

**AUTHOR'S PRESENTATION
OF DOCTORAL (PhD) DISSERTATION**

**UNIVERSITY OF PUBLIC SERVICE
FACULTY OF MILITARY SCIENCES AND OFFICER TRAINING
DOCTORAL SCHOOL OF MILITARY ENGINEERING**

Capt. Márk Péter Matusz

**Possibilities for Introducing and Operating a Telemedical System in the Healthcare
System of the Hungarian Defense Forces**

Supervisor:

Prof. Dr. Kóródi Gyula

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FORMULATION OF THE SCIENTIFIC PROBLEM

The operation of Healthcare Services must be harmonized according to the tasks defined in NATO defense planning. In acute emergencies, such as on operational areas, during domestic or foreign practices, or in overseas service, deficiencies in the military healthcare system significantly hinder the smooth access to healthcare information and restrict adequate intervention opportunities for injured soldiers. This complicates the planning of primary healthcare and occupational health services. Assessing the real needs of the personnel and determining optimal ordering times is not feasible due to unforeseeable and unmeasurable demands. Outdated data storage systems and methods currently in use impede the flow of information towards higher-level healthcare institutions.

It is essential to integrate modern and innovative technological and communication systems into our current service system as soon as possible, in order to utilize our valuable yet limited resources more efficiently.

Sustaining competitiveness necessitates continuous renewal, achievable only through deliberate and responsible future-oriented strategic planning. Adapting to our current era's ever-changing security landscape, the military healthcare system must fulfil its supporting function and assist the Hungarian Defense Forces' peacekeeping missions, which may expand further in line with NATO's enlargement and evolving roles. The military healthcare service of the Hungarian Defense Forces must address the healthcare implications of migration-induced threats. In recent years, telemedicine has gained immense popularity and prevalence, and it is likely that future innovations will also be linked to this field. It would be crucial for the Hungarian Defense Forces' Healthcare Service to establish a system capable of processing and integrating constantly evolving telemedicine innovations, although such a system or database is currently unavailable.

1. In highly regulated organizations such as the Hungarian Defense Forces, primarily due to our NATO membership, the all-encompassing perspective of the defense planning cycle takes precedence. Therefore, ensuring educated human resources is indispensable for successfully overcoming the planned tasks and challenges facing our country.
2. In the practical application of the Hungarian Defense Forces' healthcare peace and operational capabilities, telemedicine has yet to appear in the actual practical spectrum. The military application of telemedicine has already been tested and successfully implemented in the armed forces of several countries, both in peacetime and wartime environments (e.g.,

United States). However, the structured collection, processing, analysis, and utilization of these international experiences within the Hungarian Defense Forces' system have not occurred thus far.

3. Approached through digitization, the Y and Z generations refer to individuals who were born into the digitally dominant world of our present era. This fundamentally shapes their perspectives, attitudes, and communication, as they have been moulded by the current digital landscape from the start. Relying on the achievements of modern times at a proficiency level, their problem-solving abilities and thinking speed are often multiples of those of previous generations. The Y and Z generations expect a high-tech work environment as a matter of course.

RESEARCH HYPOTHESES

1. During the Covid-19 global pandemic, utilizing telemedicine remote consultation and tele-diagnosis functions, healthcare delivery operated more efficiently for upper respiratory tract illnesses (the most common ailments within the Hungarian Defense Forces personnel).
2. The personnel of the Hungarian Defense Forces' military healthcare service can be motivated regarding the development of a digital healthcare system.
3. The personnel of the Hungarian Defense Forces' military healthcare service can be educated regarding the development of a digital healthcare system.
4. The experiences gained through telemedicine can be transferred to the civilian sector, whether during peacetime or in times of disaster.
5. By incorporating previous international experiences, along with my own research findings and the analysis of scientific results, the process of efficiently configuring a telemedicine system can be planned and documented.

RESEARCH OBJECTIVES

My aim was to develop a plan, substantiated by scientific results, for the Hungarian Defense Forces' Healthcare Service that is based on a comprehensive, integrated telemedicine model and can realistically be implemented in practice in the future.

