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EDITORS' NOTE

Health security is nowadays defined as one of the components of state security. It is also an important sphere of human life and a public good subject to institutional protection. The concept of health security concerns the diagnosis of various health threats, but also (or perhaps above all) developing the ability to respond to these threats and shaping prevention in the field of health protection in the individual and collective dimension.

The COVID-19 pandemic, in particular, has highlighted how big a connection there is between the issue of public health and the issue of state and social security. But the epidemiological threat is only one of many aspects of health security. There is no doubt, however, that the pandemic and the risks associated with it have highlighted how important health security remains as an important component of national security.

The above issues definitely fit into the profile of the journal "Ante Portas - Security Studies", the latest issue of which was devoted to broadly understood issues related to health security. The current issue opens with an article by Jacopo Frassini and Zoltan Toth - two experienced experts in the field of military medicine. The article is dedicated to Healthcare in Allied Military Operations. Security aspects of public health issues are the content of most of the articles in this issue - Tomasz Gajewski discusses the subject of US intelligence forecasting health threats on the example of the COVID-19 pandemic, Svetlana Cebotari and Carolina Budurina-Goreacii analyze NATO's Role in Covid-19 Pandemic Management. Gela Giorgadze and Alika Guchua analyze The Asymmetric Threats in Global Security and the Military-Political Aspects of Biosecurity. Muhammad Maigari Abdullahi and Mu'ammar Bello take up the interesting topic of the role of the Nigerian army in ensuring medical security. The article by Monika Borek, Stefan Suska and Dorota Maciąg entitled *Emergency Medical Services in the National Security System of the Republic of Poland* deals with the subject of a structural discussion of the functioning of the emergency medical system in Poland. The article by Davit Kukhalashvili from the Georgian National Center for Tuberculosis and Lung Diseases is of a different nature. This text focuses on matters in the field of occupational health and safety. The issue is supplemented by an article by Muhammad Maigari Abdullahi and Mustapha Abdullahi, not related to the subject of medical security, devoted to the affairs of the political situation and international security problems in West Africa. A separate category is the analysis by Birta Cosmin Florin regarding cyber risks and threats for e-health portals.

We hope that the articles of researchers from Poland, Georgia, Nigeria, Romania and Moldova will be an interesting look at the sensitive problems

of security in the modern world - security considered on various levels, but referring to the most important social threats in the modern world.

Jakub Žak
Editor-In-Chief

I. ARTICLES

„Ante Portas – Security Studies”
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HEALTHCARE IN ALLIED MILITARY OPERATIONS: A QUALITY APPROACH

Abstract:

Recent conflicts in the Middle East allowed for strengthening the cooperation within NATO and enhanced the shared experience in the conduct of Allied operations. The medical support system represents a core element for the success of the mission but needs to be constantly adapted to evolving conditions and emerging threats. Readiness and performance must be prepared, sustained and monitored to optimise resources according to the requirements and medical capabilities required to accomplish the best patient outcomes. During the Covid-19 crisis, Allied nations were forced to rethink their homeland healthcare models to withstand the surges of patients on a wide scale by applying the military approach. However, it took time for the civilian medical infrastructure to prepare an ad hoc response in the first and most affected areas. In our paper, we describe the status of the Allied doctrine for healthcare quality delivery in operations and propose our solution to enhance the systemic resilience of national medical infrastructures for facing future medical challenges with increased adaptability.

Keywords:

military healthcare, quality improvement, NATO medical support, medical challenges, adaptable systems

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Background

According to the World Health Organization (WHO), health is a state of complete physical, mental and social well-being and not merely the absence of disease or infirmity. The same principle is applied in the NATO militaries under normal circumstances. However, during the conduct of allied operations health is categorized as the ability to carry out duties unimpeded by physical and psychological problems³, while recognizing the additional risk that a fighting force must sustain for mission success when always-evolving conditions are set by enemy threats and combat requirements. This paper aims to describe the allied military medical support system using modern healthcare quality management tools. Common understanding and exchange of knowledge with the civilian sector may lead to future synergies for the benefit of patients in both settings, especially in crises.

Quality of healthcare in allied operations

The Military Committee of the North Atlantic Treaty Organization (NATO) states that the role of medical support in operations is ‘preserving and restoring health and fighting strength’ as a core enabling function of allied readiness and effectiveness⁴. Military Healthcare is a patient-centric health service provision by military healthcare professionals for the defined populations at risk; it encompasses preventive health protection, prehospital emergency care, primary healthcare, hospital care and rehabilitative care⁵. The multinational domain is the special ingredient in NATO initiatives. When multinational forces are deployed to accomplish military objectives, a wide range of medical solutions must be coordinated in a constantly changing scenario. Typical examples are represented by the integration of individual national contributions in collective trauma systems to reach patients at the right place, at the right time and with the right resources⁶. The coexistence of different players significantly increases the need for shared quality improvement strategies so that interoperability gaps among nations are counterbalanced by an adaptable collective experience.

To optimize medical decision-making in a specific context and with available resources, NATO medical policy requires the application of a quality

³ NATO, *MC 326/4 - NATO Principles and Policies of Medical Support*, 2018.

⁴ *Ibidem*.

⁵ NATO, *AJMedP-8 (Ed.A v. 1) - Allied Joint Medical Doctrine for Military Health Care*, 2018, <<https://www.coemed.org/resources/stanag-search>> (30.11.2021).

⁶ D. M. Berwick, A. S. Downey, E. Cornett, *A National Trauma Care System: Integrating Military and Civilian Trauma Systems to Achieve Zero Preventable Deaths after Injury*, Washington 2016.

assurance system to achieve Continuous Improvement in Healthcare Support on Operations (CIHSO)⁷. Continuous Improvement in Healthcare Support on Operations assures that the international standards agreed upon among the allied nations are met and that experience is utilized to optimize medical support by dealing with⁸:

- risk management,
- learning processes,
- sharing best practices and
- building required capabilities.

For its inviolable ethical principles, military medicine is an independent profession from warfighting, but still, practice is constrained in a combat environment. A physician-led organization within the command structure is required to deliver clinical solutions in non-purely clinical systems and achieve the highest standards of care despite unfolding military campaigns. Hence, differently, from the civilian context, healthcare must be more focused on the essential values that achieve the best patient outcomes in a specific battlespace, leveraging the surrounding military organisational capabilities to deliver quality improvement and provide risk management⁹. The strength of the traditional military methodology to translate plans into actions consists in a steady decision-making structure able to take advantage of opportunities, concentrate efforts and react quickly. The military medical community is tied to the same dynamics and uses the same combination of leadership, management and governance to convey medical solutions within the operational layout. Leadership aligns healthcare decision-making to the medical vision at all levels of command, management ensures a coordinated use of resources and governance identifies roles, rules and responsibilities¹⁰. When such processes are wisely executed following improvement models like Continuous Improvement in Healthcare Support on Operations, practice can be adapted to current scenarios and the best conditions for quality to be sustained can be achieved.

Quality is directly related to patient outcomes and underperforming structures can have irreversible effects on long-term disability and survival

⁷ NATO, *AJP-4.10 (Ed.C v.1) - Allied Joint Doctrine for Medical Support*, 2019, <<https://www.coemed.org/resources/stanag-search>> (30.11.2021).

⁸ *Ibidem*

⁹ NATO, *MC 326/4... op. cit.*; NATO, *AJP-4.10 (Ed.C v.1)..., op.cit.*; NATO, *AJMedP-8 (Ed.A v. 1)..., op. cit.*

¹⁰ *Leadership Management, and Governance Evidence Compendium*, United States Agency for International Development, 2017.

rates¹¹. The WHO identifies seven measurable elements of quality in healthcare: effectiveness, safety, people-centred care, timeliness, equity, integration of services and efficiency¹². However, not all elements may have the same implications in military settings as in civilian systems. Safety, for example, is needed to avoid negative occurrences, while the remainder 6 elements are connected to the positive efforts to achieve the best services. To better explain how medical quality is accomplished in warfare, we propose to keep ‘safety’ as a separate feature and combine the remainder 6 elements of the WHO definition under the category ‘performance’. Consequently, quality will be the result of:

- the greatest level of medical safety possible for the operational conditions, plus
- the performance of the system to deliver optimal health services to the force.

Safety is a condition intended to prevent injury and damage, or at least a state in which the risks of harm are reduced and controlled to an acceptable level¹³. Safety is the desired result of successful risk management where the relative weight of human factors in adverse occurrences increases with the growing workload, operational stressors and complexity of the situations¹⁴. In civilian settings, it has been recognized that ineffective healthcare and patient harm may become relevant problems in all systems, also in nations with high standards of care¹⁵. Organizational and communication gaps are among the most cited preventable causes¹⁶. Military medical frameworks are shaped according to operational plans and generally are assembled by multiple different capabilities provided by different nations. Patient safety is accomplished when preventable causes of potential harm are identified and removed at the lowest level of care, ideally by every single caregiver. Consequently, allied headquarters can focus on networking trust in reliable systems that are constantly monitored.

¹¹ Organisation for Economic Co-operation and Development, World Health Organization, World Bank Group, *Delivering Quality Health Services: A Global Imperative for Universal Health Coverage*, 2018.

¹² World Health Organization, *Handbook for National Quality Policy and Strategy*, 2018, <<https://apps.who.int/iris/bitstream/handle/10665/272357/9789241565561-eng.pdf?ua=1>> (30.11.2021).

¹³ *NATO Term Online Database*, <<https://nso.nato.int/natoterm/Web.mvc>> (30.11.2021).

¹⁴ J. Reason, *Human error: models and management*, “BMJ”, vol. 320/2000, pp. 768-770.

¹⁵ L. Slawomirski, A. Auraen, N. Klazinga, *The Economics of Patient Safety: Strengthening a Value-Based Approach to Reducing Patient Harm at National Level. Vol 96*, OECD 2017.

¹⁶ E. N. de Vries, M. A. Ramrattan, S. M. Smorenburg, D. J. Gouma, M. A. Boormeester, *The incidence and nature of in-hospital adverse events: a systematic review*, “Quality and Safety in Health Care” 2008/17(3), pp. 216-223.

Performance is the action of accomplishing a task. Specifically, the implementation of effectiveness, efficiency, timeliness, equity, integrated and people-centric care represents the performance of a system capable of achieving the expected healthcare services. The relative importance of these elements in operations may vary across the whole spectrum of conflict, from permissive environments to the most hostile territories, and should be continuously assessed by a medical director to comply with mission objectives and be respectful of the medical code of ethics. However, performance must be measured in order to rate the standards delivered. Indicators are quantitative figures that provide information about a variable (i.e. mortality rates, use/availability of specific medications, execution of particular medical/surgical interventions, the average number of sick days, waiting time), and are very useful to monitor outcomes and processes¹⁷. Many clinical indicators in military operations originate from interdisciplinary teamwork: raw metrics are frequently owned by other stakeholders in the headquarters (i.e. pilots for patient air transfer times, logisticians for consumption rates of supplies, finance for productivity, human resources for administrative data...) and information is used to generate situational awareness for a common benefit before the commander approves the next course of action. Consequently, the performance of the healthcare support needs a dynamic approach based on the relevant medical requirements for a continuous improvement in quality in the specific context.

The Elements of CIHSO

Continuous Improvement in Healthcare Support on Operations (CIHSO) represents an evolution of clinical governance in NATO policy as a framework through which healthcare organizations continuously improve the quality of their services and safeguard high standards of care¹⁸. Each operation has individual features: large-scale campaigns to collectively defend our territories differ significantly from global projections of small military components to responses to localised crises. Consequently, CIHSO is specific for each allied initiative to translate the principle of clinical governance into locally appropriate structures, processes, roles and responsibilities. Clinical governance

¹⁷ R. Busse, N. Klazinga, D. Panteli, W. Quentin, *Improving Healthcare Quality in Europe: Characteristics, Effectiveness and Implementation of Different Strategies*, OECD 2019.

¹⁸ M. C. Bricknell, R. Cordell, *Continuous Improvement in Healthcare Support to Operations*, "Journal of the Royal Army Medical Corps", 2011, vol. 157 (Suppl_4), pp. 460-462.

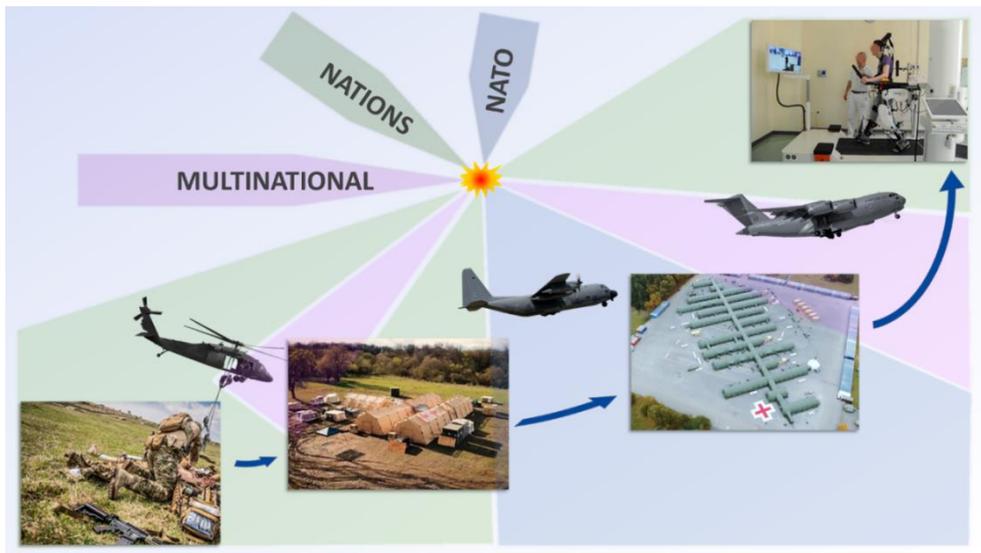
can be considered as the result of three main elements of modern allied healthcare organizations¹⁹:

- accountability;
- standardization;
- improvement.

Accountability: in NATO operations, three levels of medical responsibility are immediately clear when shaping integrated medical services and ensuring regulated cycle of patients through a continuum of care (see Figure 1):

- Nations are the risk owners for their troops and develop support capabilities following their level of ambition;
- When resources are limited multinational agreements provide a cost-effective solution to share and contribute to common medical services;
- NATO commanders and their medical staff represent the only authorities to be aware of the current care options across the whole battlespace and to coordinate theatre medical assets.

Figure 1. The Allied continuum of care and areas of responsibility for care delivery.



Source: own study.

¹⁹ J. Frassini, *Continuous improvement in healthcare support on NATO operations*, “BMJ Military Health”, Vol. 167, Issue 6, <<https://militaryhealth.bmj.com/content/167/6/446>> (30.11.2021).

Nations are the final risk owners for their forces. However, nations may not always be individually able to deliver the best healthcare resources to their personnel across the whole theatre of operations. When coalitions are formed, the number of disconnected, customized solutions may lead to the risk of fragmentation in accountability, duplication of assets, uncovered services and lack of transparency. Only NATO leaders in command and control of the deployed medical infrastructure may be in the position to acknowledge the whole medical picture and integrate the services in a continuum of care. Consequently, despite NATO decision-makers not being considered accountable for each patient outcome, they still share the responsibility when providing the best operational conditions for the medical network to generate best practices.

Standardization: NATO standards are documents, established by consensus and approved by a recognized body within the NATO standardization process, that provide, for common and repeated use, rules, guidelines or characteristics for activities or their results, aimed at the achievement of the optimum degree of order in a given context²⁰. Medical standards issued as Allied Publications are directions for a wide military community to plan, train and conduct operations (i.e. time thresholds for accessing increasing levels of care like the NATO 10-1-2(+2) timeline²¹), and should not be interpreted as clinical rules for the practice of medical providers who are granted medical flexibility in the individual decision-making process (Figure 2). To tell a target medical community what should be done for patients and provide the conditions for the best healthcare outcomes, the right format is with clinical practice guidelines which are non-mandatory evidence-based graded recommendations issued by scientific bodies²² (i.e. the U.S. Joint Trauma System Clinical Practice Guidelines²³).

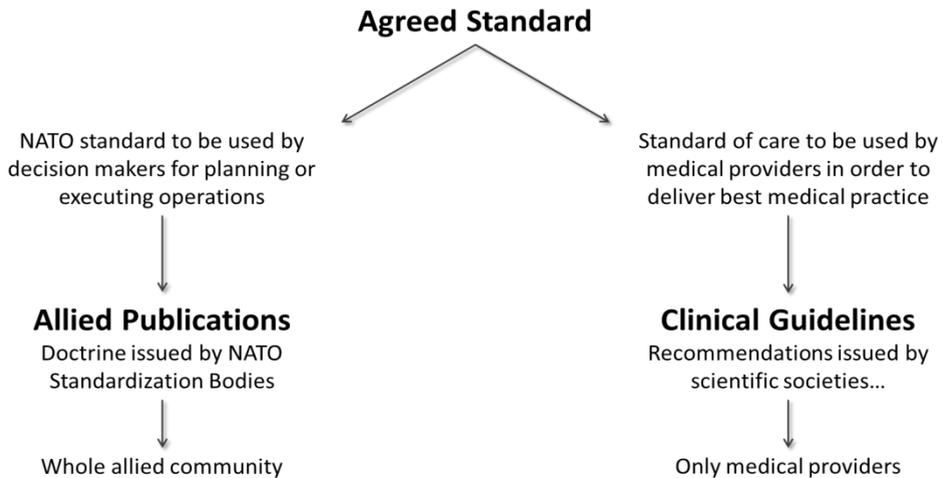
²⁰ NATO Standardization Office, *AAP-3 Ed.K v.1 - Directive for the Production, Maintenance and Management of NATO Standardization Documents*, 2018.

²¹ NATO, *AJP-4.10...*, *op. cit.*

²² World Health Organization, *WHO Handbook for Guideline Development*, <http://apps.who.int/iris/bitstream/10665/145714/1/9789241548960_eng.pdf> (30.11.2021).

²³ *U.S. Joint Trauma System. Clinical Practice Guidelines (CPGs) Online Database*, <https://jts.amedd.army.mil/index.cfm/PI_CPGs/cpgs> (30.11.2021).

Figure 2. Simplified separation of military standards from standards of care.



Source: own study.

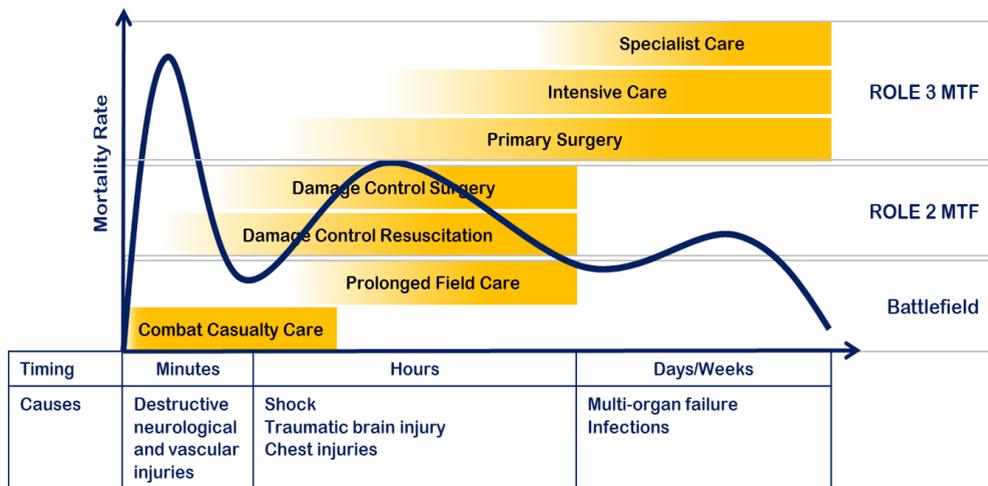
The process that leads to the implementation of allied medical standards starts with strategic meetings of national delegates that are scheduled regularly in the NATO agenda, independently from operations. Progress in medical knowledge is collected from multiple sources internally and externally to the Alliance, discussed among experts, ratified by nations and incorporated into the body of Allied Publications²⁴. Agreed standards are now ready to reach the frontlines through the national chain of command in the form of plans and orders that are created, executed and adapted for the specific context. Military medical leaders at each stage of the process review and relay applicable directions to their clinical environment to achieve a uniform distribution of multi-nationally validated methods.

Improvement: In a learning organization, improvement refers to the optimization of already existing solutions and considers the future as a result of the integration of experience with evidence so that remedial actions lead to predictable patient outcomes. Quality improvement requires a dynamic approach to achieve an advantage in the events and maintain responsiveness. On one side, improvement represents a direct consequence of an effective risk management process. On the other side, it requires proactive decision-making on innovative opportunities that are constantly generated by science and technology.

²⁴ NATO Standardization Office, *AAP-3 Ed.K v.1 ...*, *op. cit.*

A typical example of medical improvement derives from the sum of achievements in combat trauma care over the past 20 years. Compared to civilian trauma, combat trauma is typically 10- to 100-fold more frequent and differs in the type of injuries, demographic features, protective gear, special environments and rescue practices²⁵. While civilian trauma is mainly due to traffic accidents or impacts with objects, trauma in combat is generally related to high-energy blast and ballistic injuries²⁶. Available data from World War II and wars in Korea, Vietnam, Afghanistan and Iraq show that more than 80% of combat deaths occur on the battlefield (Figure 3)²⁷ and that casualties who manage to access surgical care have a very high chance of survival²⁸.

Figure 3. Combat mortality and medical support capabilities



Source: own study.

Simplified distribution of mortality according to the time of injury, with main causes of death and required medical capabilities to mitigate complications until definite care. MTF: medical treatment facility; ROLE 2:

²⁵ R. F. Bellamy, *Combat Trauma Overview*, [in:] *Anesthesia and Perioperative Care of the Combat Casualty*, Office of the U.S. Surgeon General, Falls Church 1995, p. 42.

²⁶ M. Martin, J. Oh, H. Currier, *An analysis of in-hospital deaths at a modern combat support hospital*, "The Journal of Trauma", 2009/66 (4 Suppl), pp. 51-61.

²⁷ *Ibidem*.

²⁸ B. J. Eastridge, R. L. Mabry, P. Seguin, *Death on the battlefield (2001-2011): Implications for the future of combat casualty care*, "Journal of Trauma and Acute Care Surgery", 2012/73, pp. 431-437.

equals to resuscitative care and surgery; ROLE 3: equals to hospital care in core medical support specialities.

Studies on the first decade of combat operations in Afghanistan and Iraq reported that 20-25% of deaths could be preventable²⁹. The measures adopted to mitigate the vulnerabilities in the healthcare system such as the combination of new evidence-based best practices in combat casualty care on the battlefield³⁰ together with a reduction in prehospital times of less than 60 minutes³¹ contributed to lowering the overall mortality compared to previous conflicts (9,4% Afghanistan/Iraq vs 15,8% Vietnam³²). However, a deployed healthcare system is not exclusive to trauma patients. Multiple clinical conditions may affect the readiness of the force either as minor complaints or occasional outbreaks of a specific disease or other rare acute emergency presentations. Regularly, the emergency medical care and patient transportation systems need to be effective in the provision of all general measures for the health of the force and must comply with the agreed standards. For this reason, medical capabilities are distributed in the areas of operations according to officially recognized NATO medical timelines³³ so that all patients can reach all available treatment options according to their priority. Yet, time is only part of the treatment and the delivery of proper interventions requires specific medical resources at the destination. To maximize the accessibility to specialized medical resources, meet the demand and achieve sustainable standards of care over vast territories, deployed medical support services are organized in clinical pathways.

Clinical Pathways

A clinical pathway is a multidisciplinary plan of care used to translate medical evidence into local structures for a specific group of patients with a predictable clinical course. A clinical pathway has the following characteristics: (1) it is used to translate guidelines or evidence into local structures; (2) it details the steps in a course of treatment or care in a plan, pathway, algorithm, guideline, protocol or other ‘inventory of actions’; and (3) it aims to standardize care for a specific clinical problem, procedure or episode of healthcare in a

²⁹ *Ibidem*.

³⁰ T. E. Rasmussen, T. M. Rauch, D. C. Hack, *Military trauma research: answering the call. Preface*, “Journal of Trauma and Acute Care Surgery”, 2014, 77(3 Suppl 2), pp. 55-56.

³¹ R. S. Kotwal, J. T. Howard, J. A. Orman, *The Effect of a Golden Hour Policy on the Morbidity and Mortality of Combat Casualties*, “JAMA Surgery”, 2016, 151(1), pp. 15-24.

³² J. B. Holcomb, L. G. Stansbury, H. R. Champion, C. Wade, R. F. Bellamy, *Understanding combat casualty care statistics*, “The Journal of Trauma”, 2006, 60(2), pp. 397-401.

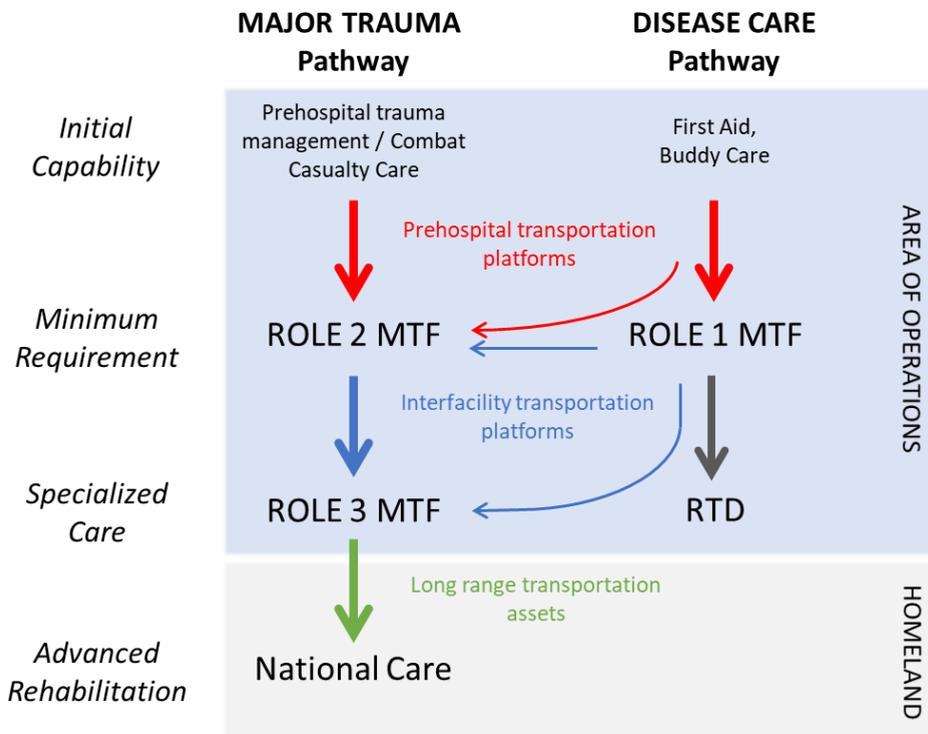
³³ NATO, *AJP-4.10 (Ed.C v.1)...*, *op. cit.*

specific population³⁴. In military operations, medical officers are guided by defined, optimized and sequenced interventions to sustain best medical practices in a context where conditions evolve unexpectedly, and resources must be carefully organized. A typical deployed healthcare system has two main pathways, but their number can be increased according to the planning requirements (CBRN threats, humanitarian assistance, disaster response...):

- major trauma pathway
- disease care pathway.

The two or more pathways used in operations are networked by evacuation assets like in a hub-and-spoke organization so that all medical capabilities can be timely accessed by all patients even if dispersed in remote outposts³⁵. The main features of the two pathways are summarized in Figure 4 and Table 1.

Figure 4. Standard healthcare pathways for operations.



Source: own study.

³⁴ R. Busse, *op. cit.*

³⁵ NATO, MC 326/4..., *op. cit.*; NATO, AJP-4.10 (Ed.C v.1)..., *op. cit.*

The two core intratheatre clinical pathways for a deployed healthcare system and their main simplified features. MTF: medical treatment facility; ROLE 1: equals to primary care on-base clinic; ROLE 2: equals to resuscitative care and surgery; ROLE 3: equals to hospital care in core medical support specialities. RTD: return to duty.

