Republic. Although the primary target group of patients are the members of the Armed Forces of the Czech Republic, the military hospitals provide medical care for civilian population in the given region. Therefore, almost 90% of the patients in the military hospitals are civilians. The hospitals have two sources of funding: reimbursement from the health insurance companies as well as funding from the Ministry of Defence. Military hospitals assess the health status of soldiers in active duty and applicants (recruits) to join the Armed Forces of the Czech Republic. They play a key role in providing a medical training to military medical personnel.

The **Military University Hospital Prague** is a training, educational and professional medical facility of the Armed Forces of the Czech Republic, which provides comprehensive health care at the level of teaching hospitals. The number of treated patients, as outpatients, and hospitalized is gradually increasing (around 1,1 million outpatients and 25 thousand hospitalized patients yearly).

The Military University Hospital Prague provides a nearly complete range of medical services except paediatrics, obstetrics, cardiac surgery, and treatment of burns. It focuses mainly on acute surgical conditions and internal profile, the care of polytrauma, including brain and spinal cord injuries.

The Military University Hospital Prague is continuously developing modern, especially minimally invasive, medical procedures in various fields.

The hospital has currently 10 clinics, 20 specialized departments and 674 beds. The hospital has been also involved in the care of war veterans. The quality and safety of care in the Military University Hospital is in accordance with international principles and the hospital has been accredited by a Czech auditing body.

The **Military Hospital in Brno** consists of following wards: Department of Internal Medicine with ICU and Oncological short-stay ward, Surgical and Orthopaedic department with ICU, Neurological department with ICU, Psychiatric department, Ophthalmology department, and ENT department include a total of 212 beds for acute care patients. Clinics radiology, Clinical Laboratories, Psychology, Rehabilitation and physiotherapy, Dermatology, Stomatology, Anaesthesiology and resuscitation, Pharmacy and Medical Technology, Medical assessment board and Department of Occupational Diseases belong to the out-



The Military Hospital in Olomouc

patient clinics. The hospital is well equipped with modern technology and reflects contemporary trends in medicine.

The **Military Hospital in Olomouc** is the oldest military hospital in the territory of the Czech Republic (established in 1748). The Military Hospital in Olomouc offers an identical range of medical services as the Military Hospital in Brno. It has currently 273 beds. The hospital is equipped with Light Speed VCT, which is one of the latest innovations in CT technology. It has other top equipment for laparoscopy, arthroscopy, endoscopy, EEG, EMG etc. Since 2006, the hospital has become involved in the regional emergency medical system.

Military Institutes

The Institute of the Aviation Medicine Prague (the IAM) is a diagnostic, therapeutic, advisory and training facility with a nationwide competence for both civilian and military personnel, with the possibility of providing a whole range of highly specific services exploitable by other patients and even healthy persons.

The IAM performs the both initial and regular medical examinations of flight personnel, air traffic control personnel and the people involved in rescue operations (e.g. divers, fight – fighters, rescuers, paramedics and police officers) and therapeutical and advisory activities relating to the military and aviation personnel, paratroopers, divers and air traffic controllers.

The above-mentioned services are primarily aimed at making a speedy diagnosis, after-treatment, assessment of an examinee's ability to execute his/her job and giving recommendations on preventive as well as therapeutic measures. These services are provided by skilled staff, mainly to outpatients, but also by means of a short-term hospitalization with frequently used methods requiring sophisticated equipment that is not in use in other clinical branches (hypobaric chambers, simulators etc.).

The Military Health Institute in Prague is a specialised medical facility responsible for anti-epidemic and hygienic support within the Czech military, laboratory and expertise activities (both in the Czech territory and Czech military foreign deployments), radiation protection, biological protection, vaccination of troops of the Armed Forces of the Czech Republic and operation of the Serum Bank of ACR. The Institute includes the Preventive Care Department in Ceske Budejovice and the Biological Defence Department in Techonin.

- 16 The Department at Techonin is a specialized medical institution of the Czech Armed Forces ensuring complete biological defence primarily in favour of the Czech troops. There are following primary objectives:
- Isolation of bacilli carriers of dangerous diseases and prevention of spreading of contagious diseases to the rest of population;
 - Identification of the sort of contamination, determination of diagnosis, suggestion and taking necessary measures - especially in issues of prevention;
 - Treatment of affected persons;
 - Biological defence research.



The Biological Defence Department in Techonin

The **Biological Defence Department** includes the Specialised Infection Hospital for persons affected with dangerous or exotic infections under biosafety level 3 & 4 conditions equipped with laboratories for diagnostics of selected biological agents. It also offers isolation-quarantine capabilities for examination of the troops returning from military missions abroad.

The Department serves as a training and education facility both for military and civilian specialists from the Czech Republic and within the NATO (Centre of Excellence).

The Department is part of the Integrated Rescue System of the Czech Republic, and, at the same time, it is involved in the NATO biological defence system.

Number of the Medical Service Personnel

Qualified physicians:	239
Qualified dentists:	11
Pharmacists:	19
Veterinary surgeons:	29
Assisting / nursing personnel:	321
Medics / drivers:	172
Other allied health professionals:	39

MEDEVAC Capabilities

Patient transport (ground medical evacuation) can be provided by protected transport vehicles of the medical service. That are eight-wheeled Pandur II armoured personnel carriers and, medical version of Iveco LMV (Light Multirole Vehicle). Medical version replaces older Soviet-era OT-64 SKOT. All the types of vehicles have the same capacity - four casualties.

For STRATEVAC medically adjusted Airbus A-319 CJ or CASA C-295 is used. The specialized equipment, the Patient Transport Unit (PTU), can be quickly installed for the transport of the intensive care patients. The aircraft interior can be adjusted to accommodate up to six lying patients (two PTUs for seriously injured and four beds for slightly or moderately wounded).

AIR TACEVAC can be performed by FW assets (CASA C-295).

Currently there are no capabilities to provide **AIR FORWARD MEDEVAC**. To achieve this capability is expected by 2020.