I aim to demonstrate that the application of telemedicine can be an effective method for addressing healthcare issues within a specific population. Recognizing that the collaborative approach of the human resources involved is essential for the efficient operation of any system,

I intend to simultaneously verify that the Hungarian Defense Forces' personnel are receptive, educable, and motivated towards the adoption of telemedicine. Upon fulfilling the prerequisite conditions, I will design an integrated system model and examine and present the critical steps for introducing the planned system, relying on current literature, to ensure its proven effectiveness.

I will accomplish my research objectives by breaking down my research into the following sub-objectives:

1. I aim to conduct a literature review and gather observations related to this topic to gain a comprehensive understanding of the present and future of telemedicine in today's context. I will then adapt my findings to the Hungarian Defense Forces' military healthcare environment to examine whether there is a rationale for its implementation.
2. Specifically, I will investigate whether telemedicine was an effective tool during the COVID pandemic for the most common group of illnesses among the Hungarian Defense Forces personnel, namely upper respiratory tract diseases.
3. In my research, I have set the goal to examine the motivability and inclusivity of the military healthcare human resources through a questionnaire-based survey I have constructed. This will facilitate the internalization of e-healthcare and its proficiency-level utilization.
4. I set the objective to develop a telemedicine system in the context of military healthcare that can respond to the challenges of our time, such as unregulated and uncontrolled immigration into the EU and geopolitical and military policy instability. This system aims to provide solutions to the detailed scientific issues discussed.

RESEARCH METHODS

Each hypothesis is associated with a unique methodology, the detailed presentation of which will be included in the respective chapter discussing that hypothesis.

The following methodologies are present in my work:

Hypothesis 1: Literature review and meta-analysis.

Hypothesis 2: Statistical analysis of questionnaire survey results, examining the significance of differences between various groups.

Hypothesis 3: Statistical analysis of questionnaire survey results, examining the significance of differences between various groups.

Hypothesis 4: Literature review and secondary analysis.

Hypothesis 5: Literature review and secondary analysis.

Since my topic spans multiple domains such as cyber defense, information security, IT, medicine, throughout my research, I've maintained a comprehensive perspective, striving for completeness. However, due to the extent and complexity of the research field, the need for abstraction emerged, justifying the use of abstraction as a cognitive operation before evaluating results and drawing conclusions.

To achieve the defined research objectives, I conducted the processing of theoretical and empirical knowledge based on a foundation of experience. Following this, I categorized, grouped, and organized the results for analysis.

I classified, ranked, and examined both domestic and international literature relevant to my research area.

I conducted a secondary analysis of previous research studies, PhD dissertations, and relevant literature in areas related to my research field.

I reviewed and analysed NATO and Hungarian military regulations, as well as standards. I conducted in-depth case studies that are inherently aligned with my research topic. I analysed the requirements for introducing various IT systems. I conducted interviews and engaged in knowledge exchange with experts in the field.

The foundations of my questionnaire survey were based on targeted and well-designed interviews.

Regarding the returned questionnaires, I conducted data analysis and result interpretation using statistical methods, both qualitatively and quantitatively, utilizing the SPSS software for assistance.

Following the presentation of the scientific methods, it is necessary to appropriately define the scope of my topic to ensure that my research truly pertains to the intended area of exploration and is impactful within it.

My primary objective is to explore tools, methods, and solutions that can serve as a basis for generating an innovation theory capable of reducing the burdens on the military healthcare service while enhancing its operational efficiency.

In my research, I aim to maintain a focus on the topic of digitalization, specifically within the realms of telemedicine, telecommunications, and the underlying IT solutions.

In terms of population, the focus group is the Hungarian population, specifically within that, the personnel of the Hungarian Defense Forces. Temporally, I have delimited the scope to the state of the Hungarian Defense Forces' military healthcare service as of January 2023, considering its capabilities and available resources.

BRIEF DESCRIPTION OF THE STUDY CARRIED OUT BY CHAPTERS

The aim of the first chapter is to comprehensively evaluate and analyse the effectiveness and efficacy of telemedicine tools in the treatment of upper respiratory tract diseases during the COVID-19 pandemic, utilizing meta-analysis. The analysis will focus on tools such as virtual consultations, remote diagnostic tools, and remote prescription of medications, smart devices and applications, as well as online healthcare information sources.

