NATO KEKK

ADVERSITY TO ADVANTAGE

How the NATO MILMED COE used the period of the COVID-19 pandemic for capability building

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The COVID-19 pandemic has left its mark on just about every aspect of life and had a major impact on the NATO Centre of Excellence for Military Medicine (NATO MILMED COE) as well. New, unprecedented challenges have emerged in the life of the organization, which has not only overcome but has even come up with novel capabilities that have enabled the COE to actively help fight the pandemic.

What is the NATO MILMED COE?

The MILMED COE is an international military organization comprised of 12 NATO Member Nations (Belgium, the Czech Republic, France, Germany, Hungary, Italy, the Netherlands, Poland, Romania, Slovakia, the United Kingdom, and the United States of America.) It assists NATO in its goal of continuous transformation in the medical field by providing subject matter expertise for the planning, execution, training, and transformation of the multinational military medical support functions. The COE is also an institution of higher learning, providing education to develop knowledge and enhance the quality of medical support to operations. Like all NATO Cen-

tres of Excellence, we assist in doctrine development, the identification of Lessons Learned, improving interoperability and capability, and the validation of concepts through experimentation. In a more broader sense, the NATO MILMED COE is a hub of military medical knowledge, building a reliably accessible Community of Interest within its areas of expertise. NATO MILMED COE is an essential part of NATO's transformation efforts by being a medical knowledge centre to the benefit of the entire Alliance. NATO MILMED COE unites highly experienced medical professionals and it is composed of 4 medical branches: Training, Lessons Learned and Innovation, Interoperability, Force Health Protection Branch.

COVID-19's immediate impact

As a result of the virus, the tasks of the NATO MILMED COE have changed greatly. However, it can be said that the COE adapted well to the situation the COVID-19 pandemic presented. Within the organization, the management acted in accordance with the current regulations regarding the various precautions, such as mandatory mask-wearing, hand disinfection, remote work and rotation in the offices, which kept COVID infections to a minimum and helped to protect our staff. Naturally, as the NATO MILMED COE is co-located with the Hungarian Defence Forces Medical Centre (HDF MC), the safety regime of the HDF MC was quickly implemented and tailored for the special circumstances of the COE. A considerable number of events and courses had to be cancelled or postponed at the beginning, but this has prompted a focus on developing the Centre's capabilities, so events could be held via VTC conferences. Since the Nations of NATO have reacted in a similar, cautious manner to the first wave of the pandemic, it was not just the COE, who had to send its staff to remote work (home office), but a great majority of NATO's medical community has found itself in a similar situation. NATO MILMED COE has been in a relatively advantageous situation, since its IT and communications systems have already been transitioned to a cloud solution, therefore the remote work environment and the online, collaborative work environment was ready, with the staff already trained to use the tools and hardware. This further allowed a very quick bounce-back after the first days of shock and gradually, the COE has started to offer its online, collaborative work capabilities to the entire medical community, which in turn has made the COE the central information hub for NATO's medical echelons. The sole fact that the NATO MILMED COE has successfully hosted the virtual iterations of the Committee of the Chiefs of Military Medical Services in NATO (COMEDS) speaks volumes of how crucial a role the NATO MILMED COE has filled in these special circumstances, and how, in a time of unprecedented upheaval and confusion, the organization could step in to give support when it was most needed.

Adversity as opportunity

Each professional branch of the COE has taken up the mantle of assisting the overall effort against the pandemic. After the first few weeks of the lockdown, the COE gradually started to turn the ship around and placing more emphasis on various pandemic-independent and more resilient solutions.

The Training Branch focused its efforts on transitioning the MILMED COE to an e-learning institution. While certain courses will always be more effective with an in-person attendance, online education offers a more resilient way of delivering the specialized medical training that the centre provides and, at the same time, has the potential to expand its training audience. Utilizing an online format for courses has also opened the possibility of collaborating with other institutions in delivering courses. In the end, this approach has the potential to expand the training audience and to be more effective and more cost-effective.

The COVID-19 pandemic provided an unique opportunity for the Lessons Learned and Innovation Branch to collect observations and develop lessons in pandemic response. At the request of the COMEDS, the branch staff assisted in the development of a national survey that was used to identify gaps in response to the first wave of the pandemic. The responses to the survey and COVID-19 observations collected were used to generate a report to NATO and the nations of recommendations for dealing with the second wave of the pandemic. Observations collected were also utilized to develop a set of pandemic-related Lessons Identified and associated recommendations for improving NATO pandemic preparedness. On the innovation side, information on new technologies and novel approaches to pandemic management were shared on our newly established "Innovation Portal" and through an innovation newsletter.

Although the MILMED COE does not have a specific role in the pandemic response, we supported many NATO activities. Our Force Health Protection Branch (FHPB) is infectious disease and biodefense-focused. The same skillsets and knowledge needed in dealing with a biodefense threat were of great use in addressing this natural global health emergency. The branch staff collected and processed large amounts of information and data on the evolving global crisis, which was consolidated and distributed within NATO and to national representatives, to ensure that clinicians and decision-makers had the most upto-date information on the virus, therapeutics, and public health measures being undertaken around the world to counter the threat. To facilitate information sharing within NATO, weekly video teleconferences were organized involving scientists, public health and medical specialists, and policymakers. These videoconferences were also greatly supported by the experts of the

HDF MC, who could exchange their observations and best practices with a wide, international community.