Field Deployments

Treatment chain for wounded soldiers commences at the self-aid or body-aid and continues with the enhanced first aid delivered by a combat life saver at the point of injury. Role 1 MTF encompasses provision of the first emergency medical care.

Role 2/Role 2E MTF accomplishes clinical enhancement if necessary. Final clinical treatment and rehabilitation is provided in Role 4 MTFs in the Czech Republic.

The Medical Service of the Czech Armed Forces has currently the capability to deploy MTFs up to Role 2E – (field hospitals).

The Military Medical Service has two field hospitals available. Each field hospital is composed of several tents and containers, containing emergency, surgery with two operation rooms, ICU, ward, dentistry, laboratory, X-Ray, ultrasound, CT, pharmacy and sterilization.

The Military Medical Service personnel have been participating in all major foreign activities. The fact that the Czech military medical personnel are being included in the NATO, UN or EU-led missions reflects their considerable credibility.

Field hospitals personnel were involved e.g. in the missions in Albania, Turkey, Afghanistan or Iraq, medical teams were deployed in several peace keeping operations.

Since 2003 the Czech medical teams have been embedded in the UK, Dutch, German and NATO Field Hospitals.

At present the Czech military medical service is developing a medical module (based on Multinational Medical Task Force) which will be ready to provide medical support to V4 EUBG 2019/2.

Civilian Military Cooperation

The Military Hospitals are fully integrated in the civilian healthcare system.

Air Rescue Service and Emergency Medicine Department Pilsen-Line has become an integral part of the

state sponsored emergency medical services and acts as an important part of the Integrated Rescue System of the Czech Republic. Currently The Armed Forces of the Czech Republic have been fully covering the Air Rescue Service in the regions of South Bohemia, Karlovy Vary and Plzen.

The Institute of Aviation Medicine in Prague serves the military and civilian flight personnel and air traffic control service.

The Biological Defence Centre in Techonin serves as a training and education facility both for military and civilian specialists from the Czech Republic and within NATO (CBRN Centre of Excellence).

The department is also a part of the Integrated Rescue System of the Czech Republic, and at the same time, it is involved in the NATO biological defence system.

83% OF COMBAT INJURIES TODAY ARE CAUSED BY IMPROVISED EXPLOSIVE DEVICES.

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Estonia

Capital:	Tallinn
Area:	45 228 km ²
Population:	1 340 602
Official Language:	Estonian
Armed Forces Personnel:	5 000
Medical Officers:	19
Military Hospitals/Institutes:	0/0
Missions:	1



Lieutenant Colonel
Targo Lusti
Lieutenant Colonel



Estonian Defence Forces HQ
J4 Medical Service
Juhkentali 58
15007 Tallinn
ESTONIA

Basic Task of the Military Medical Service

To support Estonian Defence Forces (EDF) personnel in healthcare related issues, mainly primary care for military personnel, incl. medical examination through medical board. Eligible beneficiaries are: conscripts, active duty service members, reserve component (only once activated) and injured former active duty service members.

Other tasks include creation of medical support plans and resources for deployable and other operational units, developing and providing military medical training and providing input for health related legislation, guidelines etc.

Structure

SG's office operates on joint level. There are eleven Role 1 medical centres organic to military units and in addition one Health Centre which provides most specialist outpatient services and performs as a healthcare board to assess medical fitness for service.

There are no military hospitals in Estonia, but all military doctors and nurses are highly encouraged to practice in civilian medical facilities. Such activities are considered mutually beneficial and regulated by legislative acts.

Medical Service Personnel

Physicians (including dentists, healthcare administration and training): 35 (17 active duty/18 officials and contracted) Pharmacists: 2 (active duty) Nurses: 75 (68 active duty/7 officials and contracted)

Training

EDF has currently two main training centres for medical personnel. One in National Defence College is providing courses for medical leaders and clinicians, including reservists and medical students in Universities. The other training centre is more focused on training of conscripts to paramedics and refreshing medical knowledge of the deploying units.

Field Deployments

Main focus is supporting of EDF ongoing deployments in Mali, CAR, Iraq and Kosovo where EDF medical service provides Role 1 and ground MEDEVAC support to its own units. EDF medical service has an excellent cooperation with its EU and NATO coalition partners.

Civil-Military Cooperation

Higher level care, including rehabilitation services are provided on civilian bases. Universal health insurance grants easy access to all healthcare providers. In addition to its clinical counterparts, EDF medical service has a very close cooperation with Ministry of Social Affairs, National Institute for Health Development, Tartu University and Medical Colleges. EDF is responsible for military medical training of physician and nurses during their pre-diploma curriculum in Universities.



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STORZ
KARL STORZ—ENDOSKOPE
THE DIAMOND STANDARD



Federal Republic of Germany

(Joint Medical Service)

Capital:	Berlin
Area:	357 121 km ²
Population:	82 000 000
Official Language:	German
Armed Forces Personnel:	185 000
Medical Officers:	3 500
Military Hospitals/Institutes:	5/7
Missions:	multiple



Surgeon General
Dr med Michael Tempel
 Lieutenant General MC

Bundeswehr Medical Service Headquarters
 Von-Kuhl-Strasse 50
 56070 Koblenz
 GERMANY

Basic Task of the Military Medical Service

The core task of the Bundeswehr Joint Medical Service is to protect, sustain and restore the health of service personnel. This is of particular relevance in the case of deployments abroad, where service personnel is exposed to exceptional health hazards (that they do not face at home). The work of the Bundeswehr Joint Medical Service is based on the guiding principle that ill, injured or wounded personnel on operations are to be given medical care, the outcome of which corresponds to medical standards in Germany. This applies across the entire spectrum of medical care and services. Through its staff and resources, the Medical Service also provides medical care to military personnel in Germany.

Structure

Consistent orientation towards mission-related tasks, the streamlining of command and control structures and the continued focus on tasks that require a medical licence are essential determinants of the **Bundeswehr Joint Medical Service**.

In order to achieve these goals and maintain personnel sustainability, the Bundeswehr Joint Medical Service comprises a total of approximately 14.650 military and 2.700 civilian posts.