Meta-analysis enables a comprehensive and objective summary of previous studies' findings, providing a more accurate picture of the effectiveness of telemedicine tools and the development of upper respiratory tract disease treatment during the COVID-19 pandemic. This can contribute to expanding knowledge and making better decisions for both patients and healthcare providers.

The research investigates how telemedicine tools contributed to the improvement of patients' conditions, reduction of symptoms, and recovery in cases of upper respiratory tract diseases.

In the second chapter of the thesis, I aim to validate, based on a questionnaire survey I've constructed, that the personnel of the Hungarian Defense Forces' military healthcare service are indeed motivated, educable, and can engage in creative interactions regarding the development of a digital healthcare system. This is a primary, quantitative research approach, employing a questionnaire survey. The target population consists of the personnel of the Hungarian Defense Forces Healthcare Center, specifically those involved in healthcare provision within the deployed military healthcare units. The total personnel count is 586 individuals. The Information Management System (IMS) of the Hungarian Defense Forces Healthcare Center was used to create written tasks, including a brief instruction for completing the questionnaire. The electronic task assignment contained the questionnaire and an Excel spreadsheet for simplified response submission. The task assignment was addressed to site commanders to facilitate the distribution of the questionnaire to their available personnel. The methods and software for data analysis include descriptive statistical methods (frequency tables, mean

calculation, dispersion indices, histograms), association tests (e.g., independent samples t-test, analysis of variance, cross-tabulation analysis, correlation analysis), as well as multivariate statistical methods like factor analysis. The questionnaire is anonymous, however, it includes questions about the respondent's duty location, service category, and service duration (answering these orientation questions does not lead to personal identification).

The questionnaire begins with a brief explanatory introduction that provides a concise overview of the subject of the study. Four demographic questions have been included as variables in the questionnaire.

The questionnaire comprises 14 yes-no questions (of which 9 pertain to the suggested telemedicine tools in the introduction). Additionally, there are 6 questions utilizing a 7-point Likert scale, where 1 represents the negative end of the scale, while 7 represents the positive end. I opted for an odd number to avoid potentially forcing the respondent to make a choice in a particular direction. The questionnaire also includes three open-ended questions, allowing respondents to provide free-form answers on the subject matter.

In the third chapter of the thesis, the history of telemedicine was presented, its definition and most common types were identified, and the role of health status in economic growth was discussed. A comparison and situational assessment of current domestic and foreign issues were conducted, and a brief overview of contemporary telemedicine was provided. Through the presentation of the legal regulations and changes in the Hungarian healthcare situation, I progressed to outline the telemedicine model I designed, including the MH Healthcare Application, its practical advantages, and potential drawbacks. The chapter also delved into the possible future military applications of the application, including its relevance within the tactical concept (healthcare command point, smart shirt, TRACIR system, protection of critical infrastructures).

In the final chapter of my thesis, considering the aforementioned factors, I explored the potential future applications of the personal identification card (commonly referred to as "dogtag") within the healthcare context.

SUMMARIZED CONCLUSIONS

It can be asserted that due to the prevailing labour market trends of the era (such as the shortage of military doctors) and the significant advancements in the field of healthcare (including the integration of telemedicine in civilian healthcare institutions), the development of the equipment system for military healthcare provision can no longer be postponed. I believe that

certain discussed capability elements can be incorporated into the upcoming military force development program as part of the ground evacuation capacity. Based on the sections of the Service Regulation that define military healthcare provision, the prescribed obligations could be significantly facilitated by the aforementioned tools. The presented telemedicine tools have not yet been systematically approached within the context of the Hungarian Defense Forces.

Throughout my research, I demonstrated that telemedicine, with its teleconsultation function, aids in the process of establishing a diagnosis. Tele-diagnosis can serve as an optional support in disease identification, and utilizing the potential of remote monitoring, it assists both the on-site medical personnel and even patients at home. This approach ensures that referrals to higher levels of care occur only in warranted cases.