Major Trauma Pathway (MTP) is designed for surges of patients with serious injuries requiring resuscitative surgical capabilities. Disease Care Pathway (DCP) responds to the constant flow of common medical problems. MTP starts at the point of injury with evidence-based prehospital and/or combat-related clinical practice guidelines by first-line providers. Normally, critical patients are provided with staged interventions, timely integrated at different locations in a continuum of care so that patients receive an increasing level of medical capability and specialist care during their rearward movement towards safer support areas. Coordination in the treatment and evacuation chain can result in strategic transportation of patients for definite homeland care in less than 72 hours of wounding and with minimal mortality (0-0,02%) during the interfacility transfers³⁶.

DCP involves primary care for common diseases or minor injuries and the first response to urgent medical conditions. Most patients self-refer to the base clinic or need evacuation from remote outposts to receive medical treatment locally not available. Primary care supports the readiness of the force by promptly returning personnel to duty. Some individuals may suffer from acute disorders (i.e. cardiovascular, neurologic, allergic, psychiatric...) and require emergency care and evacuation. These critical conditions rarely occur in highly selected populations but are unpredictable and possibly life-threatening.

Table 1. Main features of the two core clinical pathways used in operations.

	MAJOR TRAUMA PATHWAY	DISEASE CARE PATHWAY
Type of clinical conditions in the patient group	High energy impact injuries, and their complications	Musculoskeletal injuries, common medical problems, mental health, rare acute conditions
Predictable clinical course	Prehospital lifesaving interventions at the point of injury, timely evacuation and	First aid, primary care and treatment with increasing capabilities in the continuum of

³⁶ N. Ingalls, D. Zonies, J. A. Bailey, *A review of the first 10 years of critical care aeromedical transport during operation Iraqi freedom and operation enduring freedom: the importance of evacuation timing*, "JAMA Surgery" 2014, 149(8), pp. 807-813.

	surgical resuscitation until specialized care and rehabilitation	care
Context	Presence of enemy threats - Remote off-base locations	Generally, inside the perimeter of outposts or of operational bases.
Core Enabling Professionals	Prehospital Caregivers skilled in trauma management, Critical Care Specialists and Surgeons	All personnel in the prehospital phase, Emergency Medical First Responders, General Medicine Providers
Targeted Outcome	Save life and reduce disability	Prompt Return to Duty
Timeliness of care	Standard allied interventional timeline for critical patients must be accomplished or according to assigned priority for evacuation of non-critical conditions.	
Incidence of patients	Surges related to the intensity of conflict 75.7/1000 soldier year (AFG) ³⁷ >90% of injured evacuated	Constant flow 0,1-0,3% of the force per day 257/1000 soldier year (AFG) ³⁸ ~16% of patients evacuated
Mortality rates	Casualty Fatality Rate \approx 25-30%	Casualty Fatality Rate < 0,5%
Dependency level during transfers	High Dependency	90% Low - 10% High Dependency
Focus of Indicators	Outcomes (mortality, disability...)	Process (efficiency, effectiveness...)
Context	Presence of enemy and/or environmental threats - Remote off-base locations	Generally, inside the perimeter of outposts or operational bases.

Source: own study.

³⁷ P. J. Belmont, G. P. Goodman, B. Waterman, K. DeZee, R. Burks, B. D. Owens, *Disease and nonbattle injuries sustained by a U.S. Army Brigade Combat Team during Operation Iraqi Freedom*, "Military Medicine", 2010, 175(7), pp. 469-476.

³⁸ P. J. Belmont, G. P. Goodman, M. Zacchilli, M. Posner, C. Evans, B. D. Owens, *Incidence and epidemiology of combat injuries sustained during "the surge" portion of Operation Iraqi Freedom by a U.S. Army brigade combat team*, "The Journal of Trauma", 2010, 68(1), pp. 204-210.

Even if there still is an ongoing discussion about the specific benefits on health outcomes³⁹, clinical pathways show a clear advantage in shaping organizational solutions so that improvement can be focused on the priority needs of the different patient groups. The separation in pathways assists managers to choose performance indicators and safety strategies to keep the focus on the quality objective for each service provided, especially regarding:

- the distribution (relative allotment) of medical resources,
- the identification of opportunities for improvement,
- the risk assessment for patients and caregivers, and
- the harmonization between operational and medical requirements.

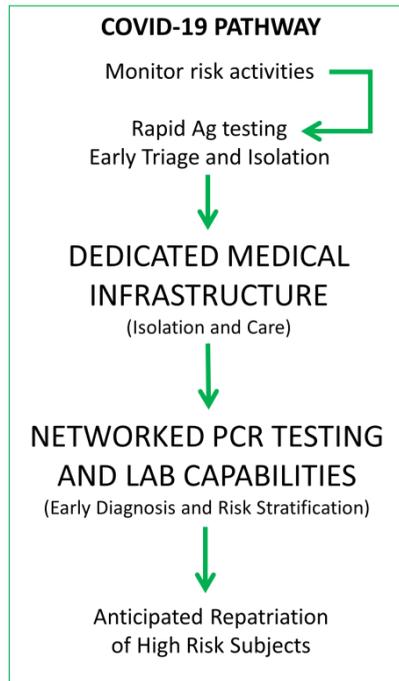
The two pathways differ deeply in the kind of clinical objectives that are intended to support: for MTP the maximized chance of survival and the reduced risk of long-term disability; for DCP the optimized fitness and readiness of the force. Consequently, the main focus of the performance indicators used to monitor quality is also different: in MTP the outcomes are privileged (disability, case fatality rates...), while in DCP the processes are valued (efficiency and effectiveness to yield healthcare services relative to supplies, budget, workload...).

Additional clinical pathways can be added according to special circumstances, such as in the event of an outbreak of a certain disease (i.e. infectious or CBRN-related) where a dedicated approach to a new type of patient helps achieve organizational responsiveness and optimize decision-making. For example, during the Covid-19 pandemic, the activation of a new pathway (Figure 5) led to:

- rapid screening of personnel in activities at risk as a collective protective measure,
- immediate isolation of suspected cases,
- networked testing capacities for early diagnosis and investigation,
- anticipated evacuation of patients at risk of complications to protect susceptible individuals and avoid complex aeromedical transfers.

³⁹ R. Busse, *op cit.*

Figure 5. Newly generated Covid-19 pathway to separate patients in primary care facilities.



Source: own study.

Learning from the Covid-19 Crisis

The Covid-19 crisis represents an opportunity for most Allied militaries to successfully interact with the civilian healthcare systems, offering a wide variety of services to mitigate vulnerabilities at a local, national and multinational level. Many examples are available across NATO, especially as a prompt response to the initial shock, when the healthcare infrastructure suffered from a combination of surges in care demand and a limited reserve of capabilities. According to published reviews⁴⁰, information available online and our observations at the NATO Centre of Excellence for Military Medicine, the incidence waves of Covid-19 cases mobilized military capabilities in support of the civilian needs as summarized in Table 2.

⁴⁰ M. Gad, J. Kazibwe, E. Quirk, A. Gheorghe, Z. Homan, M. Bricknell, *Civil-military cooperation in the early response to the COVID-19 pandemic in six European countries*, “BMJ Military Health”, 2021/167, pp. 234-243.

Table 2. Military capabilities that contributed to the response to the Covid-19 crisis.

<p>MEDICAL AND NON-MEDICAL MANPOWER</p>	<p>Augmentation of civilian manpower in the national health system Allocation of crisis response experts in operational centres Administrative personnel for track-and-tracing activities Assistance to police/civil protection and other public services Mobilization of reservists</p>
<p>MILITARY ASSETS</p>	<p>Deployment of expeditionary capabilities to augment hospital capacity Execution of repatriation flights Transportation of patients within the country and transnationally Military logistics for stockpiling and distribution of supplies/vaccines Use of military treatment facilities for civilian patients</p>
<p>MILITARY ACTIVITIES</p>	<p>Reorganization of current operations to protect core military functions Reconfiguration of the medical support to deployed forces Participation in national crisis response management Sharing of medical information and intelligence with partner nations Provision of cross-national situational awareness for homeland security</p>
<p>NATIONAL RESILIENCE</p>	<p>Medical information sharing and processing into intelligence products Networking activities with multinational partners Identification of requirements for national and collective preparedness Contribution to the crisis response planning and lessons-learned process</p>

Source: own study.

Independently from the Nation, initiatives aimed at relieving the most affected hospitals, reorganizing care pathways for the continuation of critical medical services, and assuring a reliable supply of essential medical products in a context at high risk for speculations. Initially, military assets granted a readily available buffer capacity to fill evolving gaps in care delivery, virus testing and contact tracing. Individual healthcare facilities were easily overwhelmed and tended to solve contingencies by focusing on the optimization of internal processes. In the long period, the coordination with the military turned out to be beneficial to align crisis response requirements more like in a network of

hospitals with a common assessment of the ongoing situation. On this basis, the interaction between the civilians and the military continued further into the pandemic as more structured cooperation during the vaccination campaigns when the armed forces across the Alliance contributed to the sustainment of the distribution chain, provided personnel for the immunization centres, and participated with own medical facilities in the vaccination of the population.

Unfortunately, it is difficult to draw a collective solution to increase the resilience of the national healthcare systems which are still very specific for each country. Allies should implement the synergies between the civilian and the military systems observed in their area of responsibility and try to harmonize their approach with other partners to accomplish a cross-border effect. Future medical crises will likely hit again, affecting a wide territory with unusual surges of patients and shocks to the healthcare network. Preparedness and responsiveness can be difficult challenges for the endurance of individual healthcare institutions, especially if placed in fragmented governance frameworks. A continuous civil-military interaction, starting from peacetime and directed at achieving a continuous exchange of experience with common learning processes, can contribute significantly to optimising interoperability in applied solutions and reduce the latency in reaction times to emerging threats.

Conclusion

In highly dynamic military operations exposed to mutable threats, the healthcare support must be able to adapt quickly and improve quality exploiting experience through leadership, management and governance. Gaps in interoperability are mostly expected in multinational environments. However, in all organizations, only clear policies and situational awareness can translate into best practices and flexible processes, where clear roles and responsibilities support the agreed evidence-based standards. Transparent cooperation between medical and non-medical stakeholders is necessary to achieve synergies in healthcare performance and safety for best patient outcomes, and sustainability in crisis or combat situations. The use of individual pathways for managing different healthcare requirements within the same support system can assist medical providers to organize the resources, monitor performance and outcomes, and highlighting gaps and opportunities, resulting in a leveraged effect on the comprehensive quality delivered to the entire population at risk. In particular, the Covid-19 crisis showed that the interaction of civilian and military systems in support of healthcare represented a successful element in the management of the crisis across the Alliance. A more structured approach to civil-military cooperation starting from peacetime should lead to increased preparedness and effectiveness of the national and collective response.

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EMERGENCY MEDICAL SERVICES IN THE NATIONAL SECURITY SYSTEM OF THE REPUBLIC OF POLAND

Abstract:

The State Medical Rescue is a system that in its present form was shaped in Poland in the 21st Century, i.e., after 2006, based on the various Emergency Medical systems existing since the 19th Century. The premise and idea of the Krakow Volunteer Rescue Society established in 1891, and the subsequent ambulances in other cities, was to provide help to anyone who found themselves in a state of a sudden health emergency. The current system of the State Emergency Medical Services meets the constitutional provision of ensuring the right to health protection for everyone⁴. Medical rescue is undoubtedly a public task that is currently performed by state bodies and state organisational units, which was emphasised in the very name of the State Emergency Medical Services. The Emergency Medical service is one of the oldest rescue systems in general. In its present shape, it is very well organised and equipped. Having a highly qualified medical and rescue staff, working in a continuous system that guarantees to help people in the event of a sudden

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⁴ Article 68(1) of the *Constitution of the Republic of Poland of 2nd April 1997*, Journal of Laws of 1997, No. 78, item 483 (here and after *Constitution of the Republic of Poland*).

threat to their health in normal conditions and the resulting events related to the threats of peace and war. It ensures quick transport and transfer of the injured to a stationary specialised medical facility. It is therefore a key link in the national security system of the State. However, the State Emergency Medical Services are marginalised at the expense of other systems, mainly the National Fire and Rescue System. It did not develop a separate position – a separate subsystem in the national security system- but it was included in the civil protection and rescue subsystem. Some people, even those aware that the implementation of the services of the State Medical Emergency Services system is a public task carried out by the state, suggest the privatisation of its services, referring to one of the principles of administrative law and organisation of administration, the principle of subsidiarity⁵. The different opinions and views of the authors of this article on the above facts have become a premise to present to the reader the information on the State Emergency Medical Services, showing the types of rescue systems in the world, the history and genesis of the emergence and evaluation of the rescue system in Poland over the years, showing its role and place in the Polish national security system and finally the introduction and presentation of the current state of the State Emergency Medical Services, in operation since 2007.

Keywords:

Emergency Medical Services, Medical Rescue, Poland, Safety, Health Security

National security system. The concept of national security

Undeniably, the highest good and the supreme value of man and the whole nation is their security. Therefore, when presenting the concept of national security, which has a lot of definitions in the literature on the subject, one should present only the selected ones and start with the statement that “National security (state security) is a kind of security whose subject is a nation organised into a state”⁶. Other definitions state that “National security is a state obtained as a result of properly organised defence and protection against all military and non-military threats, both external and internal, using forces and means from various fields of state activity,”⁷ or that “National security – the state achieved as a result of organised protection and defence against possible threats,

⁵ T. Kocowski, M. Paplicki, *Ratownictwo medyczne – czy wyłącznie państwowe*, [in:] *Prawne aspekty prywatyzacji*, ed. J. Blicharz, Wrocław 2012, p. 200.

⁶ *White Book of National Security of the Republic of Poland*, National Security Bureau, Warszawa 2013, p. 248.

⁷ *Słownik terminów z zakresu bezpieczeństwa narodowego*, Warszawa 2002, p. 14.

expressed by the ratio of the defence potential to the scale of threats”⁸. In turn, Waldemar Kitler states that “National security is also the most important value, national need and primary goal of the state, individuals and social groups, and at the same time a process involving various measures, guaranteeing sustainable, undisturbed existence and development of the national (state), including the defence of the state as a political institution and the protection of individuals and the whole society, their goods and the natural environment from threats, which significantly restrict its functioning or harm goods subject to special protection”⁹.

National security is referred to as the oldest security formula. It is derived from the existential categories of the needs and interests of the communities that make up the state. National security is not only the protection of the nation and the territory of the state or country from physical aggression but also the protection of vital economic and political interests, the loss of which would threaten the fundamental interests of the state. This is the highest need for the values of the nation and the main goal of the state's action. Therefore, in the most important legal act, which is the Constitution of the Republic of Poland, Article 5 states that “the security of citizens is the basic task of the state”¹⁰. According to this provision, the state must build – to create such a system of national security (state security) that would guarantee the constitutional security of its citizens.

The strategic document (initial – directional) in the field of determining the state and conditions of the country's security and determining the strategic directions of assumptions for building the country's security system is the Security Strategy of the Republic of Poland, which must be correlated with the allied strategies¹¹, i.e., with the NATO Strategic Concept and the European Security Strategy. The current Security Strategy of the Republic of Poland, at the request of the Prime Minister, was approved by the President of the Republic of Poland on 12th May 2020, replacing the Security Strategy of the Republic of Poland from 2014. Already in the introduction of the current security strategy, there is a provision stating that “The strategy defines a comprehensive vision of shaping the national security of the Republic of Poland in all its dimensions. It takes into account the subjective aspect (the internal dimension of national security and the international environment – bilateral relations, regional cooperation, on a global scale and cooperation in the forums of international organisations) and the subject aspect (it takes into account all dimensions of the functioning of the national security system).

⁸ *Słownik podstawowych terminów dotyczących państwa*, Warszawa 1994, p. 6.

⁹ W. Kitler, *Bezpieczeństwo narodowe RP*, Warszawa 2011, pp. 22-31.

¹⁰ Art. 5 of the *Constitution of the Republic of Poland*.

¹¹ *National Security Strategy of the Republic of Poland*, Warszawa 2020, p. 5.

National interests and strategic objectives in the field of national security have been formulated by the national values defined in the Constitution of the Republic of Poland¹². Further, the National Security Strategy of the Republic of Poland defines the national interests in the field of national security, which include:

- 1) Safeguarding independence, territorial integrity, and sovereignty and ensuring the security of the state and its citizens;
- 2) Shaping the international order, based on solidarity in cooperation and respect for international law, guarantees Poland's safe development;
- 3) Strengthening national identity and safeguarding national heritage;
- 4) Ensuring the conditions for sustainable and balanced social and economic development and the protection of the environment¹³.

The abovementioned national interests form the pillars of national security of the Republic of Poland. Their implementation is carried out by achieving the resulting strategic goals, requiring planning and implementation of specific tasks and the possession and use of appropriate forces, means and capabilities. They form the basis for building a new or modernising and improving an existing national security system.

A systemic approach to national security

When discussing the issues related to the systemic approach to national security, it is advisable to cite the meaning – the general definition of the system. In encyclopaedic approaches, “System (from the Greek *systema*) – is a set of interrelated elements, functioning as a whole and realising the assumed goals as a whole”¹⁴. According to P. Sienkiewicz, “System – every complex object distinguished from the studied reality, constituting a whole created by a set of elementary objects (elements) and connections (relations) between them”¹⁵. In turn, according to Witold Kieżun, “The system is a separate part of the reality that surrounds us, having a certain internal structure, and thus consisting of parts ordered according to the established rules, defining mutual relations”¹⁶.

Considering the above-mentioned definitions of the system, it can be assumed that the system in terms of state security will be constituted by the individual entities and institutions with their mechanisms and principles of

¹² *Ibidem*.

¹³ *Ibidem*, p. 11.

¹⁴ *System*, Encyklopedia Zarządzania, <<https://mfiles.pl/pl/index.php/System>> (30.11.2021).

¹⁵ P. Sienkiewicz, *Inżynieria systemów*, Warszawa 1983, p. 27.

¹⁶ W. Kieżun, *Sprawne zarządzanie organizacją*, Warszawa 1998, p. 13.

operation and the connections between them. According to J. Marczak¹⁷, “national security (in systemic terms) is the totality of the preparation and organisation of the state for the continuous creation of national security, including the following elements:

- the legal basis for security;
- security policies and strategies;
- civilian and military national protection and defence organisations;
- security infrastructure;
- education for security;
- alliances and international cooperation in the field of security”¹⁸.

In turn, according to R. Kulczycki, “The Security System of the Republic of Poland consists of the system of managing the security of the Republic of Poland and eight relatively isolated and subordinate subcontracting security subsystems: political, economic, military, social, internal, ecological, cultural, informational, other”¹⁹. The last word ‘other’ in this definition does not close off the list of subsystems, and so D. Majchrzak complements it (which seems obvious) with a defence subsystem²⁰. M. Cabaj aptly defines that in the model democratic state, where the security management system consists of three elements – subsystems:

- the management subsystem;
- military executive subsystem;
- a non-military implementation subsystem²¹.

At the same time, the management subsystem consists of the Parliament, the President of the Republic of Poland, the Council of Ministers and all public authorities at its various organisational levels and the Heads of the organisational units related to security. The Military Subsystem constitutes the Armed Forces of the Republic of Poland. On the other hand, the executive subsystem is aimed at protecting the population and state structures under conditions of threats both in times of peace and war. It consists of several subsystems, e.g., crisis management, civil protection and rescue, as well as information, protection and economic links, which in the organisational sense appear in the structures of the individual ministries but can also be organised in

¹⁷ G. Sobolewski, D. Majchrzak, *Zarządzanie kryzysowe w systemie bezpieczeństwa narodowego*, Warszawa 2011, p. 51.

¹⁸ J. Marczak, *Bezpieczeństwo narodowe – pojęcie, charakter, uwarunkowania*, Warszawa 2008, p. 13.

¹⁹ R. Kulczycki, *System bezpieczeństwa Rzeczypospolitej Polskiej*, vol. IV, Warszawa 2004, s. 18.

²⁰ D. Majchrzak, G. Sobolewski, *op. cit.*, p. 53.

²¹ M. Cabaj, *Studia z zakresu prawa administracji i zarządzania*, vol. 6, Bydgoszcz 2014, p. 103.

a territorial way, as local security systems. The above line of reasoning is graphically illustrated – it is presented in Figure 1 below.

Figure 1. Structure of the national security system in systemic terms.



Source: own study based on the above-mentioned source materials.

In the summary of the above considerations on the systemic approach to the national security system, it is worth referring to another source, namely: The White Paper on National Security of the Republic of Poland, issued in 2013 by the National Security Bureau, which defines “the system of national security (of the state) as a unity of forces and (entities), means and resources allocated by the State for the implementation of security tasks, organised accordingly (in subsystems and links), maintained and prepared. It consists of a management subsystem (system) and a set of differently related executive subsystems (systems), including operational subsystems (defence and security) and support subsystems (social and economic)”²². The current Security System of the Republic of Poland is therefore a set of separate subsystems internally if not entirely logically and closely related to the subsystem of national security management. This is largely due to the numerous inaccuracies in the law, manifested by the lack of indication of responsible authorities or – extremely – duplicated competencies, which results in wastefulness and inefficiency of the system²³. Therefore, it requires an in-depth, if not reconstruction, then

²² B. Mikhailiuk, *Podsystem ratownictwa i ochrony ludności*, “Zeszyty Naukowe AON”, No. 4(93)/2013, pp. 274-309.

²³ *Ibidem*, p. 276.

definitely modernisation. It should be adapted to the assumptions and provisions of the new national security strategy of 2020²⁴.

The place of Emergency Medical Services in the National Security System of the Republic of Poland

As indicated in the previous subsection, the non-military executive subsystem constitutes a part of the national security system and is aimed, inter alia, at civil protection. One of the many subsystems included in the non-military implementation subsystem is the civil protection and rescue system. The civil protection and rescue system should guarantee quick and efficient operation in the face of the need to respond to all types of threats to the safety of the people, their property and the environment, both from natural and civilisational disasters²⁵. Because this subsystem consists of two parts, the first on civil protection and the second on rescue, it is advisable to discuss and bring the reader closer to the concepts and meanings of both of these parts. Due to the volume constraints of this article, it is impossible to broadly describe the issue of the specificity of the organisation and operation of both members, which is why in the following part the general issues related to civil protection will be presented briefly and separately to those of the Emergency Medical Services (rescue).

In the common understanding, civil protection is associated with civil defence, which is inaccurate. In international legislation²⁶, it is defined that “civil protection – is the protection of civilians as well as individuals and includes both the public administration and the individual activities aimed at ensuring the safety of life and health of persons and their property”. National civil defence legislation²⁷ has attributed civil protection, rescue and assistance to victims as one of its objectives. Thus, civil protection has entered and entered the area of civil defence activities; it was and is one of its tasks. W. Kitler states that “civil protection – includes the totality of activities of all subjects of state law, each depending on its legal status, aiming to ensure the security of society, property, national heritage and environmental goods in the face of natural and man-made disasters, including war”²⁸. Referring solely to

²⁴ *National Security Strategy of the Republic of Poland*.

²⁵ T. Terlikowski, *System ochrony ludności i ratownictwa*, “Zeszyty Naukowe SGSP”, No. 67/3/2018, p. 92.

²⁶ Article 50(2) *Protocol Additional to the Geneva Conventions of 12 August 1949, and relating to the Protection of Victims of International Armed Conflicts (Protocol I)*.

²⁷ Art. 137 of the *Act of 21st November 1967 on the General Obligation to Defend the Republic of Poland*.

²⁸ W. Kitler, *Powszechna ochrona ludności w świetle ustaleń międzynarodowych*, “Zeszyt Problemowy”, 1/2001, p. 19.

the content of these three above-mentioned concepts, we can say that the overriding goal of civil protection is to ensure the safety of the people, property but also the goods of national heritage and the environment in the event of a threat caused by the forces of nature, accidents, catastrophes but also threats occurring in times of war. Public administration bodies, at every administrative level of the country, but also ministers of the relevant ministries, commanders of the State Fire Service, police commanders, environmental protection inspectors, sanitary inspectors and others all take responsibility for the protection of civilians.

Rescue, on the other hand, in encyclopaedic terms, means providing emergency aid, especially to protect the health and well-being of people; rescue operations are undertaken both in peacetime (great catastrophes, natural disasters) and in wars²⁹. It is also necessary to explain the different and divergent concepts of rescue and rescue operations. Rescue means the activities carried out at all levels of the organisation of the country in all its states (in times of peace, crisis and war) through various methods, forces and means, which aim to save human life and material goods. On the other hand, rescue operations can be defined as help in a difficult emergency, which poses the threat of death to the victims and rescuers and the destruction of the environment and the elements of the material and cultural heritage³⁰. There are many ways and typologies of the division of rescue in the literature on the subject; one of them is the division according to the source and the method of financing rescue operations, where the following can be distinguished:

- state emergency services/rescue – financed from the state budget and the local government funds;
- social rescue – the costs of organising and maintaining are fully covered from the sources of non-governmental organisations;
- commercial rescue operating in the ‘service’ category, which means that rescue operations are payable.

As part of the Emergency Medical Service, the following categories can be used:

- according to the type of rescue forces:
 - Emergency Medical Services/rescue;
 - military rescue;
 - mining rescue;
 - chemical rescue;
 - railway rescue;
 - veterinary rescue, etc.

²⁹ *Mała Encyklopedia Wojskowa*, Vol. III, Warszawa 1971, p. 34.

³⁰ B. Michailiuk, *op. cit.*, p. 282.

- according to the type of event (natural disaster, technical, technological, etc.) among others:
 - sea rescue;
 - fire rescue;
 - radiation rescue;
 - air rescue;
 - flood rescue;
 - road rescue;
 - railway rescue³¹.

Summing up, the above arguments clearly show that Emergency Medical Services are a state rescue system, and thus one of the members of the civil protection and rescue system, which is a subsystem of the national security system of the Republic of Poland.

Emergency Medical Services in international and national terms. The genesis of the Emergency Medical Services in the world

Emergency Medical Services were born on the battlefield. The first attempts to organise field medical care were made already during the Napoleonic and Crimean Wars under the direction of Jean Dominique Larrey, a Napoleonic field doctor. In his practice, he used light, horse-drawn vehicles, the so-called ‘volatile ambulances’, to transport military doctors and medical equipment to the first line of battle to help the wounded. In the United States, the first attempts at medical care on the battlefields occurred during the Civil War of 1861-1865, when non-medical ‘corpsmen’ were trained to provide basic assistance to the wounded soldiers at the scene. The Battle of Solferino in 1859, which took place during the Franco-Austrian War, was a new quality in organising medical assistance to the wounded on the battlefield. Deeply moved by the sight of the wounded left on the battlefield, the writer Henry Dunant wrote a memoir, which was published in 1861 and initiated the signing of the Geneva Convention in 1864, which spoke of the neutrality of the sick and wounded soldiers of both sides of the fighting and their sanitary personnel and facilities. This conference initiated the activity of the Red Cross.

In Europe, the first attempts to organise emergency aid date back to the end of the eighteenth century. Already in 1767, the inhabitants of Amsterdam created rescue houses for drowned people; similar stations were also opened in 1772 in Paris. In the United States, at the end of the nineteenth century, several cities introduced services, equipped with mounted ambulances, which often included doctors. However, they did not include cover areas, where funeral caravans were used for transporting the sick for a long time. The first

³¹ *Ibidem.*

association operating in the field of Emergency Medical Services, the Volunteer Rescue Society, was created in 1887 by Dr Jaromir Mundy. The immediate impetus for the creation of the emergency services was the fire of the Vienna Ringtheater in 1881, in which 386 people died³².

Models and systems of Emergency Medical Services in the world

There are two basic models of Emergency Medical Services in the world, popularly referred to as ‘scoop and run’ – the Anglo-American model, and ‘stay and play’ – the Franco-Germanic model. In many countries, there are also intermediate models. In the ‘scoop and run’ model, the task of the Emergency Medical Services Team is to get to the scene of the incident as quickly as possible, perform triage, secure vital functions of the patient and transport them to the emergency department³³. In the literature on the subject, these two systems are quite extensively described in different ways. The authors of the article think that one of the most accessible sources, synthetically capturing the topic, and at the same time graphically showing it is the description of the above-mentioned models presented by M. Romańczuk, which is presented below³⁴. Common to both systems is the desire to provide effective and quick assistance in times of threat to life or health (accidents, disasters). However, they differ in the intensity of the use of basic and advanced life-saving treatments at the scene of the incident and the qualifications of the members of the rescue teams.

Table 1. Emergency Medical Services models.