The Surgeon General is the commanding general of the German Joint Medical Service and, in medical matters,

exercises control over the medical services of all branches of the German Armed Forces.

He also commands the **Bundeswehr Medical Service Headquarters** located in Koblenz, which at field army level is the highest military medical command in Germany.

All command and control structures of the Bundeswehr Medical Service are organized at the **Bundeswehr Medical Service Headquarters**, focusing on a process-oriented organisation rather than on customary staff branches. In the training branch, for example, staff from personnel management work alongside staff from operations and readiness.

A feature unique to the Medical Service is its responsibility for the organisation and management of **Strategic Aeromedical Evacuation (StratAirMedEvac)** operations. This responsibility includes stationing, military security, alerts and mobilisation.

At division level, two commands and the Bundeswehr Medical Academy are subordinate to the Bundeswehr Medical Service Headquarters.

The **Operational Medical Support Command** in Weißenfels is responsible for and coordinates the deployment of medical personnel, air and ground assets, and material. Medical regiments and medical logistic centres are its main assets for fulfilling this task.

Regional medical treatment facilities have been placed under the authority of the **Regional Medical Support**

Command in Diez. Medical care for active-duty personnel is provided by major medical clinics, which also offer specialty services, and medical clinics.

The **Bundeswehr Medical Academy** is the centre of competence for military medical research, development and training and is located in Munich.

Five **Bundeswehr Hospitals** located in Koblenz, Ulm, Berlin, Hamburg and Westerstede are directly subordinated to the Bundeswehr Medical Service Headquarters as well as the Central Institutes of the Bundeswehr Medical Service at Kiel and Munich and Supervisory Centres for Public Law Tasks of the Bundeswehr Medical Service North (Kiel), West (Koblenz), East (Potsdam) and South (Munich).

In the future the Bundeswehr Joint Medical Service will have five regiments, elements of which will be stationed at or close to Bundeswehr hospitals in order to strengthen the training and exercise system and to increase options

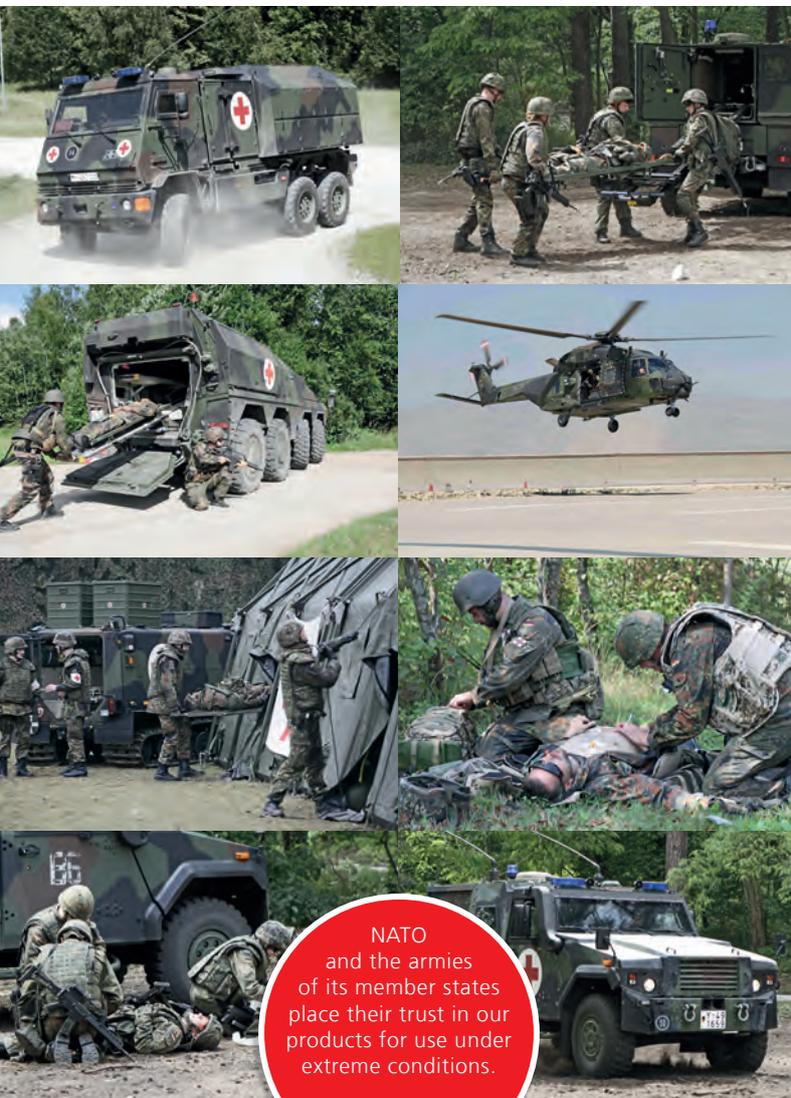
for the mutual support between field units and Bundeswehr hospitals.

Three **Medical Regiments** are stationed in Weißenfels/Berlin, Rennerod/Koblenz and Dornstadt.

The Medical **Service Rapid Reaction Regiment** in Leer combines all airmobile and airborne medical capabilities of the Bundeswehr Joint Medical Service to ensure that medical care and support are made available to troops on deployments abroad within a very short period of time. During longer deployments, rapid response forces are relieved by stabilization forces.

Basic training of medical trainee soldiers and predeployment training of medical personnel are provided by the **Medical Training Regiment** in Feldkirchen.

All hospitals are operated by the Bundeswehr and provide medical care not only for service personnel but also for civilian patients.



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Photograph: Military medical corps of the German Federal Armed Forces

22 Institutes, Research and Public Health

Veterinary and pharmaceutical laboratory diagnostics including potable water and food examination are provided by **Central Institutes of the Bundeswehr Medical Service** at Kiel and Munich.

Medical research in the field of detecting and preventing of CBRN-Threats is conducted in the laboratories of the institutes affiliated with the Medical Service Academy in Munich. The **Bundeswehr Institutes of Microbiology, of Pharmacology and Toxicology, and of Radiobiology** are also stationed in Munich. The **Bundeswehr Institute of Preventive Medicine** will be established in Andernach and will provide research and operational assets for injury protection, health protection and surveillance capabilities.