It has been concluded that these capabilities can enhance the quality of care, significantly shorten the patient journey, and save time for both patients and healthcare professionals. The introduction of these capabilities also expands long-awaited team-level preventive opportunities. However, in order to prevent operational anomalies, I find it necessary to establish a comprehensive and consistent regulatory framework. The necessary regulations encompass a wide spectrum, including training for operating new capabilities in the field, preparing and educating the medical corps, determining their competencies, documentation obligations on the sending and receiving sides, defining information and communication technology requirements, as well as data protection (cybersecurity). I recommend that regulations be developed for each specialty within the military medical field, outlining the circumstances under which telemedical teleconsultation can be applied and identifying symptoms or groups of symptoms where physical presence and examination of the patient are indispensable.

Looking ahead from a psychological perspective, I would like to draw attention to two potential risk factors regarding the long-term use of telemedical tools. One possible phenomenon is that the doctor-patient relationship may lose some of its rich, multi-faceted emotional and informal content, potentially leading to depersonalization. Since the connection is maintained through a monitor and microphone, there is a tendency among people (both on the provider and recipient sides) to treat their "obligations" in the telecommunication connection (such as politeness, patience, correctness) with less care than in a personal, face-to-face situation. Some may believe that distance protects them from certain consequences of deviating from communication norms. To address this, I recommend the compilation of communication training and protocol materials.

Another potential source of danger I consider is that in some cases, the patient and/or the participating medical assistant may alter or distort the teleconsultation instructions without consultation, or due to the potential depersonalization of the telemedical connection, the patient might take the healing process into their own hands or interpret their own results. This process can also be mitigated through education and training.

During my research work, the developed telemedical capabilities planned to be implemented not only provide higher-level care but also exert a kind of screening effect. This is because if the soldier's health issue can be addressed at the military healthcare level, it can alleviate the burden on the Health Center of the Hungarian Defence Forces (ÉPC-HK) that collaborates with the Military Health Center.

After conducting a literature review encompassing both international and domestic sources, I obtained a comprehensive understanding of the current state of affairs in both national and global contexts. Utilizing these observations, I initially developed a telemedical ecosystem specific to the Military Health Service of the Hungarian Defence Forces. This ecosystem addresses the healthcare provision and daily challenges within the military health sector. Many of these challenges involve processes that could be automated, as they often consume an unnecessary amount of time and energy from the healthcare personnel. The proposed telemedical ecosystem aims to significantly alleviate these burdens.

Following an in-depth examination of both international and domestic geopolitical contexts, I identified potential international processes that may carry risks and in which the involvement of the Military Health Service of the Hungarian Defence Forces could become justified. Taking these considerations into account, I formulated solutions rooted in the digital revolution to support telemedical tools (such as personal identification cards, home care systems, and the MH Healthcare App). These solutions are designed to address potential challenges arising from global trends while harnessing the power of digital advancements.

The questionnaire-based research conducted within the Military Health Service workforce, presented in the second chapter, confirmed my earlier findings. Supported by literature research, I demonstrated that the scientific problem I formulated – that the younger members of the Y and Z generations do not prefer job positions lacking modern digital infrastructure, given their innate familiarity with digital technologies – likely indicates potential obstacles in addressing recruitment and personnel shortages.

The results of the questionnaire-based research can be summarized with the following scientific findings. Half of the respondents are not hearing about telemedicine for the first time, indicating a basic level of familiarity with the concept. Among the surveyed personnel, the highest proportion, at 20.4%, mentioned teleconsultation as the most recognized form of telemedicine. Three-quarters of the respondents who completed the questionnaire consider telemedical care to be effective, and about 70% of those surveyed could see the value of telemedical solutions in the healthcare centre. This demonstrates a positive and generally accepting attitude among the personnel of the combat health service towards potential innovations.

In the event of introducing telemedical capabilities at the team level, over 4/5 of the personnel expressed their support, openness, and enthusiasm for this novelty. As a result, they also indicated their willingness for training. Given that telemedical tools operate on an IT network and require computer literacy for effective use, the questionnaire survey undeniably demonstrated the combat health service personnel's readiness in this regard as well. In fact, 98% of them stated that they possess the ability and are willing to enhance their knowledge in this area. This further reaffirmed their motivation for training.

My questionnaire-based research has proven that the combat health service personnel see the introduction of a healthcare application as justified support for their work. In the study, the healthcare mobile application ranked first. Based on the findings of my research, I conclude that there is no significant difference in motivation between personnel in Budapest and those in rural areas, as well as between leadership and subordinate personnel.