Model:	Franco-Germanic	Anglo-American
Patients:	Treatment at the scene, a small percentage of victims transported to the hospital	A small percentage of the victims treated at the scene, and most of them transported to the hospital
Staff:	Doctors supported by paramedics	Paramedics supervised by medical staff
Place of patient transport:	A specific department, often bypassing the emergency department	Hospital Emergency Department

³² *Początki ratownictwa medycznego. Jak zrodziło się pogotowie ratunkowe?*, <<https://ratownikmed.pl/poczatki-ratownictwa-medycznego/>> (30.11.2021).

³³ *Modele działania służb ratownictwa medycznego*, <<https://ratownikmed.pl/modele-dzialania-sluzb-ratownictwa-medycznego>> (30.11.2021).

³⁴ M. Romańczuk, *Prawne aspekty ratownictwa medycznego i zarządzania kryzysowego w Polsce*, “Bezpieczeństwo. Teoria i Praktyka”, No. 2/2018.

Coordinating organisation:	Public health service	Public emergency services.
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Source: A. Bem, *Organizacja i finansowanie ratownictwa medycznego*, “Prace Naukowe Uniwersytetu Ekonomicznego we Wrocławiu”, No. 319/2013, p. 160.

The Franco-Germanic model – widespread in Europe, operates, inter alia, in Austria, Belgium, France, Germany, Sweden and Switzerland. Medical assistance is provided at the scene. It is provided by doctors supported by paramedics, and it includes resuscitation, stabilisation of the patient's condition and pain control. Ambulance equipment must be capable of carrying out rescue operations at the scene of the incident and during transport. The patient is transferred to a specialised hospital department, often bypassing the hospital emergency department. In this model, the rescue system is usually an element of the state health care system.

In the Anglo-American model – the goal is to transport the patient as quickly as possible to the emergency department. Rescue teams consist of specialised paramedics who are in contact with the emergency department – thus ambulances do not need to be equipped with specialised equipment. In this model, rescue is part of the Emergency Medical Services system, which also includes other rescue services (police, fire brigade). This option operates, inter alia, in the United Kingdom, the United States, Australia, Canada, China, Ireland and Israel³⁵.

If you are interested in getting acquainted with the detailed solutions of Emergency Medical Services operations in individual countries, we refer you to the thematic study issued by the Bureau of Analysis and Documentation of the Senate of the Republic of Poland³⁶.

Evolutionary history of Emergency Medical Services in Poland

Following the example of the first Viennese ambulance in Europe, established in 1883, in Krakow, organisationally belonging to the Austrian partition, the first ambulance service in Poland was established in 1891. The initiators of its creation were Dr Arnold Benneta and Dr Karol Wałęcz-Brudzewski. In the buildings of the fire brigade, there were separate premises in which there was an infirmary, a waiting room and a duty station, in which students of the higher years of the Faculty of Medicine of the Jagiellonian University were on duty. The ambulance took the name Krakow Volunteer

³⁵ A. Bem, *op. cit.*, pp. 160-161.

³⁶ Office of Analysis and Documentation of the Senate of the Republic of Poland, *Organizacja służb ratownictwa medycznego w wybranych państwach*, Thematic study OT-622 Chancellery of the Senate 2013.

Rescue Society (Polish: KOTR). It consisted of one horse-drawn carriage and five stretchers. The hallmark of the society was a white cross on a blue background.

Over time, the rescue society began shifting from the initially volunteer character to taking on a professional form – although no changes were made to the name. In 1904, duty hours for volunteers began to be introduced, and from 1911 subsequently for doctors. Also, the KOTR equipment was systematically expanded with new equipment, such as folding seats or accident cases. The Krakow Volunteer Rescue Society operated until 1950. The subsequent cities where rescue societies began to be established were: Lviv – in 1893, Warsaw – in 1897, Łódź – in 1899, Vilnius – in 1902, Lublin – in 1917, Poznań – in 1928, and then Białystok, Toruń and Zakopane. These rescue societies were financially independent, had legal status and operated according to their statutes. They were financed by social contributions, social security fees, donations, own funds and municipal subsidies. These societies provided round-the-clock and free assistance to the victims in all incidents.

After the end of World War I in 1919, the Polish Red Cross Society was established in liberated Poland, which, in addition to the services related to helping the wounded as a result of the war, ran medical facilities, also had ambulance stations and conducted rescue activities.

During the interwar period, the issue of Emergency Medical assistance was not considered on a national scale. The Decree of the President of the Republic of Poland on 22nd March 1928 on medical institutions did not take into account the ambulance station.

Also, the “Act of 28th October 1948 on social health care institutions and planned economy in the health service”³⁷ did not directly apply to ambulance facilities. However, under this act, health care facilities (maintained by foundations, congregations, religious associations and societies, and non-profit medical institutions of other legal entities) were included in the social health service. At the request of the Minister of Health, the Council of Ministers decided on 29th September 1948 to instruct the Ministry of Health to organise a network of emergency aid and to allocate appropriate amounts from the State Treasury for its organisation and supply of sanitary cars. The implementation of this resolution on behalf of the state was taken care of by the Polish Red Cross. The activity of all stations was to be uniform, and the task of each of them was to provide emergency assistance to anyone who faced the threat of loss of health or life. All stations were to be open 24 hours a day, on weekdays and holidays, and the ambulance crew was to be a medical team (doctor, paramedic and driver) or a transport team (paramedic and driver).

³⁷ *Act of 28th October 1948 on Social Healthcare Institutions and Planned Economy in Healthcare*, Journal of Laws, 1948 No. 55, item 434 – document repealed.

At the end of 1950, Polish Red Cross handed over the ambulance network organised so far to the authorities of the Ministry of Health. The administrative authorities divided the ambulance stations into municipal, district and provincial. Ambulance services also covered rural areas³⁸.

In 1951, the Minister of Health issued the first document after the war, in which the principles of operation of sanitary transport were defined. After the administrative reform of the country in 1976, an instruction was issued regarding the framework organisation of the Provincial Columns of Sanitary Transport (Polish: WKTS). Units were established as independent budgetary units created in each voivodship, subordinate to the competent voivode. In the years 1990-1999, WKTS were still organisational units of a budgetary nature and voivodship coverage. They ensured the fulfilment of transport needs for the entire health service. The budget was determined for a given year according to the Budget Act, and transport tasks were carried out as part of these funds. In 1992, the Ministry of Health purchased 80 modern ambulances, which were transferred free of charge to WKTS in individual voivodships. Since then, it has been possible to carry out rescue operations at the time of transporting the victim to the hospital. In the years 1989-1999, due to the lack of legal regulations, as well as limited financial resources, the functioning of these units left much to be desired.

The process of creating the State Emergency Medical Services system took place in many stages. The concept of the current system dates back to the 90s of the twentieth century. Poland, following the experience of other countries, undertook further initiatives aimed at creating a fully modern system of the state Emergency Medical Services. In 1999, the health policy program Integrated Emergency Medical Services was implemented, which was planned for the years 1999-2003. The most important goal of the program was both the preparation of qualified medical personnel and the infrastructure, as well as the development of procedures for the proper functioning of the Emergency Medical Services system throughout the country. In 2001, the program was divided into six task packages, in which the main links are the creation of, inter alia, emergency notification centres, Hospital Emergency Departments (HED), or a network of emergency ambulances. A huge breakthrough in the creation of the State Emergency Medical Service system was the first act of State Emergency Medical Services adopted on 25th July 2001. Even though it regulated many issues only superficially, this law initiated a new era in the development of Emergency Medical Services in Poland. However, its dysfunction caused work on new solutions to be undertaken. Work on the amendment lasted until 6th September 2006, while on 12th October the President

³⁸ *Początki ratownictwa medycznego...*

of the Republic of Poland signed the Act on Emergency Medical Services³⁹. Under this act, a Polish model was created – the system of State Emergency Medical Services described in Chapter 4 of this article.

Legal basis and legal aspects of the State Emergency Medical Service operation in Poland

The current model of the state Emergency Medical Services formed post-2006 operates based on the legal provisions (the Regulation Act), thanks to which this system should function efficiently. The most important of these have been presented below:

- Act of 8th September 2006 on the State Emergency Medical Service⁴⁰, the aim of which is to introduce the functioning of the Emergency Medical Services system, both through a high level of providing health services based on the applicable standards of Western countries, as well as providing the desired solutions in the area of emergency notification.
- Regulation of the Minister of Health of 4th February 2019 on guaranteed benefits in the field of Emergency Medical Services⁴¹. It is an implementing act to the Act of 27th August 2004 on health care services financed from public funds (Journal of Laws of 2018, item 1510, as amended), and in its content includes a list of guaranteed services in the field of Emergency Medical Services and the conditions for the implementation of the guaranteed benefits.
- Act of 22nd November 2013 on the emergency notification system⁴², regulating the technical functioning of the system, which provides for the separation of the function of receiving emergency calls from the function of disposing of rescue resources. The assumption of the system is the functioning of professional Emergency Notification Centres handling all emergency calls according to the same procedures.
- Regulation of the Minister of Internal Affairs and Administration of 30th April 2021 on the organisation and functioning of the emergency

³⁹ *Organizacja systemu Państwowe Ratownictwo Medyczne w Polsce – służba pacjentom w stanie zagrożenia zdrowia lub życia*, <<https://ratownikmed.pl/organizacja-systemu-panstwowe-ratownictwo-medyczne-w-polsce/>> (30.11.2021)

⁴⁰ *Act of 8th September 2006 on State Emergency Medical Services*, Journal of Laws, 2021, p. 2053.

⁴¹ *Regulation of the Minister of Health of 4th February 2019 on benefits guaranteed in the scope of Emergency Medical Services*, Journal of Laws, 2019, item 237.

⁴² *Act of 22nd November 2013 on the Emergency Notification System*, Journal of Laws of 2021, item 268.

call centre and the procedures for handling emergency calls,⁴³ that Regulation shall specify:

- the organisation of the centre and the branches of the emergency notification centre;
 - the functioning of the centre and the manner of performing tasks by emergency number operators, coordinators and coordinators-trainers;
 - the procedures for handling emergency calls and how they are prepared and updated;
 - the procedures for handling emergency calls where it is not possible to transmit an emergency call as part of the emergency notification system and how they are prepared and updated;
 - the maximum number of emergency number operators, senior emergency number operators, coordinators, coordinators-trainers and the method of its division into individual centres.
- Regulation of the Minister of Health of 27th June 2019 on the hospital emergency department,⁴⁴ which specifies:
- the specific tasks of hospital emergency departments;
 - detailed conditions for conducting medical segregation in hospital emergency departments;
 - specific requirements concerning the location of hospital emergency departments within the hospital structure and the technical conditions;
 - minimum equipment, organisation and minimum human resources of hospital emergency departments.
- Regulation of the Minister of Health of 3rd July 2019 on the Command Support System of the State Emergency Medical Services⁴⁵.
- Regulation of the Minister of Health of 19th August 2019 on the framework procedures for handling emergency notifications and notifications of events by a medical dispatcher⁴⁶.
- Regulation of the Minister of Health of 8th November 2018 on the

⁴³ *Regulation of the Minister of Internal Affairs and Administration of 30th April 2021 on the organisation and functioning of the emergency call centre, and procedures for handling requests Alarm*, Journal of Laws, 2021, item 832.

⁴⁴ *Regulation of the Minister of Health of 27th June 2019 on the hospital emergency department*, Journal of Laws, 2021, item 2048.

⁴⁵ *Regulation of the Minister of Health of 3rd July 2019 on the Command Support System of the State Emergency Medical Service*, Journal of Laws, 2019, item 1310.

⁴⁶ *Regulation of the Minister of Health of 19th August 2019 on the framework for handling notifications (alarms) and event notifications by a medical dispatcher*, Journal of Laws, 2019, item 2464.

Provincial Action Plan of the State Emergency Medical Services System⁴⁷.

As noted at the beginning, the regulations presented above do not constitute all the regulations regarding the State Emergency Medical Service and its units and the medical personnel. Depending on the needs of the system itself as well as the external conditions in which this system operates, new legal provisions appear, or existing ones are constantly updated, changed or repealed.

Polish model of Emergency Medical Services

The State Emergency Medical Services system in Poland was organised to fulfil one of the most important obligations of the state, which is to help every person, regardless of their age and citizenship status, who is in a situation of sudden health emergency on the territory of the Republic of Poland.

In Poland, the emergency medical system is based on the Anglo-American model, in which emergency medicine is an independent medical discipline, educating specialised staff to work in the Emergency Medical Services.

The process of creating the State Emergency Medical Services system took place in several stages. The concept of the current system dates back to the 1990s. Poland, following the experience of other countries, took further initiatives to create a fully modern and integrated EMS system. In 1999, the health policy program Integrated Emergency Medical Services, planned for the years 1999-2003, was implemented. The most important goal of the program was both the training of qualified medical personnel and the infrastructure, as well as the development of procedures for the proper functioning of the emergency medical services system throughout the country. In 2001, a program was created in which the main links forming an integrated emergency medical services system were established. As part of this system, the following were to be created: Emergency Notification Centres (ENC), Hospital Emergency Departments or networks of outgoing teams called Medical Emergency Services Teams⁴⁸.

The first Act on the State Emergency Medical Services passed on 25th July 2001, which regulated many issues, if only briefly, was a huge breakthrough in the creation of the State Emergency Medical Services system.

This act, however, initiated a new era in the development of Emergency Medical Services in Poland. Its imperfection made the commencement of work on the new solutions possible. Work on the amendment lasted until 6th

⁴⁷ Regulation of the Minister of Health of 8th November 2019, in the case of the Voivodship Action Plan of the State Emergency Medical Services System, Journal of Laws, 2018, item 2154.

⁴⁸ J. Konieczny, *Ratownictwo w Polsce. Lata 1990-2010*, Poznań 2010.

September 2006, while on 12th October, the President of the Republic of Poland signed the act on Emergency Medical Services, which is still in force today.

It is the Act of 8th September 2006, on the State Emergency Medical Services. The purpose of this act is to introduce the functioning of the Emergency Medical Services system, both through the high level of providing health services based on the applicable standards of the Western countries, and to provide the required solutions in the area of emergency notification⁴⁹.

The Act defines in detail the principles of organisation, operation and financing of the system as well as the principles of providing first aid education. Moreover, the Act on EMS broadly regulates the issues related to the empowerment of medical personnel in the system and the principles of functioning of the EMS system units. The Act also defines the tasks of government administration bodies competent for the performance of the system's tasks, and the principles of creating the Provincial Action Plan for the system. The Act also contains general provisions defining the dispatcher of a unit, qualified first aid, medical rescue operations, first aid, emergency health, area of operation, command support system for EMS or the rules of medical triage. Following the Act on EMS, many ordinances and legal acts were issued regulating the issues of its areas in detail.

Structure and principles of operation of state medical emergency services units

The State Emergency Medical Services system was created to assist every person in need who is in a state of a sudden health emergency. The administrator of an EMS system unit must ensure the readiness of people, resources and organisational units. The units of the EMS system providing services only in the event of a medical emergency include:

- medical rescue teams, including air medical rescue teams
- hospital emergency departments.

The system cooperates with trauma centres and organisational units of hospitals specialised in providing health services necessary for medical rescue, which were included in the plan. The following units also cooperate with the system:

- 1) organisational units of the State Fire Service;
- 2) fire protection units included in the national rescue and firefighting system;
- 3) organisational units of the Police and Border Guard;
- 4) units subordinate to the Minister of National Defence;

⁴⁹ Act of 8th September 2006 on State Emergency Medical Services...

- 5) entities authorised to perform mountain rescue based on the provisions of the Act of 18th August 2011 on safety and rescue in the mountains and organised ski areas;
- 6) entities authorised to perform water rescue based on provisions of the Act of 18th August 2011 on the safety of persons staying in water areas;
- 7) entities authorised to perform mine rescue under the provisions of the Act of 9th June 2011 – Geological and Mining Law;
- 8) organisational units of the Maritime Search and Rescue Service, referred to in the Act of 18th August 2011 on maritime safety;
- 9) entities not listed in points 1-8 and social organisations within their statutory or statutory tasks are obliged to help people in a state of a sudden health emergency – those which have been entered in the register⁵⁰.

Hospital Emergency Departments

Hospital Emergency Departments (HED) were established in Poland at the end of 1999 when the implementation of the Integrated Medical Rescue program was introduced. Most often, the creation of the HED was based on the transformation of the existing admission rooms, and not on the construction of new departments. This project assumed the creation of approximately 278 hospital emergency departments nationwide (a hospital with a population of approximately 150,000 and 16 children's hospitals). The Hospital Emergency Department is the most appropriate place for further diagnosis and initial treatment of a severely injured person. However, HED cannot be only a relay station between Emergency Medical Services Teams and an intensive care unit or operating room. Appropriate conditions must be created in it for admitting a seriously ill patient in a life-threatening condition by the emergency medical team. In the Hospital Emergency Department, the patient undergoes initial diagnostics and treatment to the extent necessary, especially if he is in a state of emergency⁵¹.

The tasks and rules for the organisation of the Hospital Emergency Department are set out in the Regulation of the Minister of Health of 27th June 2019, on the Hospital Emergency Department. This regulation specifies:

- 1) detailed tasks of hospital emergency departments;

⁵⁰ *Ibidem*.

⁵¹ P. Zuratyński, D. Ślęzak, K. Krzyżanowski, R. Szczepański, S. Jatuszewska, *Państwowy System Ratownictwa Medycznego w Polsce*, "Postępy Nauk Medycznych", 4/2019, pp. 155-164.

- 2) detailed conditions for conducting medical triage in hospital emergency departments;
- 3) detailed requirements for the location of hospital emergency departments within the hospital structure and technical conditions;
- 4) minimum equipment, organisation and minimum human resources of hospital emergency departments.

The department is organised within a medical entity with such hospital departments as:

- General surgery ward with a trauma unit (paediatric surgery ward - in the case of hospitals providing health services for children)
- Internal Medicine Department, and in the case of a hospital providing services for children – the Department of Paediatrics,
- an Anaesthesiology and Intensive Care Unit, and in the case of a hospital providing services for children – Anaesthesiology and Intensive Care Unit for children.

In addition, in the hospital where the HED is organised, there is a 24-hour Imaging Diagnostics Laboratory and a place for providing night and holiday healthcare services.

The Regulation defines the rules of medical triage by introducing the TOP HED (Polish TOP SOR) system aimed at monitoring the course of patient treatment in the Ward. The organisational structure of the HED includes the areas of activity in the field of:

- medical triage, registration and admissions;
- resuscitation and treatment;
- initial intensive therapy;
- immediate therapy;
- observation;
- consultation;
- stationing emergency medical teams, if the department has emergency medical teams in its structure;
- administrative and economic facilities⁵².

The Hospital Emergency Department should have continuous access to:

- diagnostic tests carried out in a medical diagnostic laboratory;
- computerised tomographic examination and endoscopic examinations;
- a 24/7 airstrip or airport located at a distance that enables the transport of patients in a state of emergency without the use of an ambulance. However, when this condition is not met, the landing site located in the vicinity of the HED is allowed, and transport from the landing site to the HED must be less than 5 min;

⁵² Regulation of the Minister of Health of 27th June 2019 on the hospital emergency department, Journal of Laws of 2021, item 2048.

- guaranteed equipment for examinations at the patient's bedside (the minimum equipment includes a bedside X-ray set, critical parameters analyser (blood gas analyser) and a portable ultrasound scanner).⁵³

The minimum team in the Hospital Emergency Department includes:

- 1) head of the ward (doctor in charge of the ward),
- 2) ward nurse, who is a system nurse,
- 3) the number of doctors necessary to ensure the proper functioning of the ward, including at least one system physician residing in the ward permanently,
- 4) nurses or paramedics in the number necessary to ensure the proper functioning of the ward.

Regardless of the place of residence or the place of the event, the patient may use the Hospital Emergency Department without a referral. In this ward, the injured person will be under the professional care of qualified personnel⁵⁴.

Medical Emergency Services Teams

The Act of 8th September 2006, on the State Emergency Medical Services, allowed for the creation of a uniform medical rescue system in Poland, with the same standards, both in terms of personnel and equipment. Under Art. 36 of this Act, “Emergency medical teams are equipped with specialised means of sanitary transport, meeting the technical and quality characteristics specified in Polish Standards transposing European harmonised standards”. Emergency medical teams are divided into:

- Team ‘S’ – a specialist team consisting of at least 3 people authorised to perform medical rescue activities, such as: a system doctor and system nurse or paramedic;
- Team ‘P’ – a basic team consisting of 2 people qualified to perform medical rescue activities. This team has the means of ambulance transport, but it is not specified who should be in charge of it. However, it is not forbidden to employ an additional person for the team for the position of a driver, for economic reasons this function is performed simultaneously by one of the two paramedics⁵⁵.

However, if none of the persons in the medical rescue teams mentioned above has a category B driving license and does not meet the conditions

⁵³ *Szpitalne oddziały ratunkowe*, <<https://www.gov.pl/web/zdrowie/szpitalne-oddzialy-ratunkowe>> (30.11.2021).

⁵⁴ Ł. Szarpak, *Organizacja ratownictwa medycznego w Polsce*, Warszawa 2012.

⁵⁵ P. Zuratyński et. al, *op. cit.*, pp. 155-164.

specified in Art. 95a paragraph. 1 of the Act – Road Traffic Law – the EMS team must additionally include a driver.

Under Article 36a, of the EMS Act, during the period of announcing the state of an epidemic threat or in the state of the epidemic, the specialist team may include three people with the qualifications required for a paramedic or system nurse.

Organisationally, the deployment of emergency medical teams must ensure the following parameters of the time of arrival at the scene of the incident from the moment the notification is received by the emergency call centre:

- median travel time (every month) – not more than 8 minutes in a city with more than 10,000 inhabitants and 15 minutes outside the city above 10 thousand residents;
- the third quartile of travel time (every month) – is not more than 12 minutes in a city with more than 10,000 inhabitants and 20 minutes outside a city above 10 thousand residents;
- the maximum travel time cannot be longer than 15 minutes in a city with more than 10,000 inhabitants and 20 minutes outside a city above 10 thousand inhabitants⁵⁶.

The conditions for the implementation of guaranteed services in the field of medical rescue provided by a specialist medical rescue team, Basic Medical Rescue Team and Aviation Medical Rescue Team are regulated by the Regulation of the Minister of Health of 4th February 2019, on guaranteed services in the field of medical rescue.

Air Medical Emergency Services Teams

In addition to ground medical rescue teams, the State Medical Emergency Services (EMS) system also includes medical air rescue teams that form part of the Polish Medical Air Rescue structure. Helicopter Emergency Medical Service/Air Ambulance Service continues the tradition of pre-war and post-war medical aviation in Poland. The current organisational form of Helicopter Emergency Medical Service (HEMS) has been in operation since 2000. At the beginning of 2000, HEMS was established, the name of which was changed on 12th May 2000 to the Independent Public Healthcare Institution, Air Ambulance Service (Polish: SP ZOZ LPR). The entity received funds directly from the budget of the Ministry of Health. In November 2016, the Independent Public Healthcare Institution (Air Ambulance Service) changed its name to the Air Ambulance Service (Polish: LPR). Command Support System of the State

⁵⁶ Article 24 of Act of 8th September 2006 on State Emergency Medical Services...

Emergency Medical Services from the Ministry of Interior and Administration⁵⁷.

HEMS performs functions in the field of:

- 1) Emergency Medical Services (flights to accidents and emergencies and assisting their victims);
- 2) medical air transport performed outside of the tasks of the State Emergency Medical System (transport of patients requiring medical care between medical entities);
- 3) air medical transport from abroad (e.g., transport of Polish citizens, the victims of accidents or sudden illnesses to Poland);
- 4) medical air transport outside of the country.

The Air Ambulance Service operates on twenty-one permanent bases where helicopter medical rescue teams are stationed. With the delivery of the new EC 135 helicopters to the Air Ambulance Service, the operational capabilities have increased. Gradually, preparations were made to extend the night-time duty on subsequent bases. Currently, Air Ambulance Service has 4 bases 24/7 and 17 working hours from 7 am to 8 pm. HEMS consist of a pilot, paramedic/nurse and a doctor⁵⁸.

When an epidemic threat is declared or during a state of the epidemic, the Air Medical Rescue team consists of at least three people, including at least one professional pilot and a system doctor or paramedic, or a system nurse⁵⁹.

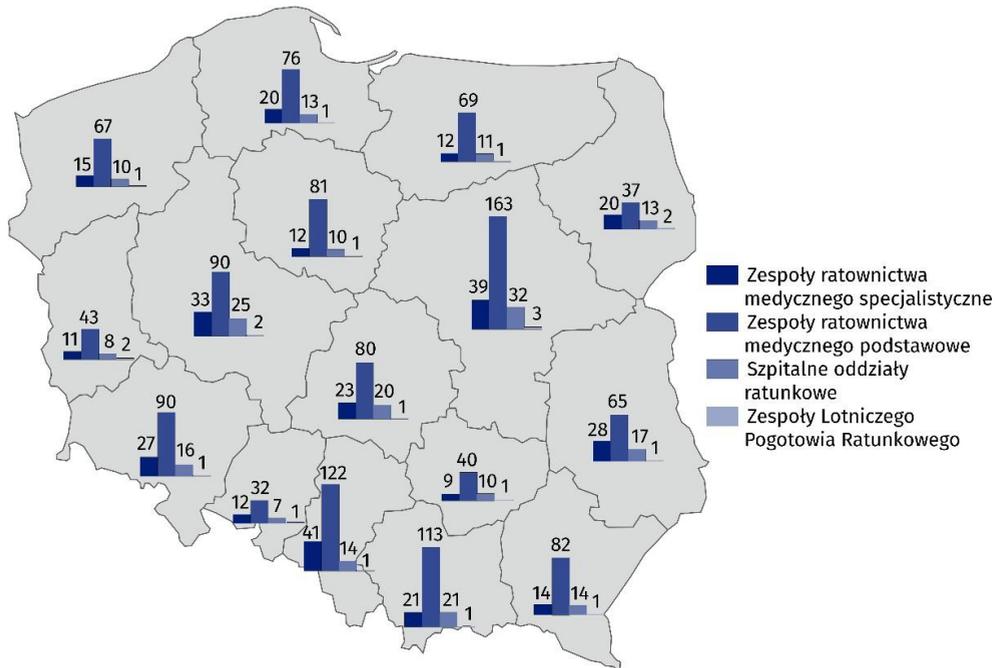
The units of the EMS system closely cooperate, which is a very important aspect of coordinating the effectiveness of the system.

⁵⁷ LPR, *Historia i dziś*, <<https://www.lpr.com.pl/pl/o-nas/historia/>> (30.11.2021).

⁵⁸ *Lotnicze zespoły ratownictwa medycznego*, <<https://www.gov.pl/web/zdrowie/lotnicze-zespoły-ratownictwa-medycznego/>> (30.11.2021).

⁵⁹ Article 37a of Act of 8th September 2006 on State Emergency Medical Services...

Figure 2. EMS System units by voivodeships in 2021⁶⁰.



Source: own studies.

In 2019, as part of the State Emergency Medical Services system, there were 1,577 medical rescue teams (369 specialised and 1,208 basics). As in previous years, the number of specialist teams decreased, while the number of basic teams increased at the same time. This is mainly due to the lack of system doctors who are part of the EMS teams. Therefore, specialist teams are being gradually replaced by basic teams, which do not consist of an EMS system physician.

Emergency medical aid was also provided by Air Medical Rescue teams/Helicopter Emergency Medical Services teams (HEMS) from 21 bases of the Air Ambulance Service and 237 hospital emergency departments (HED). 155 admission rooms, 17 trauma centres providing healthcare services to patients with multiple multi-organ injuries and 8 trauma centres for children cooperated with the system. Emergency medical teams provided medical assistance outside the hospital to people in a state of emergency. As part of medical rescue operations, almost

⁶⁰ Legend (in sequence): Specialised Emergency Medical Services Teams, Basic Emergency Medical Services Teams, Hospital Emergency Medical Services Teams, Helicopter (Air Ambulance) Emergency Medical Services Teams.

3.1 million dispatches/departures were performed. Most often, emergency medical teams provided help at the patient's home (72.2% of cases).