Further elements of the force health protection program of the Bundeswehr Joint Medical Service are established at the Supervisory Centres for Public Law Tasks of the Bundeswehr Medical Service North (Kiel) / East (Potsdam) / West (Koblenz) / South (Munich) acting in preventive medicine, veterinary service, pharmacy and food safety in an interdisciplinary approach.

Field Deployments

First aid through **self and buddy aid** forms the start of the medical evacuation chain. Initial emergency medical care is rendered at **Mobile Aid Stations (Role 1)**. Trained medical specialists perform on-site triage, shock and pain management as well as haemostatic measures. They also ensure the clearance of the respiratory tract and artificial ventilation.

Complementary emergency diagnostic services and treatment are provided at Mobile Surgical Hospitals (Role 2). These are able to deal with acute injuries and disorders and the relevant surgeons and anaesthetists. A Mobile Surgical Hospital consists of mobile containers. Tents are used in some cases. The size and facilities of a centre are adapted to the requirements of each deployment.

Field Hospitals (Role 3) provide in-patient and out-patient specialist medical care. They have extended surgical, intensive care and specialist diagnostic and treatment facilities and, if necessary, can stabilise casualties for direct evacuation back to Germany.

In relation to the kind and severity of their injuries Casualties are generally transported back to Germany in specially equipped Bundeswehr aircrafts within the framework of **StratAirMedEvac**. Special equipment includes **Patient Transport Units (PTU)** for the movement of intensive care patients. Six PTU can be installed in **Airbus A-310** aircraft operated by the **Deutsche Luftwaffe** (German Air Force, see Luftwaffe).

The main elements at Role 4 level are the Bundeswehr Hospitals in Germany. If necessary, civilian hospitals and rehabilitation centres are also used. These facilities provide for the further treatment of patients who have been evacuated from the area of deployment. As a rule, strategic air medical evacuation aircraft land in the reserved military zone of Cologne- Bonn airport. From there, patients are transferred to the Bundeswehr hospitals.

Current missions:

- 1999** – KFOR / Kosovo
- 2002** – RS / Afghanistan
- 2005** – UNMISS / South Sudan
- 2006** – UNIFIL / Lebanon
- 2007** – UNAMID / Sudan
- 2009** – ATALANTA / Horn of Africa
- 2010** – EUTM / Somalia
- 2012** – EUCAP Nestor / Somalia
- 2013** – EUTM / Mali
- 2013** – MINUSMA / Mali
- 2013** – MINURSO / West Sahara
- 2013** – AF TUR / Turkey
- 2015** -- EU NAVFOR MED / Mediterranean Sea
- 2015** – Training Support Mission / Iraq

Republic of Hungary



Capital: Budapest
Area: 93 030 km²
Population: 9 944 000
Official Language: Magyar
Armed Forces Personnel: 26 500
Medical Officers: n/a
Military Hospitals/Institutes: 8/3
Missions: multiple



Surgeon General
Dr István Kopcsó
 Brigadier General



Ministry of Defence
 Balaton u. 7-11
 1055 Budapest
 HUNGARY

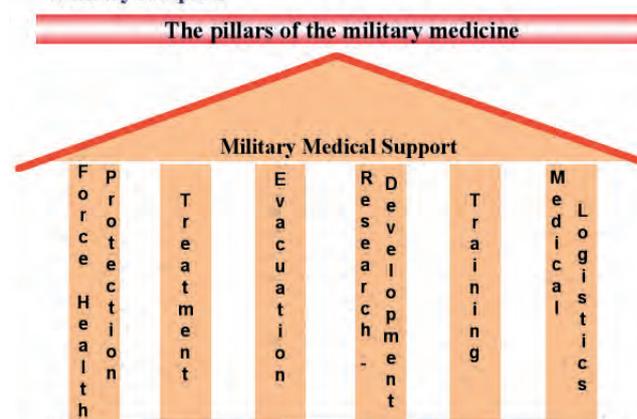
Basic Task of the Military Medical Service

The Directorate of Medical Force Health Protection and Medical Authorities' responsibility includes professional control and oversight of aptitude and occupational fitness tests for personnel of the Ministry of Defence and the Hungarian Defence Forces. Other responsibilities include executing the public health service and epidemic safety tasks for the MoD and HDF personnel, exercising authorized oversight of public health and epidemiological issues in the Hungarian Defence Forces, operating the HDF Public Health and Epidemiological Service and performing complex hygiene-related duties in the HDF. The Directorate coordinates professional psychological work in the HDF, conducts accreditation procedures for further vocational training at the units, provides psychological training for personnel nominated for missions, and assisting them during their sustained operations and re-adaptation. It carries out aptitude tests and assessment in procedures of second instance for those appealing against aptitude and review decisions of first instance.

Structure

In order to unify the Hungarian Military Medicine, the Military Hospital – State Health Centre and the Hungarian Defence Forces Dr. Radó György Military Medical Centre was integrated, and a newly established structure of element, the Hungarian Defence Forces Military Hospital started its work on 15th November 2011. This military medical rationalization, on the one hand, was part of the efforts of the Minister of Defence, on the other hand, plays an impor-

Hungarian Defense Forces
Military Hospital



tant role in the organization process that was started in the public health in 2011.

Joining together the organizational and coordination tasks as well as the medical support, the Military Hospital which is now directly subordinated to the Chief of Defence Staff fulfils the responsibilities in the field of military medicine arising from NATO and international agreements, planning and exercising control over the execution of complex medical tasks in collective defence, peacekeeping and humanitarian operations.