The confirmation of the combat health service personnel's supportive attitude is further strengthened by the questionnaire-based research, as the decisive majority expressed a positive view towards trust in telemedicine tools.

In the final part of my research, I processed and summarized the ecosystem of operation, the necessary background, and emerging risk factors. Interconnectivity entails responsibility, yet it also presents an opportunity to enhance the functioning of certain modern achievements in our lives, including healthcare services. Its significance becomes particularly pronounced when we have an overview of the directions and nature of these processes.

The concept that relationships lead to better decision-making has become a guiding principle. Creating supportive networks is a priority - there is so much information, we can no longer manage or process it all. Person-to-person interactions have accelerated.

MH Healthcare App: In summary, it can be stated that the trends in civilian app usage have a place even within the healthcare service of a military organization. In the development of the concept, a comprehensive and versatile smartphone application has been designed that can be utilized in various aspects of life, specifically aimed at addressing the most common healthcare needs of military personnel. Additionally, the app includes a specific (military) database, thus extending its usability beyond a potential civilian version. The use of built-in features could help military personnel save time, whether it's through functionalities such as appointment scheduling or utilizing the chat feature for remote care. The app also includes a pharmacy locator function. The trend towards a health-conscious lifestyle and all the possibilities surrounding it has become quite prominent, and with a focus on caring for military personnel, I anticipate real, achievable successes with its potential implementation, provided that this feature is operated under central guidance and planning.

By today, it has become evident that with the revolutionary advancement of information technology and communication devices, both individuals and various systems (including armed forces) have become dependent on and vulnerable to the achievements of this era. By this, I mean that the operation and functioning of various deployed capabilities are heavily influenced by the computer and communication networks that serve them. From here, it's just one step away for an adversarial nation to exploit the anonymity provided by information technology, maintaining its incognito status while attacking these systems to gain an advantage.

From an operational perspective, the recognition of risk factors has been carried out in the chapter, and their components have been identified.

NEW SCIENTIFIC FINDINGS

1. I conducted scientific research to analyze the effectiveness of telemedicine, and through the method of meta-analysis, I verified its effectiveness within the Hungarian Defense Forces. Alongside this, I uncovered several indicators that are reproducible in research studies comparing treatment and control groups, aiming to confirm that the implementation of various telemedicine methods significantly improves the time to diagnosis and reduces the workload of healthcare personnel. This contributes to making healthcare more efficient.
2. I conducted a comprehensive survey within the medical personnel of the Hungarian Defense Forces regarding the acceptance of telemedicine and the potential demand for its implementation, as well as the expectations associated with it. Through this, I provided evidence that healthcare professionals can be motivated, educated, and engaged in creative

interactions, demonstrating that the telemedicine approach enhances the quality of healthcare provision for our soldiers and contributes to maintaining their combat readiness.

3. I systematically examined various forms of telemedicine and explored the new potential applications of the system. Following a thorough review of domestic and international literature, I designed the system, uncovering its new usability – self-health management for soldiers through smartphones, electronically – as well as its expandability. I laid the foundation for these insights to be applicable in the civilian sector as well, thereby enhancing efficiency there too.
4. Based on the analysis of my own interviews, as well as drawing from my experience as a leader and examining and interpreting the information gathered, I developed the theoretical foundation for a healthcare-supporting mobile application. This application aims to enhance the health condition of our soldiers, thereby ensuring the readiness of the Hungarian Defense Force.

RECOMMENDATIONS

The continuous analysis of data, integration into a database, labelling with intelligent tags, creation of search algorithms, and application of artificial intelligence as a framework could provide the basis for developing a predictive model. This model could become one of the significant decision-support systems of the 21st century.

Emergency management - support for leadership tasks of disaster site commanders (e.g., poor visibility conditions, mass disasters). Within the Hungarian Defense Forces, I have developed the theoretical foundations of a telemedicine command point, which includes the theoretical model I designed. This is a relevant and validated innovation, as it is the first of its kind in the Hungarian healthcare system, allowing tracking of the health functions of soldiers during operational deployments based on telemetric data.

I primarily recommend the results described in my PhD dissertation to individuals who are conducting research in the field of telemedicine or intend to carry out further developments in this area. My research encompasses the analysis of domestic and international literature related to the topic, examination of the legal framework, and investigation of the attitudes of healthcare professionals.