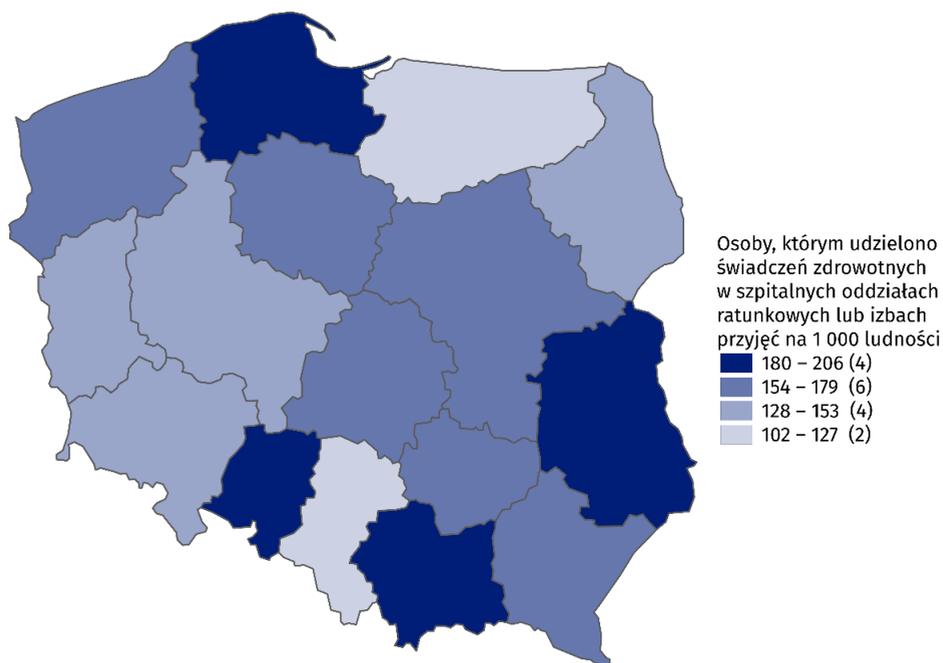
Hospital Emergency Departments (HED) provided health services in two modes: outpatient (not completed with hospitalisation) and inpatient. In admission rooms and hospital emergency departments, most services were provided on an outpatient basis.

From the further data of the Central Statistical Office for 2019, almost 4.6 million people were provided with emergency medical care in admission rooms or HED. The number of patients treated in the stationary mode amounted to over 1.5 million people. Children accounted for 18.4% of the total number of patients treated in the emergency room or HED, and people aged 65 and more - 25.4%.

Nationally, per 1 thousand 160 people received health services in hospital emergency departments or emergency rooms. Most people who benefited from assistance in this type of place per 1 thousand inhabitants were recorded in the Lubelskie Province – 206 people, and the lowest in the Śląskie Province – 102 people.

Outpatient patients most often accessed trauma and orthopaedic surgery (23.3% of patients), surgery (17.9%) and internal diseases (15.0%).

Figure 3. People who were provided with health services in hospital emergency departments or emergency rooms per 1,000 population by voivodships in 2019.



Source: own studies.

The data on the functioning of the HED as a unit of the system clearly shows that most consultations were provided in the field of outpatient procedures, which were not completed with admission to the hospital and further treatment. The question is, did all patients require specialist HED assistance and were they in a state of a health emergency?

The answer to this question may be found in the Report of the Supreme Audit Office of 29th December 2020, on the Functioning of Emergency Medical Services, in which it was noted that hospital emergency departments provided medical assistance (health services) to all reporting persons, including those who were not in the state of a sudden health emergency. HED patients who did not require urgent emergency medical procedures, depending on the data source, in 2018 – from 28% (HED data) to 71% (NHF data) and in the first half of 2019, respectively: from 29% to 69%. The burden of HEDs on patients who did not require emergency medical care extended the waiting time for urgent medical help for patients who required such assistance. The conclusion of this observation resulting from the inspection is the observation that the reason for this state of affairs is the limited availability of Basic and Specialised Healthcare and the lack of a mechanism allowing for limiting the provision of services in hospital emergency departments to people who did not require it⁶¹.

As can be deduced from the above, the EMS system operating in Poland is not perfect, and the lack of system doctors in HEDs and specialist departments as well as the burden on the emergency departments in hospitals with patients who are not in a state of emergency contributes to limiting the availability of emergency medical services to patients who require immediate help to save their health and life and also lowers the standards of health services provided.

State Emergency Medical Services Personnel

The Act on the State Emergency Medical Services also specified in great detail the medical professions that carry out the tasks in the field of treating emergency medical emergencies in units of the system and provide services outside of it. These professions include:

- System doctor
- System nurse
- Paramedic

With the emergence of new medical professions, new specialisations in this area were established: medical specialisation in emergency medicine and nursing specialisation in emergency nursing, which granted the right to provide health services in the units of the EMS system.

⁶¹ NIK, *Funkcjonowanie systemu ratownictwa medycznego, Informacja o wynikach kontroli*, Warszawa 2020.

A doctor of the National Emergency Medical Services Under the Act on EMS, the system physician is:

- a doctor with a specialisation or the title of a specialist in the field of anaesthesiology and intensive care, emergency medicine or neurology;
- a doctor after the second year of specialisation in this field, who continues their specialisation training;
- a doctor with a specialisation or the title of specialist in the field of internal medicine, cardiology, general surgery, paediatric surgery, orthopaedics and traumatology of the musculoskeletal system, orthopaedics and traumatology or paediatrics;
- a doctor who completed the basic module in the field of internal medicine, paediatrics, or general surgery as part of the specialist training and continues or completed the specialist training and obtained the title of specialist;
- system doctors undertaking specialisation in anaesthesiology and intensive care, emergency medicine or neurology (mentioned above), by Art. 16r paragraph 11 of the Act of 5th December 1996 on the Professions of Physicians and Dentists (Journal of Laws of 2020, item 514, as amended), within 5 years from the date of confirmation of completion of specialisation training or the date of the decision on recognition of their scientific and professional achievements will remain doctors of the system. About doctors for whom the status of a doctor depends on having a particular specialisation, i.e., specialists in internal medicine, cardiology, general surgery, paediatric surgery, orthopaedics and traumatology of the musculoskeletal system, orthopaedics and traumatology or paediatrics (Article 3 (3) (b)) of the Act on EMS), the provision of art. 16r paragraph 11 of the Act on the Professions of Physicians and Dentists will not apply⁶².

Until 31st December 2020, a system physician could also be a physician with 3,000 hours of practice as a physician in a hospital emergency department, medical rescue team, aviation medical rescue team or hospital emergency room, provided that they began their specialisation in emergency medicine by 1st January 2018, and therefore this provision is no longer valid⁶³.

The lack of system doctors in both EMS and HED results in the number of departing specialist teams being significantly reduced in favour of basic teams, which do not require a system doctor. In Hospital Emergency Departments, the number of system doctors is also insufficient, which results in many hours of doctor's duty, which was also indicated by the Supreme Audit Office in its December 2020 report. There were cases where only one doctor was on duty in

⁶² *Personel medyczny*, <<https://www.gov.pl/web/zdrowie/personel-medyczny/>> (30.11.2021).

⁶³ Art. 57 of the Act of 8th September 2006 on State Emergency Medical Services...

the HED, and not always an emergency medicine specialist. The doctors employed in the HED were on duty continuously for up to 79.6 hours⁶⁴.

Paramedic. Paramedic is a relatively new profession in the medical field. For the first time in an act of statutory rank, it appeared in the Act of 25th July 2001, on the State Emergency Medical Services⁶⁵.

The legal basis for practising the profession of a paramedic has been defined since 2006 by the Act on the State Emergency Medical Services, specifically its second chapter. This act has already been amended many times, and the competencies of paramedics have expanded over the years. In addition, what medical activities can be performed by a paramedic is specified in the Regulation of the Minister of Health on medical rescue activities and health services other than medical rescue activities that can be provided by a paramedic. In the near future, paramedics are waiting for further changes, because the Ministry of Health is working on a draft act on the profession of a paramedic and the self-government of paramedics, extending the competencies of paramedics in the field of endotracheal intubation using sedation, ultrasound examinations, bladder catheterisation and performing minor surgical procedures; following obtaining the specialisation of a surgeon's assistant, increasing the powers in the field of self-administration of medications used, inter alia, in the sedation of the patient⁶⁶.

After obtaining professional qualifications, in the course of their education, a paramedic carries out activities in the field of:

- securing people at the scene of the accident, and taking measures to prevent an increase in the number of casualties and environmental degradation,
 - assessing the health condition of people in a state of emergency and undertaking medical rescue activities,
 - transporting the injured,
 - communicating with the victim and providing him/her with mental support in a situation that causes a state of a sudden health threat,
 - organising and conducting classes in the field of first aid, qualified first aid and medical rescue operations⁶⁷.
- Under Art. 10 of the Act, a person who:
- has full legal capacity;

⁶⁴ NIK, *Funkcjonowanie...*

⁶⁵ *Act of 25th July 2001 on the State Emergency Medical Services*, Journal of Laws 2001, No. 113, item 1207.

⁶⁶ J. Ojczyk, *Minister zwiększy uprawnienia ratowników medycznych*, <<https://www.prawo.pl/zdrowie/jakie-nowe-czynnosci-moga-wykonywac-ratownicy,5153-57.html>> (30.11.2021).

⁶⁷ P. Zuratyński P., et al., *op. cit.*, pp. 155-164.

- their state of health allows them to practice this profession;
- demonstrates knowledge of the Polish language sufficiently to perform this profession and has made a relevant declaration of knowledge of the Polish language in words and writing.

In addition, the profession of a paramedic requires the following education and meets the following requirements:

- before 1st October 2019, they commenced higher education in the field of (specialisation) medical rescue and obtained the professional title of bachelor or master in this field (specialisation);
- they commenced higher education studies after the 2018/2019 academic year, preparing them to work as a paramedic, conducted by the regulations issued under Art. 68 sec. 3 point 1 of the Act of July 20, 2018 – Law on Higher Education and Science, and obtained a bachelor's degree and passed the State Emergency Medical Services Examination with a positive result;
- before 1st March 2013, they started education at a public post-secondary school or a non-public post-secondary school with the rights of a public school and obtained a diploma confirming obtaining the professional title of a paramedic or a diploma confirming professional qualifications in the profession of a paramedic;
- hold a diploma issued in a country other than a Member State of the European Union, the Swiss Confederation or a Member State of the European Free Trade Association (EFTA) – a party to the agreement on the European Economic Area, recognised in the Republic of Poland as equivalent to the diploma obtained in the Republic of Poland, confirming the professional title paramedic, and obtained the right to stay in the territory of the Republic of Poland by separate regulations;
- have qualifications to practise as a paramedic acquired in a member state of the European Union, the Swiss Confederation or a member state of the European Free Trade Association (EFTA) – a party to the Agreement on the European Economic Area, recognised in the Republic of Poland by the provisions of the Act of 22nd December 2015 on the principles of recognition of professional qualifications acquired in the Member States of the European Union (Journal of Laws of 2016, item 65 and of 2018, item 650)⁶⁸.

The scope of activities that a paramedic may perform as part of medical rescue activities and health services other than medical rescue activities are specified in the Regulation of the Minister of Health of 16th December 2019 on medical rescue activities and health services other than medical rescue activities

⁶⁸ Art. 10 of the Act of 8th September 2006 on State Emergency Medical Services...

that may be provided by a paramedic. This regulation broadly defines the detailed scope of the activities undertaken by a paramedic on their own or the physician's referral, both in system units and other health care units.

A paramedic may perform their professional tasks consisting of the provision of health services, including medical rescue activities provided independently or on the physician's referral, in the following entities and organisational units:

- in medical entities, e.g., in hospitals
- as part of mountain and ski rescue,
- as part of the water rescue referred to in Art. 2 point 4 of the Act of August 18th, 2011, on the safety of people in water areas,
- as part of mine rescue,
- as part of the Maritime Search and Rescue Service
- in non-medical entities subordinate to the Minister of National Defence,
- in fire protection units,
- as part of anti-terrorist activities carried out by services subordinate to or supervised by the minister responsible for internal affairs,
- in separate prevention departments,
- as part of the tasks of the State Protection Service,
- as part of the Border Guard's tasks, at airports
- as part of a medical entity, performing tasks in the field of medical support for a mass event,
- as part of sanitary transport
- in sobering-up stations
- as a medical dispatcher

Therefore, since the amendment to the act in 2018, the list of places where a rescuer can work has been significantly expanded.⁶⁹

Expanding the competencies of paramedics and increasing the number of units in which they can carry out their tasks is related to, inter alia, reducing the availability of system doctors, and thus reducing the number of medical rescue teams at the expense of primary dispatch teams. Paramedics are also an important link within the healthcare entities such as hospitals, especially where emergencies that threaten health and life are being treated.

System Nurse State Emergency Medical Services. The EMS system is one of the possible jobs for nurses. The legal standards for practising the profession of a nurse are primarily regulated by the Act of 15th July 2011 on the professions of nurse and midwife. It is customary to practise the profession of a

⁶⁹ *Zakres czynności i standardy wykonywania zawodu ratownika*, <<https://www.prawo.pl/zdrowie/zakres-czynnosci-i-standardy-wykonywania-zawodu-ratownika,262152.html>> (30.11.2021).

nurse by providing health services to a person having appropriate qualifications and the right to practice.

The system nurse can only be a nurse with specific, additional qualifications, obtained as part of postgraduate education, and having relevant work experience.

Under the statutory definition contained in Art. 3 of the EMS Act, a system nurse may be a nurse holding the title of specialist or specialising in emergency nursing, anaesthesiology and intensive care, surgery, cardiology, paediatrics, as well as a nurse with a completed qualification course in emergency nursing, anaesthesiology and intensive care, surgery, cardiology, paediatrics and with at least 3 years of work experience in departments of these specialities, emergency departments, admission rooms or ambulance service⁷⁰.

A nurse with the status of the so-called system nurses can be a member of the emergency medical team (both primary and specialist).

The detailed scope of preventive, diagnostic, therapeutic and rehabilitation services to which nurses are entitled is specified in the Regulation of 28th February 2017 on the type and scope of preventive, diagnostic, therapeutic and rehabilitation services provided by a nurse or a midwife without a doctor's referral, which has been in force since 23rd March 2017 with a list of medical rescue activities that may be performed by a nurse independently, including an EMS nurse⁷¹.

Competence of authorities at different levels of public administration

The EMS system consists of two divisions. The first is government administration bodies competent to perform the tasks of the system, i.e., the Minister of Health and the voivodes. Their task is to organise, plan, coordinate and supervise the implementation of the system's tasks and partially finance system units. The supervision and organisation of the EMS system at the central level, which is the responsibility of the Minister of Health, results not only from the Act on EMS but also from the provisions of the Act of 4th September 1997 on government administration departments, where it is stated that the competences of the Minister of Health include the organisation and supervision over the State Emergency Medical Services system. This means that the Minister of Health has the right (but also an obligation towards the people in a state of health emergency) to carry out all checks related to the

⁷⁰ Article 3 of the Act of 8th September 2006 on State Emergency Medical Services...

⁷¹ § 4 of the Regulation of the Minister of Health of February 28th, 2017, on the type and scope of preventive, diagnostic, therapeutic and rehabilitation services provided by a nurse or midwife independently without a medical referral.

planning, organising and coordinating of the emergency medical system and complying with the provisions of the EMS Act throughout the country.

As part of supervision, the minister is competent for health matters:

- 1) approves the voivodship system operation plan and its updates;
- 2) may request any information concerning the functioning of the system in the voivodeship from the voivode;
- 3) may require the voivode to perform inspection activities;
- 4) may inspect the dispatchers of units and the medical dispatching room on the terms specified in section VI of the Act of 15th April 2011 on medical activities.

Within his/her powers, the minister competent for health may appoint a national coordinator of Emergency Medical Services. This function is performed by the secretary of state or the undersecretary of state in the office supporting the minister responsible for health⁷².

The responsibilities of the national coordinator of emergency medical services include:

- 1) resolving disputes concerning the admission to the hospital of a person in a state of emergency, in a situation where the dispute concerns the admission of a person transported by a medical rescue team or a sanitary transport team from a province other than the one in which the hospital is located;
- 2) coordination of the cooperation of voivodeship medical rescue coordinators in the event of events requiring the use of system units referred to in art. 32 sec. 1, from outside one province;
- 3) cooperation with the chief medical dispatcher and their deputy.

The national coordinator of emergency medical services performs tasks in cooperation with a team consisting of 5 members who are representatives of: the Minister of National Defence, the minister responsible for health, the minister responsible for internal affairs, the National Health Fund and the administrator of air medical rescue teams being a unit supervised by the minister in charge of health – appointed and dismissed by the minister in charge of health.

The Minister of Health also supervises the organisation and functioning of the Command Support System of the State Emergency Medical Services (Polish: SWD PRM); determines the directions of the development of the Command Support System of the EMS; is the administrator of the Command Support System of the EMS; is the entity responsible for the development and modification of the Command Support System of the EMS⁷³.

⁷² Ch. 3 of the Act of 8th September 2006 on State Emergency Medical Services...

⁷³ Article 24a of the Act of 8th September 2006 on State Emergency Medical Services...

The State Medical Rescue System operates in the voivodship based on the system operation plan prepared by the voivode and approved by the minister responsible for health.

Each voivode prepares a plan that describes in detail the method for securing emergency services in the voivodeship.

The plans contain information on:

- possible threats;
- number and distribution of emergency medical teams, hospitals and medical dispatching rooms;
- the method of cooperation with other voivodships;
- the number and distribution in the voivodeship of the system units referred to in Art.;
- areas of operation and operating areas;
- the method of coordinating the activities of the system units;
- calculation of the operating costs of emergency medical teams;
- method of cooperation with public administration bodies and system units;
- referred to in Art. 32 sec. 1, from other provinces, ensuring efficient and effective saving of life and health, regardless of the boundaries of the voivodeships;
- the manner of cooperation of system units referred to in Art. 32 sec. 1, with units cooperating with the system, referred to in art. 15, with particular emphasis on the method of notifying, alerting and disposing of units, referred to in Art. 15 and art. 32 sec. 1, organisation;
- information on the location of emergency notification centres within the meaning of the Act of 22nd November 2013, on the emergency notification system;
- description of the structure of the emergency health emergency notification system for telecommunications undertakings to compile the necessary telecommunications links, ensuring the possibility of the necessary redirection of calls from the emergency notification centre to the appropriate organisational units of the Police, State Fire Service and the dispatcher of Emergency Medical Services teams;
- data on medical dispatching rooms (their location, number of positions, cooperation between medical dispatching rooms, number and professional qualifications of medical dispatchers, medical emergency team trips, taking into account the median time to reach the scene of the event, the maximum time to reach the scene of the event, the number of hospital patients emergency department and hospital emergency room);
- the method of organisation and operation of radio communication, including the use of assigned identification numbers of emergency medical teams and medical dispatching rooms, ensuring efficient

communication between emergency medical teams, medical dispatchers, voivodeship coordinator of emergency medical services and hospital emergency departments, hospital admission rooms, trauma centres, trauma centres for children, organisational units of hospitals specialised in the provision of health services necessary for emergency medical services, and units cooperating with the system.

The voivodeship action plan of the EMS system, after consultation with the director of the competent voivodeship branch of the National Health Fund, also includes (Article 21 (4) of the Act on EMS):

- 1) the appropriate number of hospital emergency departments and their distribution, taking into account the appropriate time for reaching the emergency department from the scene of the incident and the number of incidents (median time and maximum time of the EMS team reaching the scene of the incident).
- 2) a list of organisational units of hospitals specialised in the provision of health services necessary for emergency medical services;
- 3) information about the trauma centre and trauma centre for children, together with a reference to the scope of healthcare services necessary for the performance of its tasks, if the trauma centre or trauma centre for children is located in a given voivodeship.

In addition, the elements of the plan regarding the cooperation of system units with the units cooperating with the system must be agreed upon with the competent (Article 21 (5) (2) of the EMS Act):

- 1) the provincial commander of the State Fire Service,
- 2) the provincial Police Commander,
- 3) the director of the Maritime Search and Rescue Service,
- 4) the commanding officer of the Border Guard unit, if the units subordinate to or supervised by these authorities have been entered in the register.

In the case of updating the plan, the authorities of local government units and other entities are required to provide, at the written request of the voivode, all the information necessary to prepare the draft update of the plan.

The voivode submits the draft update of the plan to the minister competent for health for approval. The minister competent for health, within 30 days from the date of receipt of the draft update of the plan, supplements the draft update of the plan with a part concerning air medical rescue teams; they may raise objections to the individual provisions of the draft update of the plan (Article 21 (10) of the Act on EMS)⁷⁴.

⁷⁴ M. Paplicki, *Bezpieczeństwo zdrowotne obywatela w polskim systemie ratownictwa medycznego*, Wrocław 2020, pp. 182-191.

The voivodship system action plan, which is an official document drawn up by the voivode, and approved by the Minister of Health, is a tool that enables efficient, effective and successful operation of the EMS system not only in the voivodship but throughout the country.

Another task of the Voivode in the field of supervision, coordination and organisation of the EMS system in the voivodeship is to ensure the maintenance and operation of the Command Support System of the EMS in the voivodeship.

In addition, the Voivode, in the scope of the functioning of the EMS system, supervises the functioning of the system in the following areas: control of the dispatchers of the EMS system units, control of units cooperating with the EMS system in the field of tasks related to medical rescue, control of entities conducting courses in the field of qualified first aid, in terms of their compliance with the requirements set out in the Act on the State Emergency Medical Services, control of entities conducting training courses for medical rescuers and training courses for medical dispatchers in terms of meeting the requirements specified in the Act on the State Emergency Medical Services.

The voivode is also responsible for developing and presenting to the minister competent for health the assumptions regarding the financing of emergency medical services teams, psychological support for medical dispatchers, and medical dispatch centres, and cooperates in this respect with the Provincial National Health Fund Department. He entrusts the conduct of the procedure for concluding contracts with the dispatchers of emergency medical services teams for the performance of tasks of emergency medical services teams, concluding and settling the performance of contracts to the director of the competent regional branch of the National Health Fund. A very important aspect in terms of the role and tasks performed by the Voivode in the organisation of the EMS is cooperation with other voivodeship offices in the event of random events requiring coordination of activities and mutual support of medical services.

The voivode is also responsible for the 24-hour duty of the voivodeship medical emergency services coordinator⁷⁵.

Conclusion

Given the growing social expectations regarding the safety of human health and life, property and the environment against the effects of natural and civilisation disasters, saving the life and health of people in states of a sudden health emergency is undoubtedly a public task, which was emphasised in the name of the State Emergency Medical Services. State authorities have created

⁷⁵ Ch.3 of Act of 8th September 2006 on State Emergency Medical Services...

this system and are absolutely interested in its running and its effective operation.

The Emergency Medical Services system, which is an element of the civil protection and state security system, should aim at, inter alia, increasing the efficiency and reliability of its operation, especially in situations of complex and extreme threats. The organisation of this system by state administration bodies is focused on integrating the activities of various rescue entities by using modern IT and telecommunication systems, consolidating the training system of all entities performing the tasks for civil protection and rescue, both in the management subsystem and in the executive subsystem.

The State Emergency Medical Services System is an organisational system relying on the cooperative and coordinated readiness of people, resources and organisational units activated as a matter of urgency to overcome sudden health threats. The detailed task of this system is to provide pre-hospital medical services, carried out at the scene and during transport, as well as hospital emergency medical services, carried out in emergency departments, which are a continuation of the previous rescue activities. The EMS system created based on the provisions of the Act of 8th September 2006 on the State Emergency Medical Services is an organisational component of the health protection structure because medical services are provided in the event of a sudden health threat to everyone, without exception, and therefore it plays a fundamental role in ensuring the health safety of all citizens.

The established EMS system is integrated, i.e., there is a combination of forces and resources of all institutions dealing with medical emergency services, i.e., Ambulance Service, water and mountain ambulance, medical aviation, etc., and non-medical services – mainly fire brigades and various specialist groups, such as mine rescue, technical, chemical, ecological, energy services, and, if necessary, the army and the police. This system has become an executive unit of the state's tasks consisting in assisting every person in a state of sudden health emergency⁷⁶.

Over the last 20 years, a lot of progress has been made in the State Emergency Medical Services. New professional specialities were created, such as doctors or nurses specialised in providing emergency services to people in an emergency, a new profession of the paramedic. The system includes modern ambulances, hospital emergency departments, trauma centres and a fully computerised system of dispatching and supervising the movement of ambulances. The minister of health and voivodes have all the tools to supervise the system from the national and provincial level down to access to activities performed by each unit of the system separately.

⁷⁶ M. Paplicki, *op. cit.*, pp. 313-333.

The introduction of the Command Support System of the State Emergency Medical Services has significantly increased the quality of services provided by enabling continuous monitoring of the activity of emergency medical teams and their actions, and thus the quality of supervision. The data collected in this system, as well as data from the voivodship system operation, plans and obtained from the National Health Fund, allow for the assessment of the functioning of the individual units of the system in terms of the number of patients served, the type of ailments and activities performed by the staff⁷⁷.

Currently, the Command Support System of the EMS functions in all 1,585 emergency medical services teams (EMS teams), places where EMS teams are stationed in 39 medical dispatching rooms (including 221 dispatcher positions) and 16 positions of voivodeship emergency medical services coordinators. Each call made to the 999 emergency number and reports submitted by the operators of the 112 emergency number are handled by the Command Support System of the EMS. Moreover, each EMS team's trip to the event is supported and operated by the Command Support System of the EMS⁷⁸.

Recent years have shown that the EMS system is evolving and still requires further organisational actions to ensure its full effectiveness, which necessitates an in-depth look at the activities within the system and is also associated with the need to create a long-term medical emergency services plan, which will be consistently implemented and shaped by the constantly changing epidemiological, social and geopolitical conditions.

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FORECASTING GLOBAL HEALTH EMERGENCIES THE CASE OF U.S. INTELLIGENCE COMMUNITY AND SARS-CoV 2

Abstract:

Forecasting future conditions and parameters of a strategic security environment is one of the most important tasks of a state's security institutions. The SARS-CoV-2 pandemic has shown the importance of generating preparedness for future global health emergencies. Appropriate forecasting is crucial from this perspective. Intelligence organisations perform a specific role in this realm due to their capabilities and position. U.S. Intelligence Community, arguably the most powerful in the world, has also devoted time to researching this issue. The objective of this paper is to examine the health security layer of its analytical products and analyse the reception of these forecasts by the U.S. government. The author employs desk research and document analysis to conduct the study.

Keywords:

forecasting; pandemic; health emergencies; resilience; security policy

Introduction

The world seems to be falling apart since the beginning of 2020. The SARS-CoV-2 pandemic and its cascading effects along with the unprovoked Russian attack against Ukraine and another period of extensive warfare definitively sealed the end of the so-called *strategic pause*. The awareness of the world's nonlinearity has increased significantly. The level of uncertainty and anxiety spiked with the new knowledge about the problems of the 'world operating system'.

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The sphere of the abovementioned uncertainty and anxiety can be reduced with appropriately prepared and effectively communicated forecasts. They ought to be communicated not only to executive branches of governments but also to societies. Intelligence services have a significant role in this realm. It stems from their competencies, capabilities, and specific position both in political and social structures. Intelligence organisation gathers information from a broad spectrum of sources and by various means – from OSINT (Open Sources Intelligence) through IMINT (Imagery Intelligence), SIGINT (Signal Intelligence) to ELINT (Electronic Intelligence) and HUMINT (Human Intelligence). It uses gathered information to define the sphere, within which a political leader makes a decision. Precisely, to help such a leader to make an informed and effective decision. Therefore, analytical bodies within intelligence services are critical instruments. With the nonlinear nature of the contemporary international situation, their work is crucial in understanding the structure of opportunities, challenges, risks, and threats and identifying trends. It can be assumed, that the intelligence service has a limited role in health emergencies. According to such a simplified approach, such an organisation works on a tactical level, when a crisis of this type is imminent and a potentially dangerous pathogen is ‘visible’. The task of spy agencies is to alarm national authorities about unfolding events. In fact, intelligence agencies of NATO countries are believed to have been issuing such warnings at the beginning of 2020. There should be no doubt, that U.S. intelligence agencies had information about the rapidly deteriorating situation in Chinese Wuhan province. According to available information, a little-known unit of the Defence Intelligence Agency, National Centre for Medical Intelligence informed about the crisis unfolding in the Middle Kingdom as early, as November 2019². Other sources informed, that the U.S. shared intelligence about possible pandemics also with their NATO and Israeli allies³. Smaller organisations are also believed to have been warned by their authorities – Polish Foreign Intelligence Agency (*Agencja Wywiadu*) informed about the danger of public health emergency in January 2020⁴. As can be seen, those warnings were tactical. However, there is another role – the strategic warning of governments and societies, creating indispensable threat awareness and inducing decisive actions.