In addition, the relationship between the military and civilian medicine has changed. One of the results of the above mentioned integration was that the personnel of the Military Hospital have been increased with 400 people and the health care system has been widened as well. On the other hand, special military medical tasks have

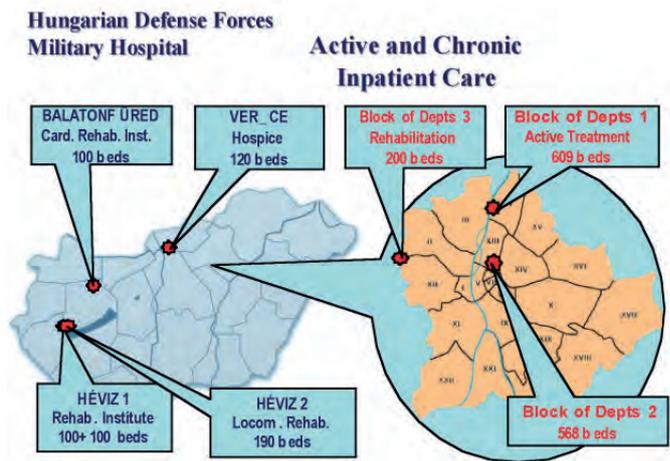
24 become the part of the newly established structure of element.

Being a priority hospital, it has become one of the key health care institutions in Hungary that specializes in all medical disciplines except for paediatrics. Basically, the core mission of the institute is the treatment of the Hungarian military personnel as well as the claimants of the Military Hospital – State Health Centre’s predecessor institutes, so the Military Hospital offers outpatient and in-patient care for the personnel of the Ministry of Justice and Law Enforcement, the HDF and State Railway and their family members, while it also carries out special aptitude tests for the HDF and provides medical support for the HDF missions. The hospital plays a significant role in providing treatment for the civil population on a regional basis.

Besides maintaining the appropriate defence capabilities of Hungary, the health care of the Hungarian population is in the focus that the Military Hospital wishes to solve with the Semmelweis Plan. The Semmelweis Plan is the reform of the Hungarian healthcare system, as a result of which Hungary has been divided into 8 regions since 30 November 2011. Each region provides healthcare services for 1-1.6 million people, and a centre responsible for the organization of local healthcare services was established in every region. The Military Hospital has been chosen by the medical government as one of the hospitals which is responsible for one region. The doctors of the Military Hospital administer a range of special treatments. One of the strengths in the special character of the institution is the comprehensive traumatology, neurotraumatology and burns therapy, which is a priority in the HDF and also in disaster medicine. As one of the most important emergency care centres in Hungary, the Military Hospital plays a key role in providing treatment for acute cardiac arrests and strokes. In addition to outpatient and inpatient therapy, the institute conducts high-level educational activity and scientific research. The chronic and rehabilitation therapy is provided at five extramural institutions around the country.

Institute of Aviation Medicine, Military Fitness and Research – Kecskemét

The Institute is responsible for conducting activity in the field of aviation medicine, military aptitude tests, outpatient surgery hours, single-day surgery and scientific research projects. It performs aviation aptitude tests for civilian pilots, pilot candidates, ground crews (techni-



cians, air controllers), paratroops, divers and hang-gliders. The Institute provides single-day surgery and outpatient surgery hours for the claim ant service personnel and their relatives. The Aviation Medicine Research Section conducts scientific research in close cooperation with the Aviation and Space mMedicine Department of the Szeged University of Science.

The Scientific Institute – Budapest

The Institute conducts basic and applied research into chemical, biological, radiological and nuclear (CBRN) weapons and medical CBRN protection in the field of biomedical science. It applies and broadens the specialist knowledge and develops the applied research methods. The HDF MMC Scientific Institute is in charge of surveying the patterns related to the use of drugs and psychotropic chemicals and also of conducting regular screenings for the HDF service personnel. As a prioritized field of research, it has recently launched ma project on developing a DNA-based personal identification system which will ensure exact identification of victims.

Medical Training Base – Budapest

The training and certification programs conducted at the base cover the planning and implementation of basic-level and advanced (MOS) medical training programs for the professional and contract personnel as well as for the civil servants. Furthermore, the Base is responsible for running medical training and certification courses for the HDF troops declared for crisis management and peace-keeping operations, and certifying the medical specialists of the HDF. The medical training courses are aimed at providing basic and MOS training for the personnel and providing the personnel preparing for some special MOS (rescue divers, EOD troops) with special medical training. The base offers special trainingm to the professional and

contract personnel specializing in medical MOS as well as medical training for the units and staff officers nominated for NATO- and EU-led response and stand-by forces and missions abroad.

Field Deployments

The BTR-80 armoured vehicles are an all-terrain military vehicles designed for evacuation of casualties from the battlefield.

Mercedes G-270 is a military all-terrain motor vehicle designed for transporting casualties. The bandaging container provides mobility and infrastructure for treatment administered in accordance with the medical care techniques (protocols) meeting the standards of ROLE-1 and ROLE-2 NATO-compatible medical organizations.



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NOVEMBER 13-14, 2018





Grand Duchy of Luxembourg

Capital:	Luxembourg
Area:	2 586 km ²
Population:	502 066
Official Language:	Luxembourgish, German, French
Armed Forces Personnel:	900



Surgeon General	Service Médicale Centre Militaire
<i>Cyrille Dupont MD</i>	B.P.166
Major MC	9202 Diekirch
	LUXEMBOURG

Basic Task of the Medical Service

The Medical Service is responsible for the medical care of army personnel on active service. This is understood to be comprehensive, i.e. it must cover preventative as well as curative care, both in terms of care of individual and of community medical care.

The Medical Service is required to be operational both in its permanent form at the Military Hospital and when on national or international deployments.

The Medical Service carries out medical examinations of candidates applying for a career in the Armed Forces, as well as annual medical examinations for Army personnel on active service. The Medical Service is responsible for the medical training of its Para-medics and other personnel, as well as of other Army personnel.

Structure

The Medical Service is divided into Sections:

- Medical Section
- Dental Section
- Psychology Section
- Pharmaceutical Section
- Physiotherapy Section

Medical Service Staff

The **Chief Military Medical Officer** commands the Medical Service. He is responsible both for relations between the Medical Service and Army Staff Headquarters and he maintains contact with military and civilian, medical services, both national and international.

The **Chief Military Dental Officer** is in charge of the Dental Section.