The practical utilization of what is described in my doctoral dissertation can serve as a valuable starting point for the toolset of both the Hungarian Defence Forces and the civilian sector.

Based on the above, I recommend my dissertation:

- to professionals and organizations active in the field of telemedicine
- to students who are planning to prepare their thesis on the topic of telemedicine
- for researchers, doctoral candidates, and even educators who are planning to write a scholarly work aligned with the subject matter
- for higher education institutions offering engineering education programs

Testing Its Data Transmission Capacity

If the number of soldiers present at the operational site for the given task constitutes a platoon-sized unit, which is approximately 30 personnel, in a civilized area, the data flow capability provided by the EDR must also be sufficient. For instance, it should be adequate for real-time vital sign monitoring. These data generate a data volume per soldier that can be measured in kilobytes at maximum, a capacity well within the capabilities of the EDR's data transmission capacity. Naturally, in such a situation, the prioritization sequence of the flowing data must be established, and I recommend testing the end result in a combat simulation environment.

Exploring the Integration Potential of Chat GDP into the Hungarian Defense Forces Medical Application

A significant percentage of phone calls related to the Healthcare Service could be resolved more efficiently. This is because the inquiries typically revolve around information that is accessible from various sources, outlined in regulations, as well as described and announced. There's an opportunity to conduct a questionnaire-based study to gather and categorize the content of these phone inquiries. The aim is to establish an automated phone system through software control, ensuring that answers are kept up-to-date. This system could significantly expedite the resolution of queries regarding the Healthcare Service.

Telemedicine in Prevention

Through the compilation of materials, data, and interviews in my thesis, I have come to the conclusion that it would be worthwhile to examine the personnel of the Hungarian Defense Forces from the perspective of age groups and branches, identifying the most common health issues. Based on this, it is suggested to develop a comprehensive prevention plan for the Hungarian Defense Forces, centred on telemedicine.

Employee Competencies

Defining, identifying, and developing employee competencies is a lengthy, intricate, and multi-step process. This is especially true considering its dual purpose: aligning with capabilities and guidelines within NATO, as well as adapting to the strategic plans of Hungary. Given the complexity of the subject, I recommend further research that could potentially serve as the foundation for the renewal of the team healthcare service's competencies based on the identified findings.

Development of Internal Regulations for Telemedical Care within the Military Healthcare System

Following the example of outpatient clinics and hospitals, and taking into consideration the potential acquisition of telemedical devices in the future, I propose the creation of internal regulations for the Health Centres of the team healthcare service. These regulations should cover the understanding of the characteristics of potential telemedical devices, mastery of their functions, and the presentation of training required for their operation. This initiative aims to establish a framework for the proper utilization of telemedical equipment within the Military Healthcare System.

Meta-Analysis

The control-treatment comparison only provides an answer regarding the effectiveness of telemedicine in medicine; however, it did not quantify the extent of this effectiveness. Therefore, this field requires further research to determine the degree of efficacy.

Biometric Identity Card

Analysing the impacts of the COVID-19 pandemic in the year 2023, I have concluded that utilizing the contactless payment function of smartphones (NFC chip) could enhance the security and simplicity of the authentication process. In the near future, I recommend considering the scientific examination of using the NFC chip for such purposes.

Asynchronous Telemedical Care

The concept of asynchronous telemedical care refers to the remote provider, not physically present in the same location as the patient, evaluating and diagnosing the patient's examination results at a different time rather than immediately upon conducting the examination. Aggregating and subsequently evaluating examination results could lead to a more efficient time structure. However, this assumption necessitates a scientific investigation of the problem.

Based on my research findings in the examined population, I drew the following conclusion: Those who find it useful see its value, have trust in it, and would be open to receiving it. As trust correlates most strongly with perceiving value, in the future, an evidence-based, effective educational curriculum could be developed in this regard.

Occupational Health and Telemedicine

Utilizing the functionality and data generation capabilities of sensors, a question arises as to whether it would be meaningful to utilize the branch of telemedicine in the examination of workplaces involving increased exposure. Given that ensuring safe working conditions and identifying potential health-hazard factors are fundamental interests of every employer, I suggest further research to thoroughly investigate this topic.