² J. Margolin, J. G. Meek, *Intelligence report warned of coronavirus crisis as early as November: Sources*, <<https://abcnews.go.com/Politics/intelligence-report-warned-coronavirus-crisis-early-november-sources/story?id=70031273>> (30.12.2021).

³ K. Gradon, W. R. Moy, *COVID-19 Response - Lessons from Secret Intelligence Failures*, “The International Journal of Intelligence, Security, and Public Affairs” 2021, vol. 23, no. 3, p. 165.

⁴ *Wywiad ostrzegal przed pandemią?*, <<https://infosecurity24.pl/sluzby-specjalne/agencja-wywiadu/wywiad-ostrezgal-przed-epidemia>> (30.12.2021).

It is worth mentioning, that there is another instance of an even less known form of intelligence operations in the health security sphere – epidemic intelligence, in which officers investigate disease outbreaks, search for sources, spread patterns and any details that public health institutions cannot handle the situation. U.S. Centres for Disease Control and Prevention (CDC) runs Epidemic Intelligence Service (EIS). European Centre for Disease Prevention and Control operates its tools (i.e., The Early Warning and Response System of the European Union or EWRS; EU Rapid Alert System for Food and Feed or RASFF; Epidemic Intelligence Information System or EPIS)⁵. Clearly, World Health Organisation also has its own tools⁶. It is obvious, that states must have such an instrument at their disposal. Its parameters and efficiency vary and are contingent on states' resources.

The question of intelligence organisations' – both classic and epidemic – responsibility to provide early warning of emerging major public health crises is clear. It was scientifically explored before the pandemic by scholars and practitioners⁷. After 2020, the pandemic's influence on national and international security and the role of intelligence has become an important

⁵ *Epidemic intelligence tools and information resources*, <<https://www.ecdc.europa.eu/en/threats-and-outbreaks/epidemic-intelligence>> (30.12.2021).

⁶ *WHO Hub for Pandemic and Epidemic Intelligence*, <<https://www.who.int/initiatives/who-hub-for-pandemic-and-epidemic-intelligence>> (30.12.2021).

⁷ See: L. Bengtsson, S. Borg, M. Rhinard, *European security and early warning systems: from risks to threats in the European Union's health security sector*, "European Security" 2018, vol. 27, no. 1, pp. 20-40; E. Christaki, *New technologies in predicting, preventing, and controlling emerging infectious diseases*, "Virulence" 2015, vol. 6, no. 6, pp. 558-565; P-M. David, N. Le Dévédec, *Preparedness for the next epidemic: health and political issues of an emerging paradigm*, "Critical Public Health" 2019, vol. 29, no. 3, pp. 363-369; V. Galaz, *Pandemic 2.0: Can Information Technology Help Save The Planet?* "Environment: Science and Policy for Sustainable Development" 2009, vol. 51, no. 6, pp. 20-28; A. M. Levitt, *Deadly Outbreaks: How Medical Detectives Save Lives Threatened by Killer Pandemics, Exotic Viruses, and Drug-Resistant Parasites*, New York 2013; M. McKenna, *Beating Back the Devil: On the Front Lines with the Disease Detectives of the Epidemic Intelligence Service*, New York 2004; *Public Health Intelligence and the Internet*, A. Shaban-Nejad, J. S. Brownstein, D. L. Buckeridge (Eds.), Cham 2017; D. Scales, A. Zelenev, J. S. Brownstein, *Quantifying the effect of media limitations on outbreak data in a global online web-crawling epidemic intelligence system, 2008–2011*, "Emerging Health Threats Journal" 2013, vol. 6, no. 1, article 21621; R. J. Totten, *Epidemics, national security, and US immigration policy*, "Defense & Security Analysis" 2015, vol. 31, no. 3, pp. 199-212; P. F. Walsh, *Managing Emerging Health Security Threats Since 9/11: The Role of Intelligence*, "International Journal of Intelligence and Counterintelligence" 2016, vol. 29, no. 2, pp. 341-367; J. M. Wilson, *The use of intelligence to determine attribution of the 2010 Haiti cholera disaster*, "Intelligence and National Security" 2018, vol. 33, no. 6, pp. 866-874.

element of studies in scientific and analytical circles⁸. What is more, these questions attract the attention of media outlets, which extensively report publicly known analyses of pandemic sources and their further impacts⁹.

The following analysis is focused on strategic forecasts of global health emergencies, produced by the U.S. Intelligence Community. It is based on declassified documents. The core of the research source base is built around publicly known U.S. Intelligence Community's 'flagship' analytical products – Worldwide Threat Assessments (published since 2006) and Global Trends Reports (published since 1997). The source collection will be supplemented by scientific journal articles, monographs, think-tanks' analyses and press resources, which will help to broaden the context.

Methodological assumptions

The author utilizes a quantitative research strategy, based on scientific pragmatism. The latter emphasizes a liberal approach to the selection of methods, defined by their maximum usefulness in the exploration of a given issue and achieving assumed objectives¹⁰.

Document analysis represents the main method, used in the study. Glenn A. Bowen considers, that “document analysis is a systematic procedure for reviewing or evaluating documents—both printed and electronic (...) material.

⁸See: J. S. Bedi, D. Vijay, P. Dhaka, J. Paul Singh Gill, S. B. Barbuddhe, *Emergency preparedness for public health threats, surveillance, modelling & forecasting*, “Indian Journal of Medical Research” 2021, vol. 153, no. 3, pp. 287-298; G. Bowsher, R. Bernard, R. Sullivan, *A Health Intelligence Framework for Pandemic Response: Lessons from the UK Experience of COVID-19*, “Health Security” 2020, vol. 18, no. 6, pp. 435-443; G. Bowsher, R. Sullivan, *Why we need an intelligence-led approach to pandemics: supporting science and public health during COVID-19 and beyond*, “Journal of the Royal Society of Medicine” 2020, vol. 114, no. 1, pp. 12-14; E. Dahl, *Warnings Unheeded, Again: What the Intelligence Lessons of 9/11 Tell Us About the Coronavirus Today*, “Homeland Security Affairs” 2020, vol. 16, art: 7; M. E. De Vine, *Intelligence Community Support to Pandemic Preparedness and Response*, Washington, D.C. 2020; L. O. Gostin, *A Blueprint for the Future*, Cambridge, MA 2021; G. K. Gronvall, *The Contested Origin of SARS-CoV-2*, “Survival” 2021, vol. 63, no. 6, pp. 7-36; S. M. Malik, A. Barlow, B. Johnson, *Reconceptualizing health security in post-COVID-19 world*, “BMJ Global Health” 2021, vol. 6, art. e006520; M. Smith, P. Walsh, *Improving Health Security and Intelligence Capabilities to Mitigate Biological Threats*, “The International Journal of Intelligence, Security, and Public Affairs” 2021, vol. 23, no. 2, pp. 139-155; P. F. Walsh, *Improving ‘Five Eyes’ Health Security Intelligence capabilities: leadership and governance challenges*, “Intelligence and National Security” 2020, vol. 35, no. 4, pp. 586-602.

⁹ See reports by i.e.: “Axios”, “ABC”, “CNN”, “Politico”, “The Conversation” „The New York Times”, “The Washington Post”.

¹⁰ D. Creswell, *Research Design: Qualitative, Quantitative, and Mixed Method Approaches*, London 2013, pp. 10-12.

Like other analytical methods in qualitative research, document analysis requires that data be examined and interpreted in order to elicit meaning, gain understanding, and develop empirical knowledge (...). Documents contain text (words) and images that have been recorded without a researcher's intervention. (...) refer to documents as 'social facts', which are produced, shared, and used in socially organised ways"¹¹. This method is considered adequate by the author.

To analyse the outlined problem, several research questions should be answered: *What are the structure and functions of the U.S. Intelligence Community? How U.S. Intelligence Community forecast global health emergencies? What was the U.S. Executive's reception of those analytical products?* Reflections on these questions are required to verify the author's hypothesis: *U.S. Intelligence Community provided analytical products containing warnings about the potential pandemic, but those warnings have not influenced the decision-makers.*

Explorations of the research problem described above should start with a brief presentation of the U.S. Intelligence Community.

Collect, analyse, and deliver – U.S. Intelligence Community's history, structure and mission

U.S. Intelligence Community was formally established by Executive Order 12333, issued by President Ronald Reagan in 1981 (amended in 2004 and 2008)¹². It is responsible for collecting and providing the information needed by key members of the executive branch of the U.S. government (headed by the President and military leaders); analysing, producing and disseminating intelligence; gathering information about and conducting activities against international terrorism, the proliferation of Weapons of Mass Destruction; countering intelligence operations against the U.S.; conducting research and development activities, procurement of technical systems to perform operations; providing intelligence staff and operations security; integrating intelligence activities of all entities of the IC¹³. This structure is led by the Director of National Intelligence, who responds directly to the President of the United States

¹¹ G. A. Bowen, *Document Analysis as a Qualitative Research Method*, "Qualitative Research Journal" 2009, vol. 9, no. 2, p. 27.

¹² *Executive Order 13470—Further Amendments to Executive Order 12333, United States Intelligence Activities*, "Federal Register" 2008, vol. 73, no. 150, p. 45325.

¹³ *Ibidem*, p. 45331.

The lineage of the U.S. Intelligence Community could be traced to the late 19th Century. In 1882 the Office of Naval Intelligence (ONI) was established¹⁴. It was an expression of an increased sense of urgency that existed amongst servicemembers and statesmen, who had realised the need for the creation of modern naval power. ONI provided technological and shipbuilding intelligence, which helped to build the foundations of American naval preponderance. This agency can be described as the nucleus of the U.S. Intelligence Community which developed parallelly with the American rise to become a global power. In the early 20th Century, the Federal Bureau of Investigation which worked extensively in the public security sphere gradually developed counterintelligence capabilities to tackle threats from the dynamically changing strategic landscape – World War I, communism¹⁵. In 1915, U.S. Coast Guard established the position of Chief Intel Officer¹⁶. Subsequently, the Coast Guard expanded its intelligence operations to include HUMINT and cryptology. During the Second World War, the FBI provided counterintelligence cover, but also, as Intelligence Community’s official website states it was “operating a full-blown foreign intelligence collection effort in the Western Hemisphere from 1940-1947”¹⁷. Intelligence gathering and covert operations capabilities of the United States were enhanced with the establishment of the Office of Strategic Services (OSS) in 1941. It was the OSS which was the first of a generation of full-fledged intelligence organisations, that constitute the fundamentals of the modern U.S. Intelligence Community.

After the Second World War, the Bureau of Intelligence and Research (INR) was established within the Department of State with the task of providing support to the foreign service¹⁸. In 1947, the most recognisable body of the U.S. Intelligence Community – the Central Intelligence Agency – started to operate¹⁹.

American intelligence organisations – after reaching their inflexion point during the Second World War and the onset of the Cold War – have gradually

¹⁴ See: J. M. Dorwart, *Dortwart's History of the Office of Naval Intelligence 1865-1945*, Annapolis, MD 2019.

¹⁵ R. J. Batvinis, *The Origins of FBI Counterintelligence*, Kansas City, KS 2007, p. 65.

¹⁶ *Coast Guard Investigative Service (CGIS). History*, <<https://www.uscg.mil/Units/Coast-Guard-Investigative-Service/History/>> (access: 30.12.2021).

¹⁷ *History*, <<https://www.intelligence.gov/mission#start>> (30.12.2021).

¹⁸ T. King, *Intelligence Informs Foreign Policy Making at the U.S. State Department* [in:] *Strategic Analysis in Support of International Policy Making: Case Studies in Achieving Analytical Relevance*, ed. T. Juneau, New York 2017, pp. 95-100.

¹⁹ In 1947, the United States Air Force created a security and intelligence unit – 25th Air Force. It was merged with the 24th Air Force and now operates as the 16th Air Force. See: R. S. Cohen, *16th Air Force Launches Information Ops for the Digital Age*, <<https://www.airforcemag.com/article/16th-air-force-launches-information-ops-for-the-digital-age/>> (access: 30.12.2021).

developed different capabilities, capitalising on technological innovations. In 1952 the National Security Agency was established to perform cryptographic works, SIGINT and ELINT operations²⁰. National Reconnaissance Office – established in 1961 – was in turn institutional response to satellites and other strategic intelligence capabilities growth.

In 1961, the Department of Defence created its own intelligence activity – the Defence Intelligence Agency (DIA), which was tasked with gathering and disseminating military intelligence to the Department’s executive and Joint Chiefs of Staff²¹. In subsequent years, several departments and services established their own intelligence tools. Department of Energy created the Office of Intelligence and Counterintelligence in 1977²² to operate within nuclear threats environment (terrorism, counterproliferation). Armed forces’ branches have also created their own, autonomous intelligence units – U.S. Army (Intelligence and Security Command) in 1977 and Marine Corps in 1978²³.

After the end of the Cold War, Intelligence Community expanded further – in 1996 the National Geospatial-Intelligence Agency (NGA) was created as an effort to consolidate geospatial and imagery analysis within one body²⁴. In 2003, the Department of Treasury established its own intelligence unit – the Treasury Office of Intelligence and Analysis (OIA). It covers information protection programs and personnel with access to sensitive data.

The most significant development in U.S. intelligence institutional structure after September 11 terrorist attacks was the establishment of the Director of National Intelligence (DNI) in 2005, with oversight and facilitation across the organisation’s spectrum as its main mission. DNI established the Inspector General position for the IC and four intelligence centres (National Counterterrorism Centre, the National Counterintelligence and Security Centre, and the National Counterproliferation Centre; and the Cybersecurity Threat Intelligence Integration Centre). DNI is also responsible for Presidential Daily Brief²⁵.

²⁰ B. D. Berkowitz, A. E. Goodman, *Strategic Intelligence for American National Security*, New Jersey 2020, p. 50.

²¹ *Defense Intelligence Agency* [in:] *Encyclopedia of Military Science*, ed. G. K. Piehler, London 2014, pp. 464-465.

²² J. Rovner, *Intelligence and National Security Decision Making* [in:] *The Oxford Handbook of U.S. National Security*, eds. D. S. Reveron, N. K. Gvosdev, J. A. Clodu, Oxford 2018, p. 134.

²³ A. R. Wells, *Between Five Eyes: 50 Years of Intelligence Sharing*, Philadelphia, PA 2020, p. 83.

²⁴ R. M. Clark, *Geospatial Intelligence: Origins and Evolution*, Washington, D.C., pp. 242-243.

²⁵ R. A. Best, *Intelligence Reform After Five Years: The Role of the Director of National Intelligence (DNI)*, Washington, D.C. 2010, pp. 2-5.

Changes in the U.S. Intelligence Community architecture were introduced in 2006 and 2007. First, Drug Enforcement Administration initiated Intelligence Program to help investigate the drug trade and provide intelligence at the tactical (support of operations) and strategic (shape decisions and policies) levels²⁶. In the following year, the Department of Homeland Security (DHS) established the Office of Intelligence and Analysis. Apart from providing intelligence support to DHS operations, it coordinates the work fusion centres (instruments of sharing information between IC organisations).

The latest addition to U.S. Intelligence Community is Space Delta 7, a unit of the U.S. Space Force, which provides “critical, time-sensitive and actionable intelligence for space domain operations to allow for the detection, characterization and targeting of adversary space capabilities”²⁷.

This brief presentation shows the potential of the U.S. Intelligence Community. All the abovementioned agencies and military units work to collect information and create analytical products for government officials and, when declassified, to the public opinion.

The pandemic threat in Global Trends reports

Global Trends report is a quadrennially published strategic forecast of the U.S. Intelligence Community. These forecasts contain an analysis of trends, which have the potential to shape the world situation in the 15-20 years. The report assesses critical drivers of coming transformations, identifies weak signals and wild cards and explores the long-term influence of changing. It also outlines scenarios for alternative futures.

The series started in 1997 with the publication of the *National Intelligence Council Global Trends 2010 report*²⁸. Global health issues were not the most important concern of the intelligence analysts at that time. The essential issue explored was the transformation of the global order after the fall of communism and its impacts on U.S. global posture and situation in crucial regions.

The next report, issued in 2000²⁹, explored key drivers and trends in seven areas: demographics; natural resources and environment; science and technology; the global economy and globalization; national and international governance; future conflict; the role of the United States. Public health issues

²⁶ *Intelligence*, <<https://www.dea.gov/law-enforcement/intelligence>> (30.12.2021).

²⁷ *Space Delta 7 Fact Sheet*, <<https://www.peterson.spaceforce.mil/Portals/15/Fact%20Sheets/Space%20Delta%207%20Fact%20Sheet.pdf?ver=D8Qlv67p62PfYOPAYdn-Xw%3d%3d>> (30.12.2021).

²⁸ *Global Trends 2010*, <https://permanent.fdlp.gov/LPS106554/LPS106554/www.dni.gov/nic/special_globaltrends2010.html> (30.12.2021).

²⁹ *Global Trends 2015: A Dialogue About the Future with Nongovernment Experts*, Washington, D.C. 2000.

are brought up with analyses of regions or states. However, there is one reference to a global health issue: “another global epidemic on the scale of HIV/AIDS, or rapidly changing weather patterns attributable to global warming, with grave damage and enormous costs for several developed countries – sparking an enduring global consensus on the need for concerted action on health issues and the environment”³⁰.

Worldwide health emergencies have a broader presence in analyses contained in the report published in 2004. The problem of global change dynamics and the emergence of Asia as the gravity centre of world affairs constitutes the background of the whole report. Experts focus on possible globalisation disruptions. The pandemic is listed as one of the factors that could derail it. The report reads as follows: “some experts believe it is only a matter of time before a new pandemic appears, such as the 1918-1919 influenza virus that killed an estimated 20 million worldwide. Such a pandemic in megacities of the developing world with poor healthcare systems (...) would be devastating and could spread rapidly throughout the world. Globalization would be endangered if the death toll rose into the millions in several major countries and the spread of the disease put a halt to global travel and trade during an extended period, prompting governments to expend enormous resources on overwhelmed health sectors”³¹. It can be assumed, that SARS-CoV-1 outbreak (2002-2004) and Avian Influenza A (H5N1) influenced forecasting process. However, analysts underline the efficiency of “international surveillance and control mechanism”³². The positive experience of the limited spread of SARS the so-called bird flu can be seen in these forecasts. Nevertheless, the potential of the pandemic is not underestimated.

In November 2008, *Global Trends 2025: A Transformed World* report has pandemic as an alarming scenario in the chapter exploring the growing potential for conflict. The scenario presupposes the emergence of a new, highly transmissible respiratory disease by 2025. Analysts evoked epidemiology experts pointing at “highly pathogenic avian influenza (HPAI) strains, such as H5N1, to be likely candidates for such a transformation, but other pathogens – such as the SARS coronavirus or other influenza strains”³³.

The scenario assumes rapid spread of it due to the mild symptoms and asymptomatic cases and the ineffectiveness of control mechanisms. Highly populated and dense areas, where humans and animals live in close vicinity were indicated as potential sources of the pandemic (with China and Southeast Asia in general as examples). According to the report, “unregulated animal

³⁰ *Ibidem*, p. 82.

³¹ *Mapping the Global Future*, Washington, D.C. 2004, p. 30.

³² *Ibidem*.

³³ *Global Trends 2025: A Transformed World*, Washington, D.C. 2008, p. 75.

husbandry practices could allow a zoonotic disease such as H5N1 to circulate in livestock populations – increasing the opportunity for mutation into a strain with pandemic potential”³⁴. Analysts assume that the disease spreads despite imposed restrictions after a slow reaction of the public health system response in the originating country. As the novel disease sweeps the world, the situation of states deteriorates, healthcare systems are overwhelmed, economic catastrophe unfolds, and the death toll reaches “hundreds of millions”. Additionally, the report alarms, that internal and international tensions and conflicts will be more likely³⁵. The structure of this alarming scenario speaks for itself.

Global Trends 2030. Alternative Worlds report, issued in late 2012, lists the pandemic as a ‘black swan’, a surprise event with major, potentially catastrophic consequences. The report reads: “an easily transmissible novel respiratory pathogen that kills or incapacitates more than one per cent of its victims is among the most disruptive events possible. Such an outbreak could result in millions of people suffering and dying in every corner of the world in less than six months”³⁶. It should be noted that report was published after the pandemic of the deadly swine flu virus (A/H1N1). According to CDC estimations, it killed from 151,700 to 575,400 people worldwide³⁷. The report discusses the phenomenon of the pandemic itself, recounts past pandemic cases and deliberates on the potential of pathogen breaking species barriers. Analysts stress, that “an easily transmissible novel respiratory pathogen that kills or incapacitates more than one per cent of its victims is among the most disruptive events possible. They add that such a disease, “unlike other disruptive global events, such outbreak would result in a global pandemic that directly causes suffering and death in every corner of the world, probably in less than six months”³⁸.

The report explores the pandemic in the scenario called *Stalled Engines*, where analysts assume the stagnation of globalization and overall instability in the world with violence in the Middle East, decomposition of the EU and self-isolation of the U.S. The pandemic, originating in South Asia sweeps the world. South Asia, parts of India and the Middle East are hit particularly strong, but developed countries also suffer the loss of life³⁹. *Stalled Engines* is the worst-case scenario, where a pandemic is a part of a ‘wave’ of crises and hit destabilised world with global actors repositioning to adapt.

³⁴ *Ibidem*.

³⁵ *Ibidem*.

³⁶ *Global Trends 2030: Alternative Worlds*, Washington, D.C. 2012, p. xi.

³⁷ *2009 H1N1 Pandemic (H1N1pdm09 virus)*, <<https://www.cdc.gov/flu/pandemic-resources/2009-h1n1-pandemic.html>>, (30.12.2021).

³⁸ *Global Trends 2030...*, *op. cit.*, p. 13.

³⁹ *Ibidem*, pp. 110-115.

In the last pre-COVID pandemic report – *Paradox of Progress* published in January 2017 – the global health emergency is embedded with a scenario called *Islands*. General parameters of this scenario are defined by the rise of inequality, rapid technological progress (especially Artificial Intelligence); shift in global trade patterns; slower economic growth; China and India struggling with the ‘middle-income trap’; the United States and Europe turning inwards and accelerating climate change⁴⁰. According to this scenario, the pandemic hits in 2023 and reduces global travel, disrupting supply chains and contributing to economic problems⁴¹. The report reiterates the assumption, that Asia (China, Indonesia, and Vietnam) is a potential hotspot for the emergence of a pathogen with pandemic potential⁴².

Strategic forecasts of the U.S. Intelligence Community clearly indicate that the pandemic constitutes a grave threat to global stability and has the potential to ignite complex crises, which can morph into armed conflagrations. Another publicly known analytical product of U.S. intelligence is the Worldwide Threat Assessment (originally Annual Threat Assessment) released annually by the Director of National Intelligence.

Pandemic in Worldwide Threat Assessments

The report is traditionally issued at annually public hearings of high-rank intelligence officials in the U.S. Senate and House of Representatives. It introduces the assessment of threats to U.S. national security for that year and covers a wide range of issues from economic problems through geopolitical questions, cyber threats, and terrorism to Weapons of Mass Destruction and the environment.

The first report released in 2006 informs, that U.S. Intelligence Community “has expanded the definition of bio-threats to the US beyond weapons to naturally occurring pandemics”⁴³. As the report reads, the most dangerous pathogen is identified in the “new and deadly avian influenza strain”, which breaks the species barrier⁴⁴. The next report does not mention any kind of health emergency, constituting a threat to U.S. security⁴⁵. The 2008 assessment reiterates concern for the possible emergence of deadly avian flu and adds

⁴⁰ *Global Trends. Paradox of Progress*, Washington, D.C 2017, pp. 50-51.

⁴¹ *Ibidem*.

⁴² *Ibidem*, p. 92.

⁴³ *Annual Threat Assessment of the Director of National Intelligence for the Senate Select Committee on Intelligence*, <https://www.dni.gov/files/documents/Newsroom/Testimonies/20060202_testimony.pdf>, p. 24 (30.12.2021).

⁴⁴ *Ibidem*.

⁴⁵ See: *Annual Threat Assessment of the Director of National Intelligence*, <https://www.dni.gov/files/documents/Newsroom/Testimonies/20070111_testimony.pdf> (30.12.2021).

another dimension to the problem: “emerging pandemic also has the potential to be used as a weapon by a terrorist group or a technically experienced lone actor”⁴⁶. The 2009 edition of the report devotes a whole section to health issues with a series of warnings about emerging new deadly pathogens. It also discusses other possible public health problems with the potential to turn into a large-scale crisis, i.e. chronic diseases, tropical diseases and child mortality⁴⁷.

The 2010 report is released in time of the swine flu pandemic. It contains a section titled *Strategic Health Challenges and Threats*, which offers a detailed analysis of the pandemic threat, populations’ health worldwide and the lack of sufficient monitoring and surveillance systems. The report warns that the “international focus for avian influenza in Eurasia deflected international attention and resources away from the possibility of the emergence of a different virus, from another region, and from a different animal host”⁴⁸. A similar section is included in the 2011 report. The swine flu pandemic remains a main point of reference. The report underlines inadequate levels of pandemic preparedness in the world, also in developed countries⁴⁹. The 2012 report, in turn, remains silent about global health emergencies⁵⁰.

The next, 2013 edition of the assessment is prepared for the year, when the Middle East Respiratory Syndrome coronavirus (MERS-CoV), another zoonotic disease⁵¹. The report devotes a section to a brief discussion about the new, potentially dangerous pathogen, which can be a major disruption to global stability⁵². The 2014 report contains a section titled *Health Security Threats*.

⁴⁶ *Annual Threat Assessment of the Intelligence Community for the Senate Armed Services Committee*, <https://www.dni.gov/files/documents/Newsroom/Testimonies/20080227_testimony.pdf>, p. 43 (30.12.2021).

⁴⁷ *Annual Threat Assessment of the Intelligence Community for the Senate Armed Services Committee*, <https://www.dni.gov/files/documents/Newsroom/Testimonies/20090310_testimony.pdf>, p. 44 (30.12.2021).

⁴⁸ *Annual Threat Assessment of the US Intelligence Community for the Senate Select Committee on Intelligence*, <https://www.dni.gov/files/documents/Newsroom/Testimonies/20100202_estimony.pdf>, pp. 41-43 (30.12.2021).

⁴⁹ *Statement for the Record on the Worldwide Threat Assessment for the Senate Committee on Armed Services*, <https://www.dni.gov/files/documents/Newsroom/Testimonies/20110310_testimony_clapper.pdf>, pp. 31-33 (30.12.2021).

⁵⁰ *Unclassified Statement for the Record on the Worldwide Threat Assessment of the US Intelligence Community for the Senate Committee on Armed Services*, <https://www.dni.gov/files/documents/Newsroom/Testimonies/20120216_SASC%20Final%20Unclassified%20-%202012%20ATA%20SFR.pdf> (30.12.2021).

⁵¹ *Middle East respiratory syndrome coronavirus (MERS-CoV)*, <https://www.who.int/health-topics/middle-east-respiratory-syndrome-coronavirus-mers#tab=tab_1> (30.12.2021)

⁵² *Statement for the Record Worldwide Threat Assessment of the US Intelligence Community. Senate Select Committee on Intelligence* <https://www.dni.gov/files/NCTC/documents/news_documents/2013_03_12_SSCI_Worldwide_Threat_Assessment.pdf> (30.12.2021).

This section lists five sources of the potential global health emergency: “the emergence and spread of new or re-emerging microbes; the globalization of travel and the food supply; the rise of drug-resistant pathogens; the acceleration of biological science capabilities and the risk that these capabilities might cause the inadvertent or intentional release of pathogens; and adversaries’ acquisition, development, and use of weaponized agents. Infectious diseases, whether naturally caused, intentionally produced, or accidentally released, are still among the foremost health security threats”⁵³. The report estimates, that the global outbreak could last for approximately two years⁵⁴.

The 2015 edition also discusses the question of pandemic threat. It can be assumed, that the report was influenced by the Ebola virus outbreak in West Africa. The assessment warns, that “the world’s population remains vulnerable to infectious diseases because anticipating which pathogen might spread from animals to humans or if a human virus will take a more virulent form is nearly impossible”. There is also a reference to population density and interconnectedness as potential drivers of the pandemic⁵⁵. The 2016 assessment contains a reference to the Zika virus, which was the most important health emergency worldwide at that time⁵⁶. The report mentions other important driving forces behind the potential pandemic: “human encroachment into animal habitats, including clearing land for farm use and urbanization”⁵⁷. The 2017 edition of the assessment reiterates conclusions about the pandemic dangers from the prior reports, adding World Bank estimations of the cost of such an event (which is the equivalent of 4.8 per cent of global GDP, or more than \$3 trillion)⁵⁸. In 2018, the report underlined the raising frequency of disease outbreaks since 1980, pointing at population growth and urbanization, travel and trade patterns, and climate. MERS-CoV and various strains of influenza are listed as pathogens with particularly high potential for turning into

⁵³ *Statement for the Record. Worldwide Threat Assessment of the US Intelligence Community. Senate Select Committee on Intelligence*, <https://www.dni.gov/files/documents/Intelligence%20Reports/2014%20WWTA%20%20SFR_SSCI_29_Jan.pdf>, pp. 11-12 (30.12.2021).