The **Chief Military Psychologist** is in charge of the Psychology Section.

The **Chief Military Pharmacist** is in charge of the Pharmaceutical Section.

The Physiotherapy Section is managed by a **graduate in physiotherapy**.

Qualified non-commissioned nursing officers are responsible for providing "nursing care", organise the preparation of medical units for exercises or other missions, carry out medical training and manage the medical facilities of the Medical Service.

Non-medical non-commissioned officers manage the administration of all non-medical aspects of the Medical Service.

Soldiers who have trained voluntarily as Paramedics are available to assist in the reception of patients into Medical Service units, to support military activities on the ground and they also take part in the life of the unit.

Soldiers who have volunteered as secretarial auxiliaries assist in managing the secretarial services and administration of the unit.



Kingdom of the Netherlands

Capital:	Amsterdam
Area:	41 543 km ²
Population:	17.000.000
Official Language:	Dutch
Armed Forces Personnel:	41 900
Medical Officers:	280
Military Hospitals/Institutes:	2/6
Missions:	multiple



Surgeon General

Remco Willem Blom

Commandeur (Rear Admiral)



Ministry of Defence
P.O. BOX 90004
MPC 55A
3509 AA Utrecht
THE NETHERLANDS

Basic Task of the Military Medical Service

- To provide operational medical care at Role 1 to 4, (aero)medical evacuation, and preventive medicine in the field.
- To provide in individual healthcare including dental care and physiotherapy for NLD military personnel.
- To provide in occupational healthcare for NLD military personnel.
- To provide rehabilitation care for NLD military personnel.
- To educate and train military healthcare professionals.
- To monitor and continuously improve the overall quality of military healthcare.
- To advise the NLD military and political leaders in military healthcare matters.

Structure

Centrally positioned healthcare elements

Defence Healthcare Organization

The Defence Healthcare Organisation consists of ten centrally organised healthcare providers and a staff. The organisation employs approximately 1350 men and women and provides healthcare services for all the branches of the forces in the Netherlands and abroad. The services include first line healthcare, dental care, central hospital capability, rehabilitation, blood provision, clinical specialist teams for deployment, medical logistics, and initial education for medical personnel. The commander of the Defence Healthcare Organisation is also the Dutch Surgeon General.

The operational Role 1 and 2 assets are decentralised and under full command of ARMY, AIR FORCE, NAVY and MARECHAUSSEE (MILITARY POLICE).

The NLD Armed Forces Inspector of Military Healthcare (IMG)

The IMG has a small staff and is responsible for independent inspections of healthcare related matters, assets and personnel. They report independently to the Ministry of Health, Welfare and Sports.

Operational Medical Services

The **Royal Netherlands Army** has medical personnel incorporated within their 3 brigades (11 AirMobile Bde, 43 Armoured Bde and 13 Light Bde). Each brigade has a dedicated medical company with assigned Role 1 assets. There are a total of 3 brigades with 3 brigade medical companies. All Role 2 assets are centralised in a single service management unit residing under Army command, the 400 Medical Battalion (SSM 400 MedBn). Above brigade level, SSM 400 MedBn is incorporated within the Army's operational support command brigade. SSM 400 MedBn consists of 5 interservice medical companies. This battalion has the possibility to deploy 4+4 Role 2 facilities for sustained operations or can combine this capability for a high threat-level operation not only for the Army but for Air Force or Navy as well (including Role 2 AFLOAT). All medical units can provide personnel to augment medical task forces, Medcell, PECC's, etc. There is a separate medical staff at Army HQ, headed by the Army Staff Surgeon. The Army medical services have a total strength of approximately 1100 service members.

28 The **Royal Netherlands Air Force** has aviation medical capabilities for AEROMEDEVAC and STRATEVAC tasks, holding capabilities for Air Force deployable units. There is casualty station capacity within their casualty staging units (CSU) and they have search and rescue (SAR) assets for domestic tasks (in cooperation with the Navy). There is a separate medical staff at Air Force HQ, headed by the Air Force Staff Surgeon. The Air Force medical services have a total strength of approximately 140 service members.

The **Royal Netherlands Navy** has maritime medical capabilities for their vessels (Role 1 and ART). Role 2 capability can be stationed on the prepared facilities of the 3 Dutch Joint Support ships. The Role 2 facilities will be manned and equipped by SSM Role 2 of the SSM 400 MedBn and surgical capacity from the Defence Healthcare Organisation.

Furthermore, the Dutch Marine Corps has Role 1 capabilities for amphibious operations available and can rely on landbased Role 2 support from SSM 400 MedBn. There is a separate medical staff at Navy HQ, headed by the Navy Staff Surgeon. The Navy medical services have a total strength of approximately 120 service members.

The **Royal Netherlands Marechaussee** (military police) has a separate medical staff, headed by the Marechaussee Staff Surgeon. They have some dedicated medical personnel to support military police operations but will be mainly supported by the commands they are deployed with.

Military Hospitals



Central Military Hospital

The Central Military Hospital is located in Utrecht and has approximately 30 regular beds. All regular inpatient and outpatient specialisations are available within the military hospital or obtainable from the collocated University Hospital Utrecht. The Central Military Hospital, in conjunc-

tion with the university hospital, also provides a (sheltered) major incident hospital with a capability of 200 beds. This major incident hospital also has quarantine facilities available. This hospital is a unique capability within the Netherlands and can be operational within 30 minutes. This hospital concept has proven its worth over many years for disaster relief and major incidents.

The Military Rehabilitation Centre

The Military Rehabilitation Centre is located in Doorn and has capacity for 80 inpatients and a number of outpatients. The centre also receives civilian patients and has state of the art training facilities at its disposal. It also has its own orthopaedic workshop.

Institutes

Expert Centre of Expertise for Military Health

Tasked with:

- Knowledge management on health related issues;
- Providing advice on specific subjects as food and water hygiene, radiation, micro-biology, pharmacy, disease control, public health, etc.;
- Coordination of medical testing and research.

Knowledge Centre for Medical Service.