A proactive stance on preventing the next pandemic

In addition, the FHPB identified a critical capability gap - the lack of a real-time disease surveillance tool to enable the early detection of disease outbreaks among deployed forces. While there are plans to incorporate such a tool into a future NATO medical information management system, such a system is years away from being fielded. The branch developed, within months, a functional system that could be utilized now, called the Near-Real-Time Surveillance tool. Experience and field data gained in developing this interim tool will be of value in the development of the future NATO disease surveillance system. The principle behind is relatively simple, as the tool collects symptom-level data from the field and processes it via pre-determined algorithms and SME-configurable (SME: subject matter expert) parameters to generate alerts of possible outbreaks. The tool has been fielded in the NATO "Coalition Warrior Interoperability Exercise" (CWIX) in early June, 2021. The tool showed full success in technical employability and interoperability with national patient documentation systems and it has a stand-alone data entry module as well. Since then, the FHP team organized an expert meeting to provide a strong scientific basis for the underlying algorithms and also started a live testing in Munich, in the Bundeswehr's Medical Centre. The COE therefore now focuses on the medical aspects of the disease algorithms as well as on the usability of the analysing tool for the SME.

The FHPB also maintains the only NATO-wide health surveillance tool,

called EpiNATO-2, which uses weekly disease reports from medical facilities in operations to provide information about the current health of the deployed troops. We have also created a COVID-19 thematic page on our website where we have gathered key information about the pandemic and made articles, regular updates an analyses available to everyone.¹

For all their hard work and efforts, the FHP Branch received the COMEDS² *Dominique-Jean Larrey* Award in December 2021, which is the North Atlantic Alliance's highest medical recognition. The COMEDS Dominique Jean Larrey 2021 Award was bestowed on two entities, the COMEDS Medical Intelligence Panel and the FHP Branch of the MILMED COE.³ The award honours the support to nations given by both of these organizations, with special focus on FHP Branch activities, and the Medical Intelligence activities and achievements.

Observations, Lessons, and the Way Ahead

In March 2021, the MILMED COE held a meeting that was focused on pandemic response and the COE's FHP Branch also hosted an online event in November 2021, with the title "A retrospective look at a turbulent time". Over 100 people from 25 different nations registered – with at least 50 people participating in every session. The FHP Event demonstrated the ongoing interest within NATO in sharing research and learning from the pandemic. Representatives from across NATO discussed national responses to the pandemic, including utilization of military medical services.

The support provided varied considerably by nation and was wide-ranging. It included augmentation of civilian medical treatment facilities and assisting living facilities, contact tracking, patient movement, vaccine administration, and the establishment of field medical facilities. In a number of instances, external support was provided to countries with high case numbers. Coordination of logistics for medical supply was also very important, as was support for testing. Additionally, support that military medical services provided early in the vaccination campaign was critical to rapidly achieving high vaccination levels among the most vulnerable.

The recent turbulent period has taught a lot of lessons for the national military medical services. Among the main lessons from the pandemic is the importance of basic public health and hygiene measures in controlling spread of infectious diseases. Until the current stage of the pandemic, the success or failure of military forces and nations in managing the pandemic has largely been determined by the public health guidance issued and the degree to which adherence to those measures has been achieved. While diagnostic testing tools, therapeutics, and vaccines take time to develop, measures to reduce transmission can and must be effectively implemented at the onset of an outbreak. For respiratory viruses, this includes the use of masks.

Several other key lessons fall in the realm of medical logistics. Early in the pandemic personal protective equipment (PPE) and medical supply requirements could not be met due to increased

¹ COVID-19 - NATO MILMED COE (coemed.org)

² Committee of the Chiefs of Military Medical Services in NATO (COMEDS)

³ NATO - News: The 56th Plenary meeting of NATO's Committee of the Chiefs of Military Medical Services, 07-Dec.-2021

consumption and the disruption of the global supply system. A dependence on "just in time delivery" of items critical for containment of an outbreak created vulnerability. It is now clear that military hospitals and deployed forces must have on hand enough PPE and other medical supplies for the initial management of an infectious disease outbreak, be it natural or engineered. Further, stockpiles of supplies must be maintained to enable resupply until production can be expanded. Maintaining a geographically diverse and geopolitically reliable supply network, including local sources of supply, when possible, would further mitigate risk, as would having contracts in place to ensure the ability to rapidly expand production of critical pandemic and wartime consumable medical supplies.

There are additional lessons to be learned regarding the design and preparedness of Military Medical Facilities to deliver care during an infectious disease outbreak. In an outbreak, not only does the capacity for care delivery need to expand, there is also a need to maintain separation of patients based on their infection status. The design of existing field and fixed military Medical Treatment Facilities greatly limits the extent to which expansion can occur and the degree to which patient separation can be maintained. The likelihood of future pandemics and outbreaks needs to be taken into consideration in the design of future medical facilities. For facilities that already exist, a plan needs to be developed, maintained, and exercised for how care would be delivered under pandemic conditions.