⁵⁴ *Ibidem*, p. 12.

⁵⁵ *Statement for the Record. Worldwide Threat Assessment of the US Intelligence Community. Senate Armed Services Committee*, <https://www.dni.gov/files/documents/Unclassified_2015_ATA_SFR_-_SASC_FINAL.pdf>, pp. 10-11 (30.12.2021).

⁵⁶ *Zika virus*, <<https://www.who.int/news-room/fact-sheets/detail/zika-virus>> (30.12.2021).

⁵⁷ *Statement for the Record. Worldwide Threat Assessment of the US Intelligence Community*, <https://www.dni.gov/files/documents/SASC_Unclassified_2016_ATA_SFR_FINAL.pdf>, p. 14 (30.12.2021).

⁵⁸ *Statement for the Record. Worldwide Threat Assessment of the US Intelligence Community. Senate Armed Services Committee*, <<https://www.dni.gov/files/documents/Newsroom/Testimonies/SASC%202017%20ATA%20SFR%20-%20FINAL.PDF>>, p. 14 (30.12.2021).

a major, global threat⁵⁹. The last report before the SARS-CoV-2 pandemic does not introduce new questions regarding health emergencies. It reiterates points from previous assessments and adds an analysis of the connection between conflicts and violence and the spread of infectious disease and the underlining vulnerability of the U.S. and the world⁶⁰.

The 2020 edition of the assessment was not published – it was blocked by the Trump Administration at the begging of the pandemic.

Ignored warnings

Intelligence supplies the government with information that helps to make decisions. Unfortunately, this simple rule is very often unable to overcome political obstacles. When a major emergency turns into a political crisis, intelligence organisations are to blame for the lack of timely and accurate information and – in consequence – lack of preparedness.

President Donald Trump simply choose to avoid another wave of critique and decided to block the publication of the Worldwide Threat Assessment report. According to *Time*, two senior government officials confirmed, that the 2020 edition of the report contained another warning about the potential global health emergency and underlined U.S. and world's vulnerability⁶¹. It was rather a symbolic move than a real action against the U.S. Intelligence Community, which often disagreed with President's view. If this question is tied to a massive critique of the Trump Administration's conduct during the pandemic, the approval ratings and PR questions can be seen as the most important factors behind this decision.

This case shows the larger problem of the appropriate use of intelligence information by top government officials. As it can be seen, in the period immediately preceding the pandemic, the Trump administration did nothing to raise the level of preparedness of the health security system. Contrary, the Administration cut funds in critical areas. In 2018 the Global Health Security and

⁵⁹ *Statement for the Record. Worldwide Threat Assessment of the US Intelligence Community*, <<https://www.dni.gov/files/documents/Newsroom/Testimonies/2018-ATA---Unclassified-SSCI.pdf>>, p. 17 (30.12.2021).

⁶⁰ *Statement for the Record. Worldwide Threat Assessment of the US Intelligence Community*, <<https://www.dni.gov/files/ODNI/documents/2019-ATA-SFR---SSCI.pdf>>, (30.12.2021)

⁶¹ J. Walcott, *The Trump Administration Is Stalling an Intel Report That Warns the U.S. Isn't Ready for a Global Pandemic*, <<https://time.com/5799765/intelligence-report-pandemic-dangers/>> (30.12.2021). See also: *Statement before the U.S. Senate Committee on Armed Services Subcommittee on Emerging Threats and Capabilities. Biological Threats to U.S. National Security*, <https://www.armed-services.senate.gov/imo/media/doc/Gerberding_11-20-19.pdf>, p. 4 (30.12.2021); *Partly false claim: Trump fired entire pandemic response team in 2018*, <<https://www.reuters.com/article/uk-factcheck-trump-fired-pandemic-team-idUSKBN21C32M>> (30.12.2021).

Biodefense unit within the National Security Council was largely disbanded with some of its members reassigned to other positions (also within the health security realm), which disrupted U.S. preparedness and capabilities⁶². The Administration has also tried to cut funding for the Centres for Disease Control and Prevention (the claim that it succeeded was verified as false)⁶³. This was the question of the political line of the Administration, but the problem is more complex.

The allocation of constrained resources is a difficult political decision. A warning about a pandemic is just one of many warnings passed by the U.S. Intelligence Community (and every other intelligence organisation). Prioritization of these warnings is a political question which is addressed differently by different political forces. How severe the pandemic threat was and what was the level of the Administration's awareness (Trump's and his predecessors') remain unknown because naturally, the most important and valuable intelligence is classified.

It is also required to consider the societal level of this question. This article discusses publicly accessible U.S. intelligence forecasts which should act as knowledge sources and awareness-building tools. Both in the U.S. and the world, because of the significance to the U.S. itself and the efficiency of American intelligence services (which was shown before the Russian invasion of Ukraine). It became clear, that those warnings were not appropriately understood and processed by authorities and societies.

Conclusion

The hypothesis put by the author was positively verified. The U.S. Intelligence Community repeatedly issued warnings about the growing threat of deadly pathogens generating global crises. That warning was ignored by successive Administrations in the U.S. The reasons for this ignorance varied from the mundane question of budget priorities to a lack of will to listen to the spies 'warning about the end of the world' every day. The authorities must have chosen between different threats to address. However, it is clear, that the level of preparedness for a pandemic should and could have been higher. Those warnings were also ignored by society in general, so there was no pressure on the government to act by tying this question to the political process.

The main objective of security forecasting is not the highest accuracy (although, some of the discussed scenarios were accurate), but to cause changes

⁶² L. H. Sun, *Top White House official in charge of pandemic response exits abruptly*, <<https://www.washingtonpost.com/news/to-your-health/wp/2018/05/10/top-white-house-official-in-charge-of-pandemic-response-exits-abruptly/>> (30.12.2021).

⁶³ L. H. Sun, *CDC to cut by 80 percent efforts to prevent global disease outbreak*, <<https://www.washingtonpost.com/news/to-your-health/wp/2018/02/01/cdc-to-cut-by-80-percent-efforts-to-prevent-global-disease-outbreak/>> (30.12.2021).

in approach, awareness, contingency planning, resources preparations and mindset – here and now.

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3. *Annual Threat Assessment of the Director of National Intelligence*, <https://www.dni.gov/files/documents/Newsroom/Testimonies/20070111_testimony.pdf>
4. *Annual Threat Assessment of the Intelligence Community for the Senate Armed Services Committee*, <https://www.dni.gov/files/documents/Newsroom/Testimonies/20080227_testimony.pdf>
5. *Annual Threat Assessment of the Intelligence Community for the Senate Armed Services Committee*, <https://www.dni.gov/files/documents/Newsroom/Testimonies/20090310_testimony.pdf>
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NATO'S ROLE IN COVID-19 PANDEMIC MANAGEMENT

Abstract:

The emergence of the COVID-19 pandemic has created a state of insecurity in the international arena. To combat the COVID-19 pandemic, but also to reduce the detrimental consequences on international security, virtually all international organizations have been involved, including NATO. In the context of the emergence of the COVID-19 pandemic, NATO's involvement in managing the pandemics deserves attention. Although some voices criticize NATO's work, it is worth noting the Alliance's efforts to reduce the impact of COVID-19 on international security. This article aims to highlight the main NATO activities in managing and mitigating the impact of the COVID-19 crisis on international security.

Keywords:

COVID-19 crisis, NATO, pandemic, impact, state, politics, international security

Introduction

Today, the North Atlantic Treaty Organization (NATO) is no longer a mere military organization, nor it is an exclusive defence organization. Since its inception in 1949, the main task of the Alliance has been to focus on collective defence operations. This was present until the early 1990s. But the reality of the world has helped NATO to adapt to new scenarios and geopolitical realities.

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Since 1991, NATO has become a defence and security organization. After the 2010 Lisbon Summit, NATO became a security and defence³ organization and it is not excluded the fact in the future NATO will become a classic security organization.

Although the emergence of the COVID-19 pandemic has brought criticism to NATO's work, as have other international organizations, the Alliance has worked hard to monitor the evolution of the COVID-19 pandemic, and all its member countries have taken precautionary measures⁴. In the current international context, NATO involves close cooperation between the 30 member states and the other 20 partner countries⁵.

NATO's involvement in managing the COVID-19 pandemic

For a better understanding of NATO's involvement in managing the COVID-19 pandemic, it is necessary to make a brief analysis of the provisions stipulated in the text of the Treaty establishing the Alliance. Thus, Article 5 of the North Atlantic Treaty provides for the right to collective self-defence, clarifying the alliance's collective responsibility for a unified response to an attack on any of its parties. Article 3 is also quite significant, stating: „In order to achieve more effectively the objectives of this Treaty, the Parties shall, separately and jointly, through continuous and effective self-help and mutual assistance, maintain and develop individual and collective ability to withstand armed attack”. It follows from the provisions of Articles 5 and 3 that individual Member States have an obligation in peacetime to maintain a level of responsiveness and preparedness that allows them to address ‘vulnerabilities’ in carrying out collective defence missions. According to this interpretation, Article 3 complements the collective defence clause in Article 5 and shows that maintaining and strengthening the resistance of the Member States is also an obligation. This implies that ‘vulnerabilities’ that may affect Member States' response during emergencies should be eliminated in advance in peacetime, as part of the process of preparing a resilient system. The ‘vulnerability’ anticipated by NATO will gradually change with the environment surrounding the alliance, as evidenced by its new strategic and high-level concepts.

In this context, the meeting of the foreign ministers of the Member States of the Alliance on April 2, 2020, deserves attention. During this event the general secretary of NATO, Mr Jens Stoltenberg suggested that the spread of

³ *Gestión de Crisis en la OTAN*, <https://iugm.es/wp-content/uploads/2016/07/06-08_05_2015.pdf> (30.11.2021).

⁴ *Réponse de l'OTAN au COVID-19*, <https://www.nato.int/cps/fr/natohq/news_174271.htm?selectedLocale=fr> (30.11.2021).

⁵ *L'OTAN, un acteur de la gestion du spectre en Europe*, <<https://www.anfr.fr/toutes-les-actualites/actualites/lotan-un-acteur-de-la-gestion-du-spectre-en-europe/>> (30.11.2021).

infected diseases, such as COVID-19, together with those related to transborder threats, such as international terrorism and attacks on cyber and external space systems, should be included in the category of vulnerabilities for NATO. It can therefore be assumed that NATO will hold wide-ranging discussions on developing resilience against pandemics⁶. Among NATO's core 'collective defence', 'crisis management' and 'collective security' missions, these actions may be included in the 'crisis management' category, but will be designed in response to pandemics such as COVID-19 in the future and will be carried out as part of a 'collective defence' mission.

At the NATO Foreign Ministers' Meeting in April 2020, the Allied Commander-in-Chief of Europe (SACEUR) was authorized to unilaterally carry out coordination activities for air transport and surplus cargo as part of the response to COVID-19. NATO has also formed a COVID-19 working group (CVTF) to accelerate SACEUR's decision-making process. NATO has created an environment in which it can react more quickly as a military alliance without being bound by adjustments of political interest between member countries⁷.

Since the beginning of the health crisis, we have noticed a varied involvement of the armed forces in the fight against COVID-19, on which the states have communicated more or less. In many European countries, armies have for the first time played a logistical role, in the movement of equipment, the transfer of patients, the transport of masks and/or the (co) organization of repatriation flights. In addition, they have often provided care for civilians: receiving patients in military hospitals, setting up field hospitals and strengthening civilian care units, for example. In some states, in addition to the internal security forces, the military has also contributed to maintaining order, monitoring people and their property, and verifying compliance with containment measures⁸.

Beyond the political perception that NATO failed the solidarity test, the practical realities of the pandemic called into question the operational basis of NATO's deterrent mission: the ability to gain enough strength to deter or repel any possible incursion. The pandemic outcome has forced member states to withdraw their national contingents from missions outside NATO borders to focus on the COVID-19 battlefield. Norway has cancelled its regional 'defence' exercise, which was expected to take place in March 2020, and other

⁶ *Ministros de defensa de la OTAN evaluarán la respuesta de la alianza al coronavirus*, <<https://www.aa.com.tr/es/mundo/ministros-de-defensa-de-la-otan-evaluar%C3%A1n-la-respuesta-de-la-alianza-al-coronavirus/1805128>> (30.11.2021).

⁷ *NATO's Response to the Coronavirus Pandemic: Security Implication for Japan*, <https://www.spf.org/jina/en/articles/nagashima_01.html> (30.11.2021).

⁸ *Le monde militaire face au COVID-19*, <<https://theconversation.com/le-monde-militaire-face-au-COVID-19-141181>> (30.11.2021).

countries, such as Finland, have been reluctant to deploy their forces. NATO's main European exercise for 2020, 'European Defender', has been postponed.

NATO's role in the crisis has largely focused on providing military air transport to supplement civilian resources. As passenger traffic has fallen significantly, civilian airlines are offering increased support for freight in the current phase of the Coronavirus crisis. Military air transport provided support in transporting civilian goods, patients or medicines to critical points in the response chain during the crisis. On 2 April 2020, NATO's Rapid Air Mobility (RAM) capability was activated by the North Atlantic Council, which facilitated the possibility of moving military aircraft through European airspace. According to Camille Grand, NATO's Under-Secretary-General for Defence Investment, „COVID-19 is a different scenario than I anticipated [for RAM]”.

On April 10, 2020, Turkey launched the first COVID-19 flight using RAM in support of the United Kingdom. According to Tony Osborne of Aviation Week, the Turkish A400M aircraft carried medical equipment for the UK National Health Service. Turkey, the Czech Republic, Hungary, the Netherlands, Norway, Slovenia and the United States have sent medical and financial assistance to NATO's new ally, Northern Macedonia. Turkey has also supplied medical supplies to the United Kingdom, Italy, Spain and Montenegro and NATO partners in the Balkans, including Montenegro, Bosnia and Herzegovina, Serbia and Kosovo. Germany, Denmark and Luxembourg have sent protective equipment to Italy and Spain⁹.

In the aftermath of the COVID-19 crisis, there was European cooperation between NATO states through military air transport. Thus, Franco-German cooperation during the crisis deserves attention. „The French army has transported coronavirus patients to Germany, while German military transport planes have been transporting patients from France, signalling close bilateral relations”¹⁰. As Derek Chollet stated: „This crisis has tested NATO's ability to make quick decisions in exceptional situations. However, the unprecedented nature of the COVID-19 crisis is forcing the alliance to adapt to the new realities. The ability to deliberate remotely via secure video conferencing, which NATO foreign ministers have done, demonstrates that this is possible. Improving the speed and accessibility of decision-making will strengthen and enhance NATO's ability to respond to future crises”¹¹. „COVID-19 is an unprecedented challenge for our nations”, he added. „It has a profound impact on our people and our economies and imposes historic shocks on the international system, which could have long-term consequences”. He noted that

⁹ *Ministros de defensa de la OTAN...*, *op. cit.*

¹⁰ R. Laird, *NATO and the Coronavirus Crisis: An Input to Crisis Management Learning*. <<https://sldinfo.com/2020/04/nato-and-the-coronavirus-crisis-an-input-to-crisis-management-learning/>> (30.11.2021).

¹¹ *Ibidem*.

in each country, the army plays a key role in supporting civilian efforts against the pandemic. „And using NATO mechanisms, the Allies helped each other to save lives”, he added¹². NATO Command – led by the Supreme Allied Commander for Europe, Air Force General Tod D. Wolters, coordinated the activities of the 30 allies. „Military forces across the Alliance have organized more than 100 missions to transport medical personnel, supplies and treatment capacity, facilitated the construction of 25 field hospitals, added more than 25,000 treatment beds and involved more than 4,000 medical staff. In support of civilian efforts, military air transport has been instrumental in the fight against coronavirus, and military personnel have been involved in activities from disinfecting public spaces to controlling border crossings, and NATO has helped mobilize and coordinate support for NATO allies”¹³.

Although the Alliance does not have its own resources to fight coronavirus, it intends to coordinate the actions of its member countries. Specifically, NATO will deliver medical equipment quickly when needed. „NATO was created to deal with crises. So we can help”, Stoltenberg said. NATO's main task, according to Stoltenberg, remains discouragement and defence. „Our first priority is to make sure that the current health crisis does not become a security crisis”¹⁴. The alliance has responded quickly and effectively to mitigate the impact of the coronavirus spread in early 2020. To date, NATO has coordinated well over 350 missions to transport medical personnel and supplies, build field hospitals and provide tens of thousands of beds treatment. Demonstrating their key role in crisis response, Allied military forces are helping to save lives and extinguish the spread and impact of the deadliest pandemics in a century¹⁵. In the context of the COVID-19 crisis management, the activity of the NATO laboratory, the Centre for Maritime Research and Experimentation (CMRE), based in La Spezia, Italy, which assisted the American state in managing the blockade of COVID-19, also deserves attention. CMRE's collaboration with the University of Connecticut (UConn) has developed the ability to predict the expansion of COVID-19. Scientists

¹² *Ibidem.*

¹³ *NATO Defense Ministers Discuss Alliance's COVID-19 Response*, <[https://www.defense.gov/Explore/News/Article/Article/2151837/nato-defense-ministers-discuss-alliances-COVID-19-response/st-COVID environment](https://www.defense.gov/Explore/News/Article/Article/2151837/nato-defense-ministers-discuss-alliances-COVID-19-response/st-COVID%20environment)> (30.11.2021).

¹⁴ *Stoltenberg zajął o diejesposobnosti NATO, niesmotria na koronawirus*, Deutsche Welle, <<https://tinyurl.com/2p8b2d9h>> (30.11.2021).

¹⁵ *A. Mesterhazy, 2020 – The role of NATO'S Armed Forces in the COVID-19 Pandemic*, <<https://www.nato-pa.int/document/2020-role-natos-armed-forces-COVID-19-pandemic-mesterhazy-091-dsc-20-e>> (30.11.2021).

from the Centre and University professors contributed to the work of the Board of the Connecticut Academy of Science and Engineering¹⁶.

In the wake of the COVID-19 pandemic, foreign ministers from 30 NATO member states held a virtual meeting on 16 April 2020 for the first time in the history of the alliance moderated by Atlantic Council Executive Vice President Damon Wilson. Northern Macedonia participated in it for the first time as a new NATO member. The main subject of the video conference was the impact of the rapid spread of the SARS-CoV-2 coronavirus „on the alliance's readiness to defend itself”. „It is extremely important that NATO can continue to function during the crisis caused by COVID-19. After all, the threats and challenges we face have not disappeared”, said NATO Secretary-General, Jens Stoltenberg¹⁷.

NATO Deputy Secretary General, Mircea Geoana, provided an overview of NATO's role in the COVID-19 crisis. According to Geoana, NATO's defence ministers agreed that „anyone who has something in excess – because not all countries have been affected equally – [should] use the [NATO] coordination mechanism and ensure that the most needed states should receive support”. Mircea Geoana also mentioned that the first reaction of many governments to the pandemic was naturally „to take the best care of their own citizens”, but argued that „after the first shock, we began to realize that this is something you can't do on your own – we need each other”. We weren't perfect, „he argued, but I believe that, following the initial instinct to focus on our own [countries], we see now a renewed sense of solidarity from the United States to northern Macedonia”. Ongoing training is important because „common security threats and concerns have not disappeared due to the pandemic”. The main mission of NATO at the moment is „preventing the escalation of a global health crisis that could become a security crisis”. The main activity of NATO, according to Geoana's position, is to protect one billion people from the coronavirus pandemic.

COVID-19 crisis management issues also included the approval by NATO foreign ministers of additional measures to support Ukraine and Georgia – in addition to existing aid packages such as: exercises, access to NATO's educational programs, and the exchange of radar data, which will improve the understanding of the situation with air activity in the region. The Alliance will also more actively involve Ukraine and Georgia in its exercises in the Black Sea region¹⁸. The foreign ministers of external affairs from NATO member states, joined at the video conference, the first in its history, assured that the

¹⁶ *Coronavirus response: NATO scientists help Connecticut forecast the spread of COVID-19*, <https://www.nato.int/cps/en/natohq/news_177078.htm> (30.11.2021).

¹⁷ *NATO și UE pe fundal de coronavirus*, <<https://moldova.europalibera.org/a/nato-%C8%99i-ue-pe-fundal-de-coronavirus/30608266.html>> (30.11.2021).

¹⁸ *Wirtualnoje zasiedanije NATO na fonie COVID-19: o czem szla riecz?*, Deutsche Welle, <<https://tinyurl.com/yv4jzfzd>> (30.11.2021).

Alliance remains fully operational so that the coronavirus health crisis does not lead to a security crisis, and engaged in the fight against COVID-19 by coordinating transport used to evacuate the sick and provide medical equipment¹⁹.

Thus, in the context of the COVID-19 crisis, NATO has taken on the responsibility of undertaking the following steps:

Reducing defence budgets. A few months after the COVID-19 emergency, much of the global economy is facing a deep recession, the impact of which, according to the International Monetary Fund, could outweigh the global financial crisis of 2008/2009. Due to the unknowns about how the pandemic will continue to evolve, economic forecasts range from a 5-10% drop in global GDP. Once national restrictions are lifted, national governments will have to focus their political energies on reviving economic productivity, encouraging public consumption, reducing mass unemployment and providing basic public and social services. Depending on how long COVID-19 continues to destroy Europe, North America, Asia and other continents, the economic recovery will take years, not months. Despite substantial financial support from the European Union's financial institutions, the vast majority of European countries will be extremely reluctant to allocate limited financial resources to improve their national defence capabilities and maintain costly procurement programs. NATO allies will need to find smart ways to adjust their defence capabilities to traditional security threats (nuclear, conventional, cybernetic and hybrid) and the new challenges posed by climate change, pandemics, mass migration or disruptive technologies. The coronavirus pandemic has changed the nature of the alliance's threat perception. The pandemic threatens the personal security and economic prosperity of millions of NATO citizens. NATO is currently undergoing a coronavirus test. To deal with coronavirus (and future pandemic outbreaks), the organization needs the involvement of military capabilities on the part of the Member States. If we consider that one of the impacts of the COVID-19 pandemic is that military spending in many alliance member states will be reduced, then it is likely that they will be dedicated to strengthening humanitarian assistance/rescue missions, as well as improving internal security and the protection of land and sea borders. The British decision to withdraw forces from the Iraqi training mission to redeploy them for internal service may become a defining trend in the future²⁰.

¹⁹ *NATO se implică în lupta împotriva pandemiei și lucrează pentru ca această criză să nu se transforme în una de Securitate*, <<https://www.jurnal.md/ro/news/587c12010020c812/nato-se-implica-in-lupta-impotriva-pandemiei-si-lucreaza-pentru-ca-aceasta-criza-sa-nu-se-transforme-in-una-de-securitate.html>> (30.11.2021).

²⁰ N. K. Gvosdev, *The effect to COVID-19 on the Alliance*.< <https://www.fpri.org/article/2020/03/the-effect-of-COVID-19-on-the-nato-alliance/>> (30.11.2021).

Leadership without leading. In recent years, political relations between the two sides of the Atlantic have worsened due to the transactional policies of US President Trump and his style of administration. Transatlantic solidarity has reached a low point since the outbreak of the coronavirus crisis. Instead of accumulating political solidarity among America's closest allies, providing practical support to Europeans in great need (such as Italy and Spain) and leading a strengthened effort to alleviate the global health crisis, President Trump has made it clear that he goes without saying that he is only concerned with personal interests and political gain. More significantly, the US president has continued to question the threat of the pandemic. The prospect of building a US-led grand coalition to fight COVID-19, using, for example, NATO or a coalition of the willing, seems distant. Meanwhile, there is evidence that the United States is dramatically affected by the pandemic; both in terms of the number of people infected and, more broadly, economically and politically. America's economy appears to be on the verge of a major blow, with potential long-term consequences for its world leadership status. Finally, in NATO and EU countries, where governments are severely managing the coronavirus crisis, top leadership changes could also occur in NATO countries, public health systems are under severe stress, and governments lack the financial resources to relaunch the national economy. Regardless of the long-term political downturn of the current health crisis for NATO member states, America's reputation as a global leader has already had a serious effect.

Unity and intra-alliance cohesion, are two terms – that NATO uses in its strategic messages. Before the coronavirus pandemic, controversial issues ranged from Turkey's intervention in Syria and the division of tasks to how to respond to security challenges at NATO's southern borders. At the heart of these issues and related political disagreements is an extremely fragile consensus on NATO's core threats and how to respond to them. These and other political disagreements will certainly not go away in the future, but intra-European rivalry over access to financial funding and EU-sponsored ways of economic recovery will emerge strongly when national blockades are lifted.

The presence of disagreements between NATO allies over their future relations with China is also noteworthy. Before the outbreak of COVID-19, Washington pressed hard on European capitals to ban Huawei G5 technologies in their markets. Under US pressure, China has been described as an 'aggressive strategic competitor' in NATO documents. But will this view be equally strongly supported by all allies now in the case where Beijing has provided considerable medical support to Europe? While China's communist leadership will not reconsider the country's long-term strategic goals, in the absence of a credible role for the US leadership in this global emergency, several European allies may be tempted to look more closely at Beijing and a

little less Washington, as they are absorbed. At present, it is difficult to assess how the global pandemic will affect the West's relationship with Russia. Much will depend on the extent to which Russia is affected by the disease and whether President Putin will be prepared to use the current political crisis management provision in Europe to signal his readiness for 'emergency cooperation' with some European countries. However, we should expect him to try to take advantage of the current political turmoil in the United States. For that to happen, we can expect Putin to stress the importance of lifting economic sanctions against Russia.

NATO military force capability. The military forces (and their families) are not immune to disease. Quarantine measures and an increasing number of infected military personnel can seriously jeopardize the planning, deployment and operation of forces, as well as logistical, supply and transport activities. The ongoing performance of key assets (eg special forces, command and control units, and missile forces) is vulnerable because they require specialized knowledge and training, which means that infected units cannot be easily replaced. The alliance has already begun to feel the effects of the pandemic. Norway has called for a major regional exercise (Cold Defender 2020) and another major 'European Defender' exercise aimed at demonstrating both NATO's firm resolve towards Russia and the US's ability to consolidate quickly the continent.

In the meantime, the U.S. European Command has released a list of other long-planned exercises that will be cancelled or postponed until the end of this year. On March 25, 2020, the Pentagon ordered all U.S. forces abroad to stay for 60 days; that is, they are not allowed to move in any direction. The British, German and Dutch decisions to withdraw the remaining forces from the NATO training mission in Iraq to redistribute them for internal services, may be followed by other NATO allies. It is also to be expected that other missions and operations abroad, such as NATO operations in Afghanistan, will have to deal with the postponement of troop rotation and withdrawal plans due to quarantine measures affecting both Afghan troops and security forces. Moreover, Germany, France and Italy have begun to rely on their military to set up medical facilities and provide transport in support of home hospitals.

NATO actions on the southern region. In recent years, NATO has viewed its southern borders primarily through the threat of terrorism and illegal migration. On a case-by-case basis, the Allies have decided to contribute to the stabilization of the countries of the Middle East and North Africa through security training and capacity-building programs. In the future, NATO allies' political readiness to deploy military forces and resources in the southern region may diminish. This is because, first and foremost, financial and military resources are likely to be limited, so national governments will face tough

political choices; and, secondly, the countries of the Middle East and North Africa may have to deal with an exponentially increasing number of COVID-19 infections. A worst-case scenario would certainly be an aggressive outbreak of coronavirus infections in countries such as Egypt, Algeria or one of the refugee camps in Lebanon, Jordan or Syria. In such a scenario, European countries would most likely consider sound border control operations to prevent the massive influx of infected migrants into Europe's shores²¹.

As COVID-19 cases have spread across Europe, threatening the lives of 1 billion people in member states, NATO, as a collective defence mechanism, has maintained a low presence, perhaps due to the principle that each country has authority over its medical health care. Even when the WHO warned in mid-March that „Europe has now become the epicentre of the pandemic”, the supreme decision-making body, the North Atlantic Council (NAC), did not begin discussing the COVID-19 outbreak.