Tasked with:

- Medical skills lab training at group level;
- Support of medical training in the field;
- Support of requirement and procurement of medical equipment.

Centre for Man and Aviation

Tasked with:

- Aeromedical and psychological examinations;
- Testing and training of air men;
- Research in the field of human factors.

Diving Medical Centre

Tasked with:

- Medical examinations of diving personnel;
- Testing, education and training of diving personnel;
- Treatment of decompression sickness;
- Research in the field of diving medicine.

Sports and Training Medical Centre

Tasked with:

- Individual medical examinations;
- Applied research in the field of physical exercise;
- Providing advice regarding the physical stress of soldiers in the field.

Defence Medical Training Institute

All military medical personnel attend the IDGO for initial military medical education and training. This institute is focussed on the military application of healthcare.

Institute for Defence and Partnership Hospitals

The Dutch Armed Forces have a unique concept to generate surgical capacity from the civilian market. By formally partnering with civilian hospitals, the Armed Forces pay for additional personnel at civilian hospitals. During periodical placements, they train civilian personnel with a military reserve status and utilise pre-planning and contracts in order to use these teams for missions and training purposes.

A small staff residing directly under the Defence Healthcare Organisation ensures 'just in time' and 'just enough' surgical and medical specialists for exercises, missions and operations.

Number of Medical Service Personnel

The total strength of NLD medical service members is approximately 2800 men and women, consisting of approximately 950 civilian and 1860 military personnel.

Qualified physicians	approx. 220
Medical officers (non physicians)	approx. 200
Qualified dentists	approx. 50
Pharmacists	approx. 10
Qualified physiotherapists	approx. 60
Nurses (non commissioned officers)	approx. 600
Medical assistants and medical supporting personnel (soldiers/corporals)	approx. 400

Field Deployments

Recent deployments include:

2003	Central Afghanistan Kabul: Role 2 deployment;
2004-2005	SFIR Iraq: Role 1 and Role 2 deployment; North Afghanistan Pol-E-Khomri: Role 2 deployment;
2006	NRF 5 Pakistan: Role 2 for humanitarian assistance;
2006	Exercise RECAMP Cameroon Africa: medical assistance programme;
2006-2010	ISAF South Afghanistan Uruzgan: Role 1 and Role 2 deployment;
2006-2010	ISAF South Afghanistan: Aeromedevac and holding capabilities;
2006-2011	ISAF South Afghanistan Kandahar: Role 3 specialist team;

2007-2011	KFOR: Role 3 specialist team;
2012	Kunduz: Role 1 and contribution with a Role 2 medical team;
2012-2014	Afghanistan Kunduz: Role 1 and contributions with a Role 2 medical team;
2013-2014	BMDTF (Patriot) Turkey: Role 1 MTF;
2014- ongoing	MINUSMA Mali: Role 1 MTF and Aero Medevac;
2015	MH-17: deployment of Role 1 MTF, Role 2 MTF and identification teams;
2016- ongoing	1 (NLD)CBMI: training support mission IRAQ mission, R1 MTF;
2016- ongoing	Enhanced Forward Presence (eFP) Baltic States: integrated Role 1 assets;
2016- ongoing	Ocean Shield, European border patrol: integrated Role 1 assets;
Ongoing	Numerous ongoing missions with a small tailor made medical footprint

In addition, medical services support various exercises throughout the world.

International Cooperation

The Dutch armed forces are very internationally orientated and have several cooperations with other nations, including international healthcare elements. The main effort is focussed on further cooperation and synchronisation with all NATO-countries and specifically with Germany, Belgium, Luxemburg, United Kingdom, Canada, Norway and the United States of America.

Civil-Military Cooperation

The NLD Military Medical Service highly depend on support by the civilian healthcare organisations. Specialist teams are recruited and deployed by a specific military agency and specialist medical personnel support military medical education and training as reserve officers and reserve non commissioned officers. The interaction with the civilian sector will increase even more as we strive to ensure the required medical quality. This will be achieved by embedding military medical personnel in civilian healthcare organisations for periodical training.



Kingdom of Norway

Capital: Oslo
Area: 385 170 km²
Population: 5 267 146
Official Language: Norwegian
Armed Forces Personnel: 25 000
Medical Officers: 250
Military Hospitals/Institutes: 0/4
Missions: multiple



Surgeon General
Dr Jan Sommerfelt-Pettersen
 Rear Admiral MC

Armed Forces Medical Service
 2058 Sessvollmoen
 NORWAY

Basic Task of the Military Medical Service

The vision of the Norwegian Armed Forces Medical Services (NAFMS) is:

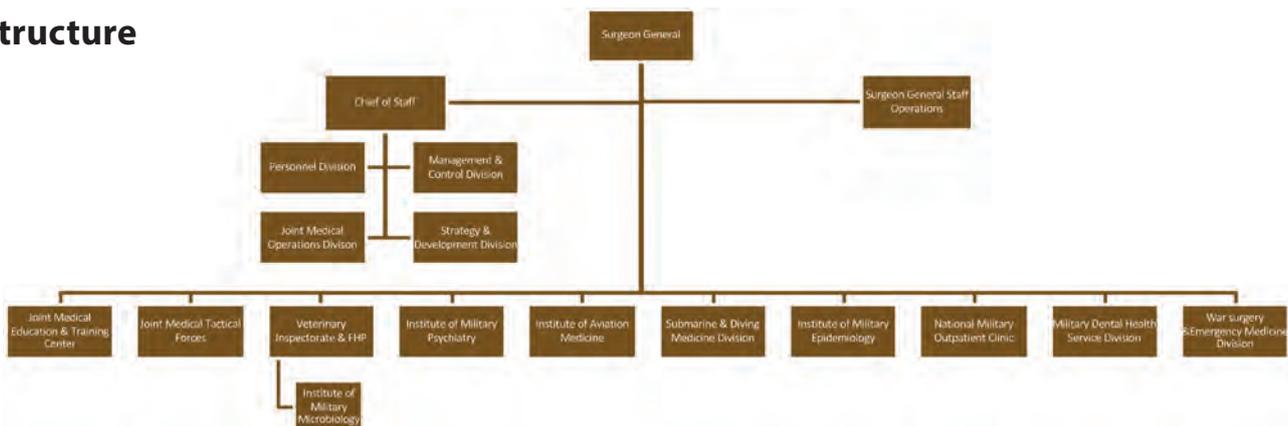
“Ad Militiae Valetudinem”