The final lesson identified that we have to highlight is the importance of civilian and military cooperation in pandemic response. The tremendous resources and capabilities of military services, including medical capabilities, were leveraged heavily in national responses to the pandemic. The range of medical support provided varied tremendously from nation to nation, as was highlighted in our analysis of national responses to the COVID-19 pandemic. Military services need to recognize that they will be called upon to provide a broad range of support in future public health and other emergencies and must be prepared. Similarly, civilian hospitals and other critical civilian services must recognize the important role that they may be called upon to perform in times of conflict and other future crises. The development of scenario-based contingency plans and the exercising of those plans is needed to achieve and maintain readiness.

Common threat, common effort

In summary, we can state confidently that the NATO MILMED COE continues to be at the forefront of NATO's efforts against the pandemic, by having built up a community of subject matter experts involved in each nation's own response, and we organize regular meetings and provide an information-sharing portal for this community as well. The COE is running the pilot for the COE-developed Near-Real-Time Surveillance Project, to provide early warnings for epidemiological or biological threats, and it's building a Global Health Dashboard capable of supporting the baseline data for our own systems and eliminating the blind spots of military-medical surveillance and intelligence systems. The Centre also actively collects the observations and national Lessons of the pandemic and explores practical solutions for collecting national observations in their native language assisted by machine-translation tools. The COE also remains a medical information HUB via its website, maintaining the medical STANAG Searching Tool, the Medical Messenger portal and multiple topical portals under its Medical Information Knowledge Management Portal on its Extranet. NATO MILMED COE therefore remains an active and innovative Centre of Excellence which used the time during the pandemic to develop tools and capabilities which function irrespective of the pandemic situation and also help in the Alliance's efforts against the pandemic, and plans on intensifying its endeavours in this field even more.

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Nehézségekből előny: hogyan használta képességfejlesztésre a NATO Katonaegészségügyi Kiválósági Központ a COVID-19 világjárvány időszakát

Jelen cikkünkben azt kívánjuk bemutatni, hogy a NATO Katona-egészségügyi Kiválósági Központ (NATO KEKK) hogyan küzdött meg a COVID-19 járványnyal és milyen területeken járult hozzá a Szövetség ellenállóképességének növeléséhez a pandémia idején. A NATO KEKK lényeges elemét képezi a NATO transzformációs erőfeszítéseknek, mivel a szervezet egy, az egész Szövetség javát szolgáló, egészségügyi tudásközpontként működik. A koronavírus-járvány hatására a NATO KEKK feladatai is nagymértékben megváltoztak. A NATO KEKK minden egyes szakmai osztálya hozzájárult a járvány elleni átfogó küzdelem segítéséhez. A Kiképzési Osztály az e-learning kurzusok bevezetésével az online térben történő képzésekre helyezte át a hangsúlyt, ezáltal a jelentkezők körét is jelentősen kiszélesítette. A COVID-19 világjárvány egyedülálló lehetőséget kínált az Értékelő-elemző Osztály számára, hogy megfigyeléseket

gyűjtsön, és összegezze a tapasztalatokat, ezzel is segítve a járvány elleni erőfeszítéseket. A Haderő-egészségvédelmi Osztály alapvetően a fertőző betegségekre és a biológiai védekezésre összpontosít, a járványhelyzet idején pedig felismerte, hogy hiányzik egy olyan valós idejű betegségmegfigyelő eszköz, amely lehetővé tenné a járványkitörések korai felismerését a bevetésre került erők körében. Hónapokon belül kifejlesztettek egy jelenleg is futó Közel-Valós-Idejű Felderítő eszközt (Near-Real-Time Surveillance tool), amely a járványügyi, vagy biológiai fenyegetések korai előrejelzésére alkalmas elektronikus eszköz. Emellett a Haderő-egészségvédelmi Osztály üzemelteti az egyetlen NATO-szintű egészségügyi felügyeleti eszközt, az Epi-NATO-2-t, amely a hadműveletek során az egészségügyi intézmények heti betegségjelentéseit használja fel, hogy tájékoztatást adjon a bevetett csapatok aktuális egészségi állapotáról. Továbbá ez az osztály több száz szituációs jelentést készített a járványról, amelyeket az egész Szövetségben, és még az Európai Unió szervezeteiben is használtak. Az elmúlt időszak sok tanulsággal szolgált az országos katona-egészségügyi szolgálatok számára. A járvány egyik fő tanulsága az alapvető közegészségügyi és higiéniai intézkedések betartása a fertőző betegségek terjedésének visszaszorításában. Ezenkívül külön kiemelendő a polgári és katonai együttműködés fontossága a világjárvány elleni küzdelemben.

Kulcsszavak: COVID-19, pandémia, katona-egészségügy, NATO KEKK, NATO Katona-egészségügyi Szolgálatfőnökök Tanácsa (HDF MC COMEDS), Haderő-egészségvédelem, Közel-Valós-Idejű Felderítés (Near-Real-Time Surveillance), EpiNATO

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