THE PRACTICAL APPLICABILITY OF RESEARCH RESULTS

I recommend utilizing my research results as follows:

1. The domestic and international literature reviews conducted during my research, along with the results evaluated through statistical methods, are suitable for laying the groundwork for further professional research on the topic.
2. The conclusions drawn in my dissertation and the recommendations I have made (e.g., potential development directions for military telemedicine) can serve as a foundation for creating additional regulations in the field, both internally within the organization and within the legal framework.
3. The data presented in my dissertation can provide a foundation for the realization of further development directions and related professional training initiatives.

LIST OF PUBLICATIONS PREPARED BY THE DOCTORAL CANDIDATE

Book chapter

- MATUSZ Márk: A katona egészségügyi ellátásának fejlesztési lehetőségei a telemedicina tükrében. Bp.: Hausner Gábor (szerk.) Szemelvények a katonai műszaki tudományok eredményeiből II. Hallgatói kötet. 2021. p.245-260
- MATUSZ Márk: A Magyar Honvédség többlépcsős egészségügyi ellátásának működtetése a Covid-19 világiárvány idején. Bp.: Földi László (szerk.) Szemelvények a katonai műszaki tudományok eredményeiből III. Hallgatói kötet. 2022., p.339-349

In periodicals published in Hungarian and foreign language

- FEJES, Zsolt, MIHÓK, Sándor, MATUSZ, Márk Péter: Questions concerning the legal regulation of telemedicine. HADMÉRNÖK (XIV.) 2 (2019), p: 347-353.
- MATUSZ Márk: A személyi igazolójegy („dögcédula”) fejlesztési lehetőségei a telemedicina vonatkozásában. HADMÉRNÖK (XIII.) 4 (2018), p: 370-380.
- MATUSZ Márk: A csapategészségügyi ellátást támogató egészségügyi applikációban rejlő lehetőségek. Hadtudományi Szemle, 13. évfolyam (2020) 3. szám, p. 163-178
- MATUSZ Márk Péter: A Magyar Honvédség csapategészségügyének telemedicinális fejlesztési lehetőségei. Hadtudományi Szemle, 14 évfolyam (2021) 1. szám., p. 173-188
- FEJES Zsolt, MATUSZ Márk Péter: A Covid-19-világjárvány hatása a telemedicina hazai fejlődésére, kapcsolata a haderőfejlesztési programokkal. HADMÉRNÖK Fórum, 16. évfolyam (2021) 3. szám, p. 219-227

THE DOCTORAL CANDIDATE'S PROFESSIONAL AND ACADEMIC BIOGRAPHY

Name: Capt. Matusz Márk Péter

Place and date of birth: Budapest, 03. June 1978.

Studies:

In 2008, he obtained a degree in psychology from the Faculty of Humanities at Pázmány Péter Catholic University, specializing in clinical psychology as well as religion and family psychology programs.

Professional career:

He completed his professional internship at the 1st Department of Pediatrics at Semmelweis University in 2007. His military career started in 2009, initially at the 12th Arrabona Air Defense Missile Regiment of the Hungarian Defense Forces as a team psychologist. Starting from 2012, he gained over 10 years of professional experience as the deputy commander of the Health Center of the Military Logistics Supply Center (and its successor), securing a military career.

Language skills:

He holds an intermediate level language certificate in English and German. Moreover, he has taken a specialized professional exam in German, focusing on foreign trade materials.

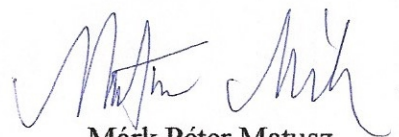
Education:

He obtained a basic level qualification in transactional analysis at the Faculty of Humanities of Pázmány Péter Catholic University. He has qualifications in cognitive-behavioural therapy for childhood depression and anxiety, as well as cognitive-behavioural therapy for leading anxiety groups. He is also certified in Neuro-Linguistic Programming at both the "Practitioner" and "Master Practitioner" levels.

Scientific activity:

In 2018, he delivered a presentation at the Professors for European Hungary (PEME) Conference on the topic of "Development Opportunities of the Personal Identification Card 'Dead Paper'."

Budapest, August 27, 2023.



Márk Péter Matusz