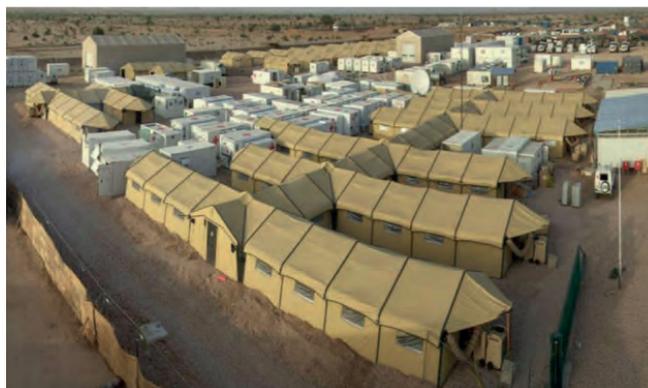
The basic task of the Norwegian Armed Forces Medical Services (NAFMS) is to protect, maintain and restore the health of Norwegian military service personnel. NAFMS develops national military medical concepts, doctrines and procedures. It generates medical treatment facilities for use at home and for deployment overseas. It provides medical evacuation and force health protection for the Norwegian Defence at home and overseas. The NAFMS is commanded by the Surgeon General, who has the overall responsibility for Norwegian Armed Forces Medical Policy and is the senior medical advisor to the Chief of Defence. The NAFMS provides medical policy and guidelines for all

military medical activity across the four service branches (Army, Navy, Air Force and Home Guard). The NAFMS generates specialized medical capacities for use in support of land sea and air operations as needed. These capacities aim to either reinforce service branch medical support, or provide national capacities in a tri-service setting. One example is strategic medical evacuation. Another example is a Role 2 enhanced medical treatment facility for use in support of the service branches or available for overseas deployment. The MTF system components are modular. This provides a high degree of flexibility in capacity and size depending upon mission requirements. The NAFMS further provides a number of other specialized medical, dental and veterinary services in support of all service branches at home and overseas.

The NAFMS is commanded by the Surgeon General, who has the overall responsibility for Norwegian Armed Forces Medical Policy and is the senior medical advisor to the Chief of Defence.

Structure





Field Deployments

Role 2 Medical Treatment Facilities

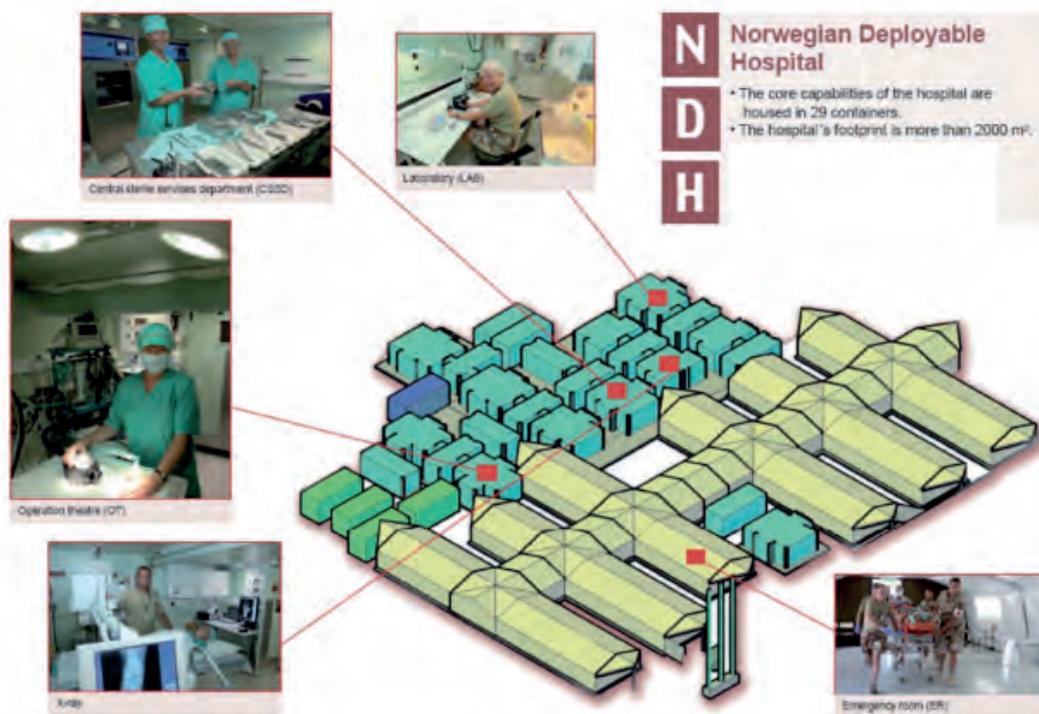
In the last decade NAFMS has deployed MTF to Afghanistan (2003 – 2004 and 2005 – 2006) and to Chad (2009 – 2010). The NAFMS can deploy an MTF with capacity up to up to Role 2 Enhanced. An MTF may be deployed as an autonomous unit with integral logistics and C2, or it may be deployed in collaboration with a partner nation to augment an existing MTF in a given theatre of operations. The MTF is modular and up to Role 2 basic infrastructure independent.



Main Missions (medical units)

Korea	1951 – 1954
Egypt/ Gaza	1956 – 1963
Congo	1960 – 1963
Peru	1970
Lebanon	1978 – 1998
Saudi-Arabia	1991
Iraq/Kuwait	1991 – 1992

Somalia	1992 – 1994
Bosnia-Herzegovina	1992 – 1998
FYROM	1993 – 1994
Sudan	2005
Afghanistan	2003 –
MERO 2 Afghanistan	2006 – 2012
Chad	2009 – 2010
Mali	2014 –
Iraq	2015
Iraq	2017 –



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