COVID-19 presents a new set of security challenges. The pandemic shocks open up new areas of vulnerability for the Euro-Atlantic family, many of which could be exploited by Russia and China through hybrid campaigns. Resistance to hybrid activity is essential to ensure states are prepared for all military challenges. NATO's 2015 strategy to combat hybrid warfare needs to be updated to include lessons learned on COVID-19 and the intensification of Russian and Chinese hybrid activity against NATO, the EU and their Member States. Priority must be given to building sufficient capacity on NATO's eastern flank to enable the most exposed states to withstand hybrid risks and threats²².

Adequate defence funding in a transformed post-COVID security environment is essential if NATO East Side members are to meet their Article 5 and non-Article 5 obligations and commitments. For this reason, the Wales Summit investment commitment Summit (DIP) should be updated to reflect the new global economic outlook. The agreed guidelines on the allocation of two per cent of GDP for defence are valid only in the context of projected economic growth. Increasing defence spending probably requires more capacity and consolidation. To avoid this scenario, all NATO allies should consider a commitment to increase defence spending in real terms, including during periods of negative economic growth. The enduring pressure on defence spending will certainly be felt throughout the Alliance. Central and Eastern European allies are likely to be even more affected. They will need significant investment in new NATO interoperable systems and platforms. These countries

²¹ *Koronawirus mieniajet plany uczenij SSZA i NATO: mien'sze uczestnikow, opieracyi — tolko na morie*, <<https://www.kurier.lt/koronavirus-menyayet-plan-y-uchenij-ssha-i-nato-menshe-uchastnikov-operacii-tolko-na-more/>> (30.11.2021).

²² *Ibidem*.

will have to simultaneously decommission the military equipment inherited and manufactured by the Soviets, which consumes a large part of their resources. NATO should give priority to strengthening the defence capabilities of its East Side member states. Given the funding gap, the only way forward is to share the task of capacity building. This would mean launching and carrying out joint multinational capacity-building projects within NATO, as well as the framework for permanent structured EU cooperation (provided they do not overlap). Better spending, therefore, means spending together and sharing capacity. Joint capacity-building projects should become a priority. This is particularly relevant concerning the continued military construction of the NATO presence (in the Baltic Sea) and the adapted presence (in the Black Sea), as agreed at the 2016 Warsaw Summit. This is an important component of NATO's enhanced deterrence and defence stance that would allow it to meet any challenge from the East and revengeful Russia in particular. Ideally, this would be done at the regional level to allow cooperation between the Baltic and the Black Sea allies.

The eastern flank of the Atlantic Alliance and the most vulnerable to Russian and Chinese subversive activities. China is trying to penetrate the Black Sea countries primarily through economic means, using foreign direct investment as the main tool to ensure long-term impact. The COVID-19 crisis will cause further complications, as it will open up new opportunities for the expansion and exploitation of the vulnerabilities of the Black Sea countries. Stronger deterrence would require an adaptation of the NATO Defense Planning Process, especially the capacity targets of the eastern flank members. The eastern military adaptation would be particularly useful in prioritizing future military acquisitions, given the limited financial resources of these countries and the enormous investments required to rearm their armed forces. Prioritizing deterrence in defence planning - while focusing on cost-sharing through joint capacity-building projects and joint defence investment - is the only possible path for NATO's eastern flank members in a post-COVID strategic context²³.

Defence reform among NATO's eastern members and NATO's valuable partners in Eastern Europe is an unfinished activity, with the best results yet to come. COVID-19 presents new and complex challenges for both allies and national security and can be seen as a perfect catalyst for change. NATO, no doubt, must try to bring about change, especially in Central and Eastern Europe, where defence institutions are still under-reformed and under-transformed. The rapid transformation of defence institutions will

²³ *NATO gotowitsia k dolgosrocznym posledstwijam pandemii COVID-19*, <<https://www.pravda.com.ua/rus/news/2020/05/12/7251384/>> (30.11.2021).

ensure that states are better prepared in a security environment aggravated by COVID-19.

Conclusions

The way, in which different actors (nations) organize their comprehensive approach and crisis response mechanisms to combat the COVID-19 crisis, should be carefully analyzed and studied, as there are gaps in the organization, implementation of interfaces and optimization of the crisis through mechanisms of response to combat these challenges. Crises provide an opportunity for deep, long-term and systematic learning, from combating COVID-19 to combating hybrid threats, conflicts and wars²⁴. The main lesson so far is that there is a close link between civilian efforts to combat the health crisis and the military's ability to support these efforts. NATO cannot shift its core responsibility in defending the Member States, but there are good reasons to further strengthen cooperation between civil society fighting a health crisis and military capabilities that support these civilian efforts.

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²⁴ *The COVID-19 crisis situation – a hybrid warfare perspective*. <<https://www.hybridcoe.fi/news/the-COVID-19-crisis-situation-a-hybrid-warfare-perspective/>> (30.11.2021).

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THE ASYMMETRIC THREATS IN GLOBAL SECURITY AND THE MILITARY-POLITICAL ASPECTS OF BIOSECURITY

Abstract:

It is noteworthy, that in the modern international security environment, states have many threats, risks and challenges. States have to fight and deal with them, which requires great and significant efforts. It is also important to develop and implement the right strategies for risks and threats. The issue of biosecurity has become quite topical in the context of the worldwide Covid pandemic. The states try to help each other in fighting the pandemic. Because all of this has taken on a global face, which has somewhat increased the interdependence between them. The paper discusses the asymmetric threats in the 21st Century that pose a significant challenge to global security. Also, significant attention is paid to the military-political aspects of biosafety and biosecurity issues. The threats posed by weapons of mass destruction in the context of biosecurity are discussed. The foundation of sustainable international security in the 21st century is to develop and enhance the form of international cooperation, as well as to jointly fight the new threats and challenges of modernity. The states, international and regional organizations have an important role to play in protecting global security because without them it is impossible to fight modern threats.

Keywords:

Biosecurity, Covid-19 pandemic, asymmetric threats, global security, weapons of mass destruction, bioterrorism.

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Introduction

In the 21st Century, states face many threats and challenges. All of this has a significant impact on their security and the stability of the international security system. Also, it is quite important to highlight several factors that affect the security of the international system. These are: instability in various regions, armed conflicts and wars. These, as well as socio-economic and environmental factors, can affect security and stability. Lack of openness and transparency in military-political matters leads to serious negative consequences. It also causes a variety of conflicts. It must be said that existing agreements and international legal instruments on arms control, disarmament, non-proliferation, trust and security restoration, if not addressed in a timely manner, could have a significant impact on world security.

When discussing issues such as armed conflict and war, it is important to clarify the meaning of both terms. There is no treaty definition of 'armed conflict', including within the text of the Geneva Conventions 1949 or Additional Protocols 1977. Therefore, international case law, State practice and academic scholarship have been especially important in determining the legal meaning and parameters of this concept. Two categories of armed conflict are identified under the existing treaty regime: international armed conflicts (IAC) occurring between two or more States, and (b) non-international armed conflicts (NIAC) which occur between State and non-governmental armed groups, or only between armed groups¹. War, in the popular sense, is a conflict between political groups involving hostilities of considerable duration and magnitude. In the usage of social science, certain qualifications are added. Military writers usually confine the term to hostilities in which the contending groups are sufficiently equal in power to render the outcome uncertain for a time. Armed conflicts of powerful states with isolated and powerless peoples are usually called pacifications, military expeditions, or explorations; with small states, they are called interventions or reprisals; and with internal groups, rebellions or insurrections. Such incidents, if the resistance is sufficiently strong or protracted, may achieve a magnitude that entitles them to the name 'war'².

In the modern period, the most widespread category of threats to the member states of the international system, as well as to the people, remain the threats posed by interstate and intra-state conflicts. Such conflicts also pose a

¹ *Categorization of an armed conflict*, United Nations Office on Drugs and Crime, July 2018, p. 1, <<https://www.unodc.org/e4j/zh/terrorism/module-6/key-issues/categorization-of-armed-conflict.html>> (30.11.2021).

² J. Frankel, *War*, "Britannica", March 2021, p. 1, <<https://www.britannica.com/topic/war>> (30.11.2021).

threat to neighbouring territories. That is, it can lead to instability and other threats, such as asymmetric threats and, above all, terrorism, the proliferation of small arms and light weapons (SALW). Also, human rights violations, mass deportations, deteriorating socio-economic conditions and illegal migration are quite common in the world. Illegal migration is accompanied by the threat of terrorism. It is quite difficult to control those people and identify who is crossing the border of that state illegally.

It is necessary to separate the role of weapons of mass destruction in global security from the above-mentioned threats and risks. The most important threat is the issue of chemical, biological, radiological and nuclear safety, which can cause the greatest harm to humanity, living populations and the world as a whole. Indeed, the discovery of these weapons of mass destruction in the hands of terrorists will lead to the greatest threats and human losses. It must be said that terrorists are focused on seizing certain components of these weapons in order to be able to carry out large-scale terrorist acts. However, counterterrorism cooperation is essential to prevent these threats and risks. Also, international or regional organizations such as NATO, UN, OSCE, EU, etc. involvement. In this paper, we provide an overview of asymmetric threats and the current military-political landscape of biosecurity threats, since the ongoing COVID-19 pandemic revealed vulnerabilities on a global scale to biosecurity threats, including biological and chemical attacks.

Impact of asymmetric threats on global security

With the development of the new millennium, we see a sphere of security that has changed radically since the end of the Cold War and the end of the world bipolar system. It is noteworthy that in the modern multipolar world the world has faced new threats and risks. Old threats or risks have really changed and taken shape. All this made them more aggressive and made it quite difficult to fight them. It must be said that globalization is getting deeper and deeper, which has both positive and quite negative factors. These threats are mainly in the form of asymmetric threats or risks in the new international security environment. So it's quite important to re-evaluate the actual security architecture in the 21st Century, which requires serious effort. At the same time, it is clear that if we want to stabilize the security environment, we must look beyond our traditional military philosophy. Because with the advent of new technologies, approaches and methods of combat and war production are rapidly changing. Among today's most significant global security risks and challenges (except organised crime, weapons of mass destruction, or proliferation and arms control) are problems mainly related to terrorism,

nationalism and pluralism, environment, scarcity of resources, and demography and migration¹.

In the modern period, the world is witnessing elements of the production of the seventh generation warfare, which are manifested in various conflicts. Examples of seventh-generation warfare include hindering the enemy's commercial and military communications systems, power grid and water utilities, using advanced electronic warfare (EW) systems, cyber weapons and localised EMP (electromagnetic pulse) weapons². All of this poses really great threats to states and international or regional organizations. Therefore, the above structures should make more efforts to combat asymmetric threats. Therefore, if they are serious about dealing with new global security risks and challenges, then it would certainly be very difficult without a unified strategy. That is why they must unite and fight the threats posed by globalization.

Since the time of Clausewitz, it has been generally accepted that war is the continuation of politics by other, violent means. It is no longer possible to fully use this understanding of the war in the 21st Century. Obviously, not all contradictions in the world can be resolved by political means, and the use of armed violence in various forms continues into the new century. Accordingly, terrorists and non-state aggressive groups have resorted to asymmetric warfare to achieve their own goals. The main strategic goal of asymmetric warfare is psychological and not just military. All of this is a psychological threat to the enemy to carry out the political agenda by directly or indirectly instilling fear, panic and terror. In his typology of asymmetry, Kenneth McKenzie has identified six main types of potential asymmetric threats: nuclear, chemical, biological, information operations, operational concepts and terrorism³. Asymmetrical combatants mainly use invisible terrorist and irregular guerrilla warfare tactics. All of this is aimed at preventing direct military clashes with the superior forces of the adversaries. The essential strategic goal of Asymmetrical combatants is to win the hearts and minds of potential allies and supporters by gaining financial and logistical support. Through all of this, they are looking for ways to provide shelter and ways to fill their ranks with new fighters. It should be noted that no asymmetric organization or group can survive long if it does not have external support. This is where the key to fighting asymmetric threats comes into play. It is necessary to identify the states, organizations and certain groups or individuals that support terrorists

¹ R. Ivančík, V. Jurčák, P. Nečas, *On some contemporary global security risks and challenges*, "Security and Defence Quarterly" 3/2014, vol. 4, p. 35.

² M. O. Iftikhar, *The Stages Of War*, "The Nation", July 27, 2021 p. 1, <<https://nation.com.pk/2021/07/27/the-stages-of-war/>> (30.11.2021).

³ K. F. McKenzie Jr., *The Revenge of the Melians: Asymmetric Threats and the Next QDR*, Honolulu 2005; A. Lele, *Asymmetric Warfare: A State vs Non-State Conflict*, "OASIS", 20/2014, p. 99.

financially, assist with various technologies or means, provide shelter, assist in training, exercises, intelligence gathering and many other issues. It is the identification of such states and groups that should be most important for peaceful states, and international and regional organizations. In the new security paradigm of the 21st Century, concerns about the proliferation of sensitive technologies such as WMDs and missiles have assumed a new relevance because of the rise of non-state players and rogue states that may use such technology for asymmetric advantage¹. Because asymmetric threats have a significant impact on global security. That is when terrorists can seize certain components of weapons of mass destruction that pose the greatest threat to humanity. It is also detrimental to international peace and security. Also, we must consider, that some states, considering themselves protected by the deterrent effects of WMD, may feel emboldened to clandestinely support terrorism across borders to settle regional conflicts².

To better understand weapons of mass destruction we can summarize the acronym CBRNE, which means chemical, biological, radiological, nuclear and explosive. Weapons of mass destruction are weapons which can kill large numbers of people and cause catastrophic damage to cities, countries, nature and the biosphere, and are most commonly categorized as nuclear (to include 'dirty bombs'), biological and/ or chemical agents³. It is clear and noteworthy that even in the face of such threats, the support of terrorists cannot fully analyse the fact that they too may face quite large threats. Also, they clearly forget that there are no permanent allies in politics because achieving political goals is important and paramount for everyone. Asymmetrical combatants can also come out against states or groups that once supported them and therefore start fighting against them. Therefore, it should be noted that with international cooperation and joint efforts it is possible to combat asymmetric hazards with better results. It must be said that in the face of the threat of asymmetric warfare and the spread of WMD by terrorists, states ought to have a correct perception of real risks and threats. This is because the fight against global threats is ineffective.

Military-Political Aspects of Biosecurity and Existing Challenges

The problem of biosecurity is a growing concern among the world's population, politicians and scientists. This is because biological threats are gradually increasing. Also, biosecurity covers a wide range of issues that are

¹ A. Mallik, *Technology and Security in the 21st Century A Demand-side Perspective*, "SIPRI Research Report" No. 20, Oxford 2004, p. 18.

² *Ibidem*.

³ N. Brzica, *Understanding Contemporary Asymmetric Threats*, "Croatian International Relations Review CIRR", vol. XXIV (83) 2018, p. 38.

addressed in the modern context of national security in many states. As a necessary condition for the sustainable development of countries. Biosecurity is directly related to environmental safety and poses many risks or threats to humanity.

We can identify the classification of threats that pose a significant challenge to global security in the modern era, these are:

- Economic and social threats, including poverty, infectious diseases and environmental degradation;
- Interstate conflict;
- Internal conflict, including civil war, genocide and other mass atrocities;
- Asymmetric threats (terrorism);
- Environmental protection and biological safety;
- Nuclear, radiological, chemical and biological weapons;
- Cyberspace and the threats posed by it;
- Climate change;
- Information security (hybrid warfare).
- Transnational organized crime.

It is important to address these threats to the environment and biological safety. Throughout the history of human existence, humans have encountered many unfavourable ecological conditions. The causes of their origin are both natural (natural disasters) and anthropogenic problems. We should not be surprised, then, that society is evolving with industrialization, urbanization, and the acceleration of scientific and technological progress. Quite common are water pollution, air pollution, biological space, etc. Pollution problems gradually turned into a serious environmental problem of environmental degradation. The concerns of environmental scientists, public figures and politicians were reflected in the 1972 Declaration of the UN Stockholm Conference. Where it was presented that reflected a growing interest in conservation issues worldwide and laid the foundation for global environmental governance. The final declaration of the Stockholm Conference was an environmental manifesto that was a forceful statement of the finite nature of Earth's resources and the necessity for humanity to safeguard them¹. Despite the efforts of the international community, in recent decades, environmental problems have become more global in nature. Therefore, it occupies a prominent place in the agenda of international politics. It is noteworthy that military conflicts and wars significantly pollute the environment and create many threats that are becoming increasingly difficult to overcome.

¹ P. Boudes, *United Nations Conference on the Human Environment [1972]*, "Britannica", July 2010, p. 1 <<https://www.britannica.com/topic/United-Nations-Conference-on-the-Human-Environment>> (30.11.2021).

Environmental degradation directly affects the livelihoods of the planet's population, and therefore poses a serious threat. The main types of environmental degradation are global warming, ozone depletion, marine pollution, deforestation, desertification, soil depletion, overcrowding and massive food shortages, acid rain, the threat of nuclear catastrophe, global biodiversity decline, and hazardous waste. The 'gluttony' of the modern economy, international trade, technology and the fragility of ecosystems accelerate the process of environmental degradation, and increase the speed of the spread of threats.

The health challenges in the context of biohazards are becoming a safety priority due to the rapid spread of disease and viruses. Moreover, its impact on global health security is quite significant. Also, the biggest challenge is finding the causes of these diseases and preventing their spread. It is important to better understand biological hazards and biosecurity so that they do not confuse what we are actually talking about – biosecurity: the protection, control, and accountability for biological agents and toxins within facilities in order to prevent their loss, theft, misuse, diversion, unauthorized access, or intentional unauthorized release (adapted from WHO, 2006)¹.

It is important to note that in addition to these terms, biosafety and biological safety have many different definitions. For example, biosecurity refers to protecting the environment and humans from the threats posed by genetically engineered organisms, and so on.

It is noteworthy that after the First World War, many agreements were signed to protect the security of biological space and the environment. Began quite active negotiations to protect the global security space from chemical, and biological threats (after the advent of nuclear weapons in 1945). Negotiations were more successful in Geneva in 1925, with the signing of the "The Protocol for the Prohibition of the Use in War of Asphyxiating, Poisonous or other Gases, and of Bacteriological Methods of Warfare". On a proposal by the Polish representative, it was the first international agreement that included biological weapons as a separate arms category².

It is also important to focus on biological weapons in the context of biosafety. The use of biological weapons for offensive purposes is prohibited by the 1972 Convention. As of 2016, 178 countries had ratified and 6 had ratified. The main purpose of this convention is to prevent biological weapons attacks. This is because all of this can lead to the death of large numbers of

¹ D. S. A. Beeckman, P. Rüdelsheim, *Biosafety and Biosecurity in Containment: A Regulatory Overview*, "Frontiers in Bioengineering and Biotechnology", 30 June 2020, p. 1.

² *Ibidem*.

people and, at the same time, damage to the economy and infrastructure¹. Many countries, including those that have ratified the Convention, are conducting research into biological warfare, which is not prohibited under the Convention.

The development of means of transportation makes modern societies more vulnerable to various kinds of epidemics. In principle, the threat of cross-border epidemics is one of the oldest in human history. Suffice it to recall the Great Plague of 1348, which significantly reduced the population of medieval Europe, or the terrible flu epidemic (Spanish flu), which brought millions of Europeans to the grave in 1918. The colossal reduction in the 'pain threshold' of modern societies makes the governments of leading states take care of medical safety in the most remote parts of the world, stopping the spread of epidemics. The spread of the Covid-19 pandemic claimed the lives of millions of people and the economies of many countries were faced with a crisis. At this time, even scientists are talking about the emergence of new viruses that will be much more deadly and rapidly spreading. All of this requires significant attention from national governments and international organizations, as threats are avoided in a timely manner and pandemic situations are easily managed. It should be noted that in the context of asymmetric threats, this is compounded by the threat posed by terrorists who may use certain pathogens and viruses against humanity. Also, they can spread various deadly viruses.

An insurmountable fact of modernity is the application of new approaches to new achievements in the fields of science and technology. In connection with the extensive use of information technologies in various spheres of life, the state develops important infrastructure and important infrastructure facilities. Dynamics of technical and informational progress enable the emergence of new forms and methods of stagnation, which are applied as a separate form of separation of powers and regions, as well as in the whole region. Cyber-attacks and cyberterrorism also pose the greatest threats to humanity. All of this can lead to the theft of important information, formulas, critical infrastructure security systems, and so on.

Most importantly, in the dimension of modern threats, in the context of biosecurity, protection of critical infrastructure from terrorist attacks. In the case of terrorism, if biological agents are used, it is called bioterrorism. Terrorist organizations are actively monitoring biological laboratories and their staff. It is important to note that the protection of critical infrastructure, which can cause the death of millions of people, is a rather difficult process during hostilities. In addition to these disasters, nuclear war will cause large-scale disease and famine because it will long destroy the infrastructure necessary for

¹ V. Maisaia, A. Guchua, *NATO and Non-State Aggressive Religious Actors (Islamic Caliphate, Al Qaeda and Taliban) - The Fourth Generation War Strategy and Its Geopolitical Aspects of Regional and National Security (2010-2019)*, Tbilisi 2020. p. 204.

social life¹. It must be said that this is no longer about the conflict between the two states, but rather it is moving into the international dimension, which poses completely global security in the face of threats and challenges.

There is still no guarantee that numerous local wars and conflicts will not escalate into larger armed clashes, including with the use of nuclear weapons. As before, the world is full of various socio-political, economic, inter-ethnic, religious and other contradictions. The rivalry of world powers for energy, and above all oil and gas, resources is unfolding². However, new threats to international security and the national security of states are playing an increasingly important role. The role of nuclear deterrence in relations between the great powers has again increased, despite the fact that the number of these powers has grown. It must be said that new threats have become increasingly due to the development of technological means and communications. All this has led to the creation and intensification of a network of terrorist and criminal organizations. History proves that many security threats will never turn into a large-scale problem if they are identified and addressed at an early stage. That is why states and international and regional organizations have a great role to play in safeguarding stability before humanity, and in ensuring global security, which is impossible without them. Therefore, it is necessary for them to act at an early stage to reduce the likelihood of serious development of risks and threats at the level of national, regional and global security. The problem of international safety is current for all peace, and the struggle with modern threats is possible only when a constructive dialogue between the parties is realized and the realization of all mechanisms is regional and collective.

Conclusion

Emphasized in the 21st Century, world wars and instability are still features of the modern international system. Also, recent years have shown very clearly that the nature of the threat to international security has changed significantly. The global security risks and challenges are related to resource scarcity, proliferation, nationalism, the environment or biosecurity, migration, and terrorism. All of this, along with other security challenges and risks, has created a whole new security environment. Also, the asymmetric threat is another form and challenge to global security with internationally aggressive non-state actors. The threats posed by them are: bioterrorism, cyberterrorism, nuclear terrorism, etc. At what time, the monopoly of nation-states on the use of force

¹ P. D. Senarklen, I. Arifen, *International Politics: Modern Theories and Objectives*, Tbilisi 2014, p. 59.

² E. E. Gvenetadze, *Aspects of International Security*, "Lawyer World", 2017, p. 124.

is falling apart? The state borders have lost great importance and private actors are becoming increasingly powerful in international security.

Importantly, the threats posed by biosecurity, affect not only one state but also other states, as well as the world economy, politics, and social security as a whole, because they all depend on each other. As a result, the nature of war has changed and the centre of gravity in the 21st Century has become uncertain and vague. Also, the logic of winning and losing has changed as the enemy becomes unknown, so it is quite difficult to predict his reactions. It is also vital to identify potential threats and risk scenarios where these threats can escalate from abstract and hypothetical threats into real and serious problems. That is why finding solutions and timely response to their prevention is very important.

All in all, containment of asymmetric threats is essential as the military-political aspects of biosecurity increase. Coordination and cooperation between states, international and regional organizations, and global actors should also be strengthened. In whose hands are the main vectors of power and influence?

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**INTRODUCTION OF THE CLASSIFICATION IN ACCIDENT RISK
FACTORS, ITS INFORMATION CONTROL AND RESPONSE
ELEMENTS AT THE NATIONAL CENTRE FOR TUBERCULOSIS
AND LUNG DISEASES**

Abstract:

The current situation in terms of labour safety in the country is directly reflected in the process of stable development of the state. It is significantly connected to maintaining the skilled and strong working population in the state, and establishing and preserving a safe investment environment, which makes this field the most important one for the national security of the country. National Centre for Tuberculosis and Lung Diseases is trying to create and improve a safe working environment based on state position. This research also serves to share foreign experiences and respect the legislation of own state. Increasing awareness of information related to risk factors of accidents, occupational safety and risk assessment processes will further improve labour safety at the National Centre for Tuberculosis and Lung Diseases. In order to create sustainable national security within the states, complex measures are aimed at creating and strengthening a system of preventive labour safety. All employees have an obligation to take important preventive actions in the workplace and on the ground to prevent accidents, and occupational diseases, and to protect the health and life of the employees and others. In the process of organizing a safe working environment, special attention is paid to the identification of accident risk factors and the establishment of an information security process characterized by timeliness, reliability and completeness. Accordingly, since we will have a definite accident risk classifier, we can formulate a solid information security system. Such approaches help

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organizations, companies and manufacturing establishments to avoid any accidents in the workplace, respectively financial, moral and legal damage.

Keywords:

Tuberculosis and Lung Diseases, Risk Factors, Information control, Labour Safety

Introduction

The National Centre for Tuberculosis and Lung Diseases systematically plans and implements preventive measures based on the legislation of Georgia and international experience, processes of the incident and failed accident investigation, video training, video instruction, systematic procedures and instructions. The already mentioned opinion is confirmed by the statistical data, according to which:² The following measures were taken by the National Centre for Tuberculosis and Lung Disease Infection Control, Monitoring and Occupational Safety Service for January-November 2021: In terms of occupational safety, 1137 incidents were reported (including 2 incidents belonging to the minor accident category, a team investigation process was conducted around the failed 43 accident cases). In order to prevent a recurrence of incidents, the target groups and their leaders received 90 instructions, and 193 training (including 84 video training). There were 47 units of work safety procedures/instructions established, and an electronic library regarding labour safety. Systematically, the results of assessing the situation and risks were sent to employees by e-mail. Employees of all ranks, industry specialists and trade union representatives participated in all these processes. It should be noted that since January 2020³ the assessment of the workplace / on-site situation is carried out taking into account the physical, chemical and biological risk factors, which are based on Finnish experience and do not conflict with Georgian legislation, according to which:⁴

Physical factors are: temperature, humidity, air velocity, heat radiation, ionizing and non-ionizing radiation, industrial noise, ultrasound, infrared, vibration, predominantly fibrogenic aerosols (dust), lighting, aerosols, and

² *Analytical document on the work done by the National Centre for Tuberculosis and Lung Diseases, Infection Control, Monitoring and Occupational Safety Supervision Service from January to November 2021, N4985/05, National Centre for Tuberculosis and Lung Diseases, Tbilisi 30.11.2021, pp. 3-21.*

³ *Occupational safety assessment methodology (instruction) N 64/05, National Centre for Tuberculosis and Lung Diseases, Tbilisi 18.01.2020, p. 3.*

⁴ *Organic Law of Georgia: On Labor Safety, Georgian Parliament, Tbilisi 2019, <<https://matsne.gov.ge/document/view/4486188?Publication=1>> (30.12.2021).*

electrodes; Chemical factors include: chemical substances obtained, some substances of a biological nature (antibiotics, vitamins, hormones, enzymes, protein preparations) and/or substances for the control of which chemical analysis and detection methods are used; Biological factors are viruses, living cells and spores, pathogenic microorganisms, microorganisms in preparations – produces.

The analysis of the mentioned sources shows that the risk factors of accidents are not taken into account in Georgian legislation. Consequently, the need to assess the situation and risks is not on the agenda. According to the labour safety policy of the National Centre for Tuberculosis and Lung Diseases, the centre is constantly striving to create and improve safe working conditions. Based on this principle, the classification of accident risk factors is prioritized on the agenda and it is introduced in the centre.

Accident Risk Factors

Nowadays they different risk factors for accidents:

- 1) Danger of slipping. Such a danger may arise when exposed to the workspace, in certain when: there is a risk of slipping on the floor, stairs and corridor due to a faulty sorting-cleaning process. The same danger is posed by ignoring the process of proper clearing of the roadway that is exposed to frost. The probability of danger increases when food and water are spilt on the floor and it is not possible to clean them in time. The danger is on the surface, the floor is wet, and the place is not fenced, no proper warning sign is placed;
- 2) Danger of falling. Such a danger may arise when faced with a workplace with the following situation: the carriage of a cargo of a certain size when its transporter's field of vision is limited. The probability of danger is increased when the use of a damaged staircase in the workspace/place, the space and the place where the floor is damaged, which increases the probability of raising the foot or turning the foot. The danger is expected when obstructive objects are fixed at the places/exits, and when the employee is walking on the stairs with a load, the employee makes a sharp turn, which is an important reason for the loss of balance. The danger may arise while ensuring the timely completion of the work process by the employee, at a pronounced speed, while moving a large number of items at once.
- 3) Fall from heights, ascents and descents. Such a hazard may arise when there is a need to ascend and descend at the workplace/site and there is a risk of damage due to: faulty roads, frozen, wet surfaces, lack of dams, roads and general warning signs and railings. The probability of danger is increased if age-worn stairs are used during work, as well as

when there is an insufficiency of personal protective equipment. Danger may arise when using non-factory scaffolding in the workplace, in case it is not designed correctly, in case of non-standard height of the scaffolding railing someone might fall;

- 4) Density between subjects. Such a danger may arise when there are moving objects in the workplace that can cause full body/partial mutilation in the process of movement;
- 5) Danger of staying indoors. Such a danger may arise when there is a very small exit in the workspace, which creates the risk of being stuck in a narrow and cold building;
- 6) Electrical appliances and static electricity. Such a danger may arise when we come across the use of faulty equipment in the workplace, which poses a risk of electrical damage or a high probability of a fatal outcome;
- 7) Cargo shipments and other movements. Such a danger may arise in the workplace: when transporting cargo, we might see damaged/impaired transport equipment, where there are no pedestrian paths and road safety signs. The probability of danger is increased if a significant part of the road surface is damaged on the road section;
- 8) Oxygenless or lack of oxygen. Such a danger may arise when loads/items in the workplace/workplace, indoors, as well as in closed containers are distinguished by oxygen uptake;
- 9) Danger of getting into the water. Such a danger may arise when there is no salvation despite the high probability of drowning;
- 10) Dangers of falling objects/items. Such a danger may arise when objects and things fall into the workplace and fall on the employee / other people, there is a high probability of getting injured in the form of a wound and a cut;
- 11) Lack of individual and collective remedies. Such a threat may arise when there are no individual and collective remedies to prevent an accident in the workplace, or they exist but are not being used;
- 12) Dangerous jobs and risks. Such a danger may arise when the workplace is faced with the thought of organizing work in a high-risk environment, using hazardous methods, excluding compliance with procedures and instructions, and refusing to use protective equipment;
- 13) Special situations and disadvantages. Such a threat may arise when appropriate work is carried out in the workplace/on-site to eliminate special situations and deficiencies, at which time there is still a high probability of an accident occurring because the work is being carried out in violation of safety norms and requirements;
- 14) Alcohol and drug use. Such a threat may arise when the employees at the workplace are in a state of a hangover or under alcohol and drug

use;

- 15) Deficiencies in emergency alarms and rescue equipment. Such a threat may arise when faced with an inoperable security system at work / on-site, with inadequate faulty alarms, or with faulty rescue equipment;
- 16) Disadvantages in the first aid system. Such a danger may arise when there is no person in charge of first aid detection in the workplace / on-site or there is no training provided in this area, and there are no first-aid facilities on-site.

After defining the classification of accident risk factors, we can describe the important segments of information provided as follows:

1) Physical and video monitoring of the Centre for Tuberculosis and Lung Diseases:

1. Infection Control, Monitoring and Occupational Safety Supervision Service:

- a) Supervisor (actions to obtain information: workplace visits, analysis of daily reports, telephone, radio communication);
- b) Video monitoring specialist (actions to obtain information: workplace visits, video monitoring, telephone, radio communication);
- c) Physical monitoring specialist (actions to obtain information: bypassing workplaces, using telephone, radio);
- d) Occupational Safety Specialist (actions to obtain information: planned and necessary visits to workplaces, telephone, radio communication);
- e) Epidemiologist (actions to obtain information: planned and necessary rotation of workplaces, telephone, radio communication);
- f) Specialist-Analyst Supervisor (actions to obtain information: analysis of daily reports, by telephone, using radio communication);
- g) Specialist in the field of environmental protection (actions to obtain information: Planned bypassing workspaces, using telephone, radio communication);

Monitoring contains all the means of providing information: internal telephone connection, mobile communication means, service e-mail, radio communication, daily, report on work performed, etc.

- 2) Contractor of the Centre, Relevant service of the Security Police Department of the Ministry of Internal Affairs, whose function includes physical and video monitoring of the centre's perimeter (means of providing information: internal telephone connection, mobile

communication, service e-mail, radio communication, daily work report, etc).

- 3) Head of all departments of the Centre and employees of the Centre, on the basis of personal notification (means of providing information: internal telephone connection, mobile communication, e-mail of the service, report card, verbal / written statement, etc.);
- 4) Other (contractor, visitor, principal, etc.) and third-party (patient) in the centre's workspace on the basis of a personal message (means of providing information: internal telephone connection, mobile communication, service e-mail, verbal/written application and Other).

If the collection of information on the above risk factors during physical monitoring is simplified, incomplete coverage of video monitoring in compliance with Georgian legislation becomes an important favourable condition for information restriction. Nevertheless, the above-listed information sources appear to be limited circumstances for the information vacuum.

Good understanding, timely retrieval and accurate analysis of information on accident risk factors provide an important opportunity to avoid accidents in a timely manner. For example:

Case 1 - Danger of slipping. Video and physical monitoring specialists on duty noticed that the workspace of the centre was covered with snow at 05:30, including the section of the road used for traffic – downhill. Due to the rapid variability of temperature, the road froze and the entry of vehicles by 08:30 hours increased the likelihood of road accidents. 30 minutes before the start of the service, the specialists make a decision to completely restrict traffic until the danger is eliminated. This will be the right thing to do, as documenting and forwarding information to the management team carries some risk, and if traffic continues, there is a high probability that an accident will occur.

Case 2 - Danger of falling. At 12:30 pm at the reception of the centre, the employees left the folding stairs at the workplace after use, which created a danger of falling due to the high intensity of the movement of third parties – patients in this area. The video surveillance officer created a document confirming the incident to be entered and sent to the "Analytical Report of the work to be performed" the next day. This was not a correct action, because according to the principles of timely prevention of danger, a specialist could carry out the process of informing a competent person by telephone or radio to rectify the situation (timely removal of the ladder).

Upon receipt of the information on accident risk factors, the occupational safety specialist/specialist-analyst sends a warning/instruction document to the target groups on specific factors to ensure timely rectification of the situation, at the same time, a risk assessment is being organized and a group investigation with the qualification of 'failed accident' is being carried out (including with the participation of a trade union representative). At present, the National

Centre for Tuberculosis and Lung Diseases provides the highest quality information on physical, chemical, biological and ergonomic risk factors, according to the *Situation Study Document*⁵, which is the supporting document for risk assessment by the centre's divisions. As for accident risk factors, they are not separated and are linked to physical hazard factors. Therefore, it would be appropriate to separate accident risk factors from other types of hazards and to properly complete and review the assessment document.

Nowadays, group investigations are underway at the Centre into 'Accidents'⁶ and 'Failed Accidents'⁷. Accordingly, it should be considered acceptable to make an appropriate change in the form already adapted according to the research sub-directions:

- Danger of slipping;
- Danger of falling;
- Falling from a height, ascents and descents;
- Density between objects;
- Danger of staying indoors;
- Electrical appliances and static electricity;
- Cargo shipping and other movements;
- Oxygenless or lack of oxygen;
- Danger of getting into the water;
- Dangers of falling objects;
- Lack of individual and collective remedies;
- Dangerous jobs and risks;
- Special situations and shortcomings;
- Alcohol and drug use;
- Deficiencies in emergency alarms and rescue equipment;
- Disadvantages in the first aid system.

One of the most important processes is to control the implementation of the recommendations given as a result of risk assessment and/or warning instruction on accident risk factors, which is a favourable condition for the elimination of hazards in the research direction⁸. Therefore, according to the

⁵ *Methodology for assessing the situation at the facility in terms of occupational safety (instruction)*, N 69/05, National Centre for Tuberculosis and Lung Diseases, Tbilisi 28.01.2020, p. 4.

⁶ *Procedure for investigation and registration of accidents (incidents) that failed at the workplace/place*, N 691/05, National Centre for Tuberculosis and Lung Diseases, Tbilisi 20.02.2020, pp. 1-9.

⁷ *Rules for registration, investigation and reporting of accidents at work/on-site*, N 2147/05, National Centre for Tuberculosis and Lung Diseases, Tbilisi 27.05.2021, pp. 1-16.

⁸ *Communication from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of Regions on an EU Strategic Framework on Health and Safety at Work 2021-2027, Occupational safety and health in a changing world of work* Brussels, COM(2021) 323 final, 28.6.2021,

research, the facts of non-correction of the situation should be considered as the basis for the investigation of the incident with the qualification of ‘accident risk factors’.

Conclusion

- 1) The assessment of the workplace situation should be carried out in conjunction with the physical, chemical and biological risk factors for accident risk factors, based on Finnish experience and not in conflict with Georgian law⁹.
- 2) Gathering, generalization and analysis of information on risk factors for accidents in the workplace will be carried out through the classifier referred to in the study, including the use of physical and video monitoring;
- 3) The occupational safety specialist will carry out the risk assessment process based on the site risk assessment document using the Accident Risk Factor Classifier.
- 4) Regarding the risk factors of accidents, it will be possible to make the change in the existing form for the investigation of group ‘accident’ and ‘failed accident’ in the centre, in compliance with the sub-directions of the investigation. This will be significant for the analytical processes.
- 5) Similar to existing hazards, existing control mechanisms will be implemented to monitor compliance with the risk assessment and/or warning-instruction recommendations, which will be a favourable condition for excluding hazards in the study area. Therefore, according to the research directions, the facts of non-correction of the situation will be considered as the basis for the investigation of the incident, qualified as ‘accident risk factors’;
- 6) By creating the situation described in paragraphs 1-5, a favourable environment will be created in the centre to improve safe working conditions¹⁰.

<<https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX:52021DC0323&qid=1626089672913>> (30.12.2021).

⁹ *Workplace risk assessment (practical guide), The Finnish Experience*, Georgian Employers' Association (GEA), Tbilisi 2016.

¹⁰ International Labour Organization, *A 5 STEP GUIDE for employers, workers and their representatives on conducting workplace risk assessments*, 2014 <https://www.ilo.org/wcmsp5/groups/public/---ed_protect/---protrav/---safework/documents/publication/wcms_232886.pdf> (30.12.2021).

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THE ROLE OF THE NIGERIAN ARMY IN HEALTHCARE DELIVERY THROUGH MEDICAL OUTREACH

Abstract:

The article identified various medical or clinical outreach conducted by the Nigerian military, particularly the Nigerian Army. Medical outreach under the Medical Corp of the Nigerian had carried out clinical services to the civilians as one of the responsibilities of the Directorate of the Civil-military Affairs of the Nigerian Army to strengthen the relationship between the military and civilians. The researchers adopted an explanatory research design and secondary data were elicited from some medical outreach carried out by the Nigerian Army in different parts of Nigeria. The findings showed that the Nigerian Army used to embark on free medical outreach in communities that host military formations as part of their contribution to improving the well-being of the civilian population. Medical Corps which comprises the Women Corps of the Nigerian Army is using medical outreach to assist the civilians within their area of responsibility who cannot afford or have no access to healthcare service to access it free of charge at their doorsteps. The study concluded that free medical services had yielded positive results that changed the perception of many Nigerians of the Nigerian military which is known to be hostile, brutal and indifferent to civilians. This is evident in the responses of the beneficiaries of the free healthcare services where the community leaders promised to collaborate with the military in helping them to secure the country in the face of security challenges.

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Healthcare Delivery, Medical Outreach, Peacetime Medicine, Nigerian Army

Introduction

Enhancing a good relationship between the military and their host communities is an aspect of civil-military relations. Military: Army, Air Force, and Navy in Nigeria and other parts of the world often assist residents where military formations are located either in times of emergency or in normalcy. Owens conceives civil-military relations as a relationship between a State's armed forces as an institution, the government, and other sectors of society where the armed forces are engaged³. In the years following World War II, Huntington, Janowitz, and Finer shifted the focus of civil-military relations away from individuals and toward the connections between military institutions, society, and governments⁴. The military does not assist civilians only in an emergency or crisis, they render services to the civilian population in peacetime such as free medical services, provision of potable water and construction of access roads. There are some activities within the realm of civil-military relations which are not provided during an emergency such as medical outreach, where the military provides medical assistance to the civilian population within their spheres of operation. World Health Organization recognizes the role of the military in the provision of healthcare services to the civilian population. In different parts of the world, the military is involved in health services' participation in a time of natural disasters, chemical, nuclear, or radioactive incidents, and disease outbreaks, including collaboration with public health emergency operations centres and emergency medical teams⁵. Therefore, the military under civil-military relations engages in different activities to cement their relationship with the civilian population. This is because civil-military relations encompass the entire range of interactions between the military and civilian society at every level⁶. The interaction is not

³ M. T. Owens, *What Military Officers Need To Know About Civil-Military Relations*, Philadelphia 2013, p. 1.

⁴ S. P. Huntington, *National Policy and the Transoceanic*, "National Policy And The Transoceanic Navy. *Proceedings*", 1954, Vol. 80/5/615, pp. 480-90; M. Janowitz, *The Professional Soldier: A Social and Political Portrait*, Glencoe 1960; S. Finer, *The Man on Horseback*, Boulder 1962.

⁵ *National civil-military health collaboration framework for strengthening health emergency preparedness: WHO guidance document*, Geneva 2021, p. 6.

⁶ T. C. Bruneau, A. Croissant, *Civil-Military Relations: Control and Effectiveness Across Regimes*, Boulder 2019, p. 2.

restricted to any activity, the interaction is determined by the circumstance and the need that may arise.

Well-equipped militaries use their logistical, communication, organizational, epidemiological, and mobile laboratory resources to establish monitoring for epidemic-prone populations in humanitarian catastrophes. For example, in the aftermath of the Indian Ocean tsunami in December 2004, a U.S. Department of Defence overseas laboratory, United States Naval Medical Research Unit-2 (NAMRU-2, in Jakarta), collaborated with the Indonesian government and WHO to establish a field laboratory in the heavily affected Indonesian city of Banda Aceh. The laboratory supplied reference services that confirmed some epidemics, allowing for prompt intervention in some outbreaks and assuaging fears about other infectious diseases. After a few months, NAMRU-2 handed over the lab to the Indonesian government, which continued to operate it⁷.

Therefore, the objective of this study in Nigeria is to examine the involvement of the military in providing healthcare services in non-emergency situations under the control of the Chief, Civil-Military Relations of the Nigerian military. This is because conventionally based on the literature examined in this paper, the military is used to provide healthcare services in emergencies that are, responding to natural disasters or outbreaks of disease. However, this paper focuses on instances where the military in Nigeria organizes medical outreach to render medical service free of charge to the civilian population in non-emergency situations in Nigeria. The Nigerian Army established a Department of Civil-Military Affairs in December 2010 charged with the following cardinal objectives or responsibilities. The DCMA was established principally to act as a conduit between the Nigerian Army and the general populace. As a Strategic national institution, it is accountable for highlighting the principles of Civil Military Affairs. In addition, the Department is tasked with introducing and disseminating the fundamentals of civil-military relations in the fields of human rights, the rule of law, liaison during negotiations, and conflict resolution. It is within this mandate that the Nigerian Army carry out free medical outreach to the civilian population as a strategy to build good relations with them. The objectives set by the Nigerian Army for the Department of Civil-Military Relations deviate from the theoretical and conceptual definitions of civil-military relations by scholars in the field stated earlier in the introductory part of this paper. In the same vein, the World Health Organization (WHO) at the peak of the COVID-19 pandemic, have developed a National civil-military health collaboration framework for

⁷ J. Chretien, et al., *The Importance of Militaries from Developing Countries in Global Infectious Disease Surveillance*, “Bulletin of the World Health Organization” 2007, vol. 85, pp. 174-180.

strengthening health emergency preparedness. The framework aims to provide the public health sector and military actors and services at the national level with guidance for establishing, advancing and maintaining collaboration and coordination, with the focus on the country's core capacities required to effectively prevent, detect, respond to, recover from and build back better after health emergencies⁸. This explores the significance of clinical services delivered by the military even though the free medical outreach that the Nigerian Army organizes every year is not during an emergency but it is also a response to healthcare challenges faced by communities.

Since the return of democracy to Nigeria in 1999, the medical Corp of the Nigerian military in their different formations used to carry out a medical outreach by providing medical services to the civilians living in their host community. Medical or clinical outreach is conceived as the coordination and delivery of clinical services in an outreach context known as clinical outreach. Its goal is to deliver primary health care to populations that might otherwise find it difficult to seek and get care at fixed health centre locations. Clinical outreach, in its simplest form, is a strategy for meeting people and communities where they are and providing care in settings that best suit their needs and circumstances⁹.

As part of the measures or strategies by the military in developed and developing countries to assist their host communities, the military medical personnel from time to time, go outside their barracks and render free health services which strengthens the relationship between the military and their civilian neighbours. These kinds of health services are provided by the trained military medical corps outside the military health facilities in the barracks or military formations. The rationale behind the clinical outreach is to take healthcare services to the reach of people who lacked access to healthcare services due to financial, cultural reasons, or distance. During the outreach, the medics provide makeshift facilities to meet with the patients either in tents or vehicles.

Sketch of Related Literature Reviewed

A study conducted in China, the United Kingdom, and the Philippines showed how the military assisted in an emergency by providing relief medical services to the civilian population. The study focused on the assistance rendered by the military during the COVID-19 pandemic. The work provided a comparative analysis of the role of the medical corps in the three countries during the coronavirus pandemic as part of the domestic civil-military

⁸ *National civil-military health collaboration...*

⁹ Health Outreach Partners, *Clinical Outreach*, "Outreach Reference Manual" 2015, p.4.

engagement (CME). However, the paper has not analyzed the healthcare services that the military provides to civilians in non-emergency situations or pandemics¹⁰. The main thrust of this paper is to examine the healthcare services that military personnel render to civilians in a time of peace often referred to as clinical outreach.

Research carried out in Nigeria on community perceptions of military involvement in epidemic response in the Northeast region of Nigeria on the activities of the Department of Civilian-Military Relations of the Nigerian Army showed that the three components of the military: Army, Air Force, and Navy were involved in providing humanitarian assistance to the civilians affected by the Boko Haram insurgency in North-eastern Nigeria. Military involvement has become a cornerstone of modern epidemic response. However, some of the residents of the Northeast viewed military participation in the provision of social services as an important strategy for cementing a good relationship between the military and civilians in the areas affected by the Boko Haram insurgency¹¹. Furthermore, the study concluded that epidemic response is now a part of military involvement in disasters. The basic concept is that in instances when humanitarian actors are unable to respond quickly and effectively such as the Boko Haram insurgency in Nigeria's north-eastern region, the military is obligated to intervene due to its ability to rapidly deploy its personnel.

Methodology

This study has adopted an explanatory research design that is suitable for research of this nature and requires an in-depth explanation of the phenomenon at hand. The goal of this study is to explain the involvement of the Nigerian military in clinical outreach under the Directorate of Civil-Military Relations of the Nigerian Army which is part of the strategy for enhancing civil-military relationships. Secondary data were elicited from sample clinical outreach that the Nigerian Army, Navy and Air Force carried out from 2010 to 2021 from documented materials. The period is selected because the period is characterized by the involvement of the military in internal security management as a result of violent conflicts in different parts of Nigeria. The sample is drawn from military medical exercises from all the six geopolitical

¹⁰ B. T. Samuel, G. Rob, K. Josiah, *Civil-Military Engagement during Public Health Emergencies: A Comparative Analysis of Domestic Responses to COVID-19*, "Research Square" 2021, pp. 1-16.

¹¹ C. Kwaja, D. J. Olivieri, *Community Perceptions of Military Involvement in Epidemic Response in the Northeast Region of Nigeria: Implications for Civilian-Military Relations*, "Report of the Center for Human Rights and Humanitarian Studies at the Watson Institute for International and Public Affairs, Brown University" 2020, pp.1-37.

zones in Nigeria: South-South, Southwest, Southeast, North Central, Northeast and Northwest where at least one State is selected using a purposive sampling technique. This sampling technique allows the researcher to pick a sample that fits the criteria for inclusion and the purpose of the research. Therefore, the States where the military carried out clinical or medical outreach covered the six geopolitical zones. The data are presented below thematically from the sample drawn from the activities of the Nigerian military.

Data Presentation & Analysis

Thirteen of 36 States and Abuja the capital of Nigeria were sampled for this study. The table below various military interventions in the areas of healthcare services in Nigeria in an attempt to boost their relationship with the civilians.

Table 1. Chronicle of Military Interventions in the Provision of Healthcare Service in Nigeria

/N	Year	Category	State	Activity	Response by the Beneficiary
1.	2021	Army	Benue	Free medical services to some communities in Makurdi Local Government Area of Benue State. It also included the Internally Displaced Persons (IDPs) camp in Makurdi,	The Chairman of Makurdi Local Government Area, Anthony Dygeh, commended the Nigerian Army for the exercise and urged the people to take part in the medical outreach.
2.	2021	Army	Abuja	Medical outreach at Mpape community, Bwari Area Council in Abuja	The Nigerian Army has shown by this medical outreach that it is truly our Army. They are not all about fighting wars. They have demonstrated that they care about our health also.
3.	2021	Army	Sokoto	Nigerian Army Offers Free Medical Service to 3,000 Persons in Sokoto	The district head of Sifawa, thanked the Nigerian army for the kind gesture,

				Communities	appealing to them to extend the same to other communities in the state.
4.	2021	Army	Plateau	Army Holds Medical outreach for Jos communities	It is a good development. The service is to the advantage of the less privileged ones because we cannot afford medical bills.
5.	2021	Army	Kaduna	Nigerian Army offers free medical services to 5,000 residents of Kaduna State	A beneficiary, who suffers eye problems thanked the Division for the intervention but was quick to call on the military leadership to increase the security capability in the area as he and other subsistence farmers have not been able to go to the farm due to the nefarious activities of the criminal bandits.
6.	2019	Army	Kaduna	The army offers free medical services to 4,000 persons in Kaduna	District Head of Rigachikun, thanked the Army Chief for the gesture and appealed for such to be replicated in neighbouring communities. He attributed the peaceful coexistence being enjoyed in the community to the efforts of the 1 Division of the Nigerian Army Kaduna and urged them to sustain the tempo.
7.	2017	Army	Oyo	Army offers free	One of the

				medical service to 2,000 in Ibadan	beneficiaries, 77 years old, described the medical outreach as a 'blessing' to him, coming at a time he needed a solution for two of his major health challenges.
8.	2019	Army	Oyo	Nigerian Army: Over 1,000 persons benefit from free medical care in Ibadan	One of the beneficiaries said the medical outreach was a great opportunity for those nursing one illness or the other to get treated for free.
9.	2021	Army	Enugu	3,652 Enugu Community Residents Benefit From Nigerian Army Medical Outreach	Traditional Ruler of Emene Autonomous Community thanked the Nigerian Army for a 'great gesture' of taking over the health burden of the community and providing the Emene community with qualitative healthcare free of charge.
10.	2019	Army (Women Corp)	Enugu	The Nigerian Army Women's Corps (NAWC) administered free medical treatment to 265 residents of the Amorji-Nike community in Enugu East Local Government Area of Enugu state.	The Traditional Ruler of Amorji-Nike Community lauded the Nigerian Army for the free drugs and other medications provided for the people of the community.
11.	2015	Army	Enugu	Army Offers Free Medical Services to Civilians	
12	2021	Army	Cross River	Free medical services for communities in	The Paramount Ruler of Obanliku Local Government

				C/River	Area expressed appreciation, assuring of the traditional ruler's support when necessary.
13.	2016	Army	Rivers	Troops Render Free Medical Services to Rivers State Community	

Source: Online Survey (2021).

Abuja (Federal Capital Territory). In 2021, the Nigerian Army under the leadership of Nigerian Army Medical Corps Col. IB Solebo initiated a medical outreach in town communities of the Federal Capital Territory Abuja: Mpape and Mabushi communities to assist the less privileged to have access to healthcare services. The Commanding Officer of 72 Special Forces Battalion, Lt. Col. A. D. Alhassan, during the exercise at the Internally Displaced Persons (IDPs) camp in Makurdi, stated that the exercise was part of the Army's Corporate Social Responsibility (CSR) to strengthen their relationship with the civilians. The Nigerian Army embarked on the exercise to beef up security to ensure residents of the state enjoy a peaceful environment. This implies that the military particularly the Nigerian Army performs functions other than warfare.

Sokoto State. Sokoto is one of the Seven States in North-western Nigeria which housed 8 Division of the Nigerian Army. In 2021, the 8 Division embarked on medical outreach to the Local Government Areas of the State. The outreach was conducted in the Sifawa community under Bodinga Local Government Area. The then General Officer Command (GOC) 8 Division, Sokoto, Major Gen. Usman Yusuf who during the medical exercise was represented by the Garrison Commander, Brig. Gen. Ralf Nnebeife stated that medical outreach is part of the Army's corporate social responsibility to its host communities. The medical outreach lasted for two days where the Army's medical personnel brought adequate drugs to cater for those who attended the exercise. Additionally, the Army promised to renovate a dilapidated Sifawa Primary Health Centre (PHC). This indicated the level of commitment by the Nigerian Army in assisting the civilians in the area of medical services which includes the renovation of the health facilities which will help the community in long term in addressing their healthcare challenges.

Plateau State (Jos). Jos is the capital of Plateau State and the headquarters of the 3 Division of the Nigerian Army. Plateau State is one of the Six States in North Central Nigeria. In 2021, The Nigerian Army has offered free medical services to communities of Tudun Wada, Longwa, and Federal and State Low

costs of Jos North and Jos South local government areas of Plateau State. The medical outreach helped different categories of residents including the children. The services provided services such as eye check-ups, HIV and malaria tests, and surgery. The Chief of Army Staff, represented by the Acting General Officer Commanding 3 Division of the Nigerian Army, Brig. Gen. B. A. Muhammad revealed that the medical outreach was part of activities to mark the 2021 Nigerian Army Celebration Day (NADCEL), the service is aimed at giving back to society to reduce the medical burden on the populace and put a smile on their faces. Brig. Gen. B. A. Muhammad further stated: “As we are all aware even the privileged ones in society find it difficult to willingly go for medical check-ups until overcome by health challenges or forced to do that. This medical outreach will at least afford us free medical check-ups which is the first step in solving our medical problems. I hope this opportunity will help us in further taking care of our health which is popularly referred to as our wealth.”

The above findings showed how the Nigerian Army come to the aid of their host communities not only in times of violent conflicts which Jos, Plateau State had suffered from episodes of religious and political conflicts. The free medical service to the civilians is a strategy or measure to change the thinking or perception of the residents of Jos metropolis about the military which is akin to violence.

Kaduna State. Kaduna State, like Sokoto, is located in North-western Nigeria. Kaduna is the capital of Kaduna State wherein 2019 1 Division of the Nigerian Army Kaduna in collaboration with the Nigerian Army Medical Corps organized a free medical outreach. The former Chief of Army Staff, Lt. Gen. Tukur Buratai, led Nigerian Army Medical Team to the community on Kaduna-Zaria Road to provide the rural communities with medical services. The medical services covered gynaecology, distribution of treated mosquito nets and eyeglasses, dental services, visual testing and diabetes screening. Others were glaucoma, tuberculosis and hypertension screening as well as laboratory services and malaria treatment.

Similarly, in 2021, the same 1 Division of the Nigerian Army Kaduna organized a free medical outreach where a total population of 5,000 inhabitants of Rigasa, Igabi Local Government Area of Kaduna State were targeted to benefit from the exercise. The exercise was part of the activities marking the 2021 Nigerian Army celebration week. The Nigerian Army stated the rationale behind the choice of Rigasa, Igabi, for the medical outreach. The reason is that the community hosts renowned military formations and civil institutions which include 1 Division NA, Nigerian Defence Academy, Nigerian Air Force Base, and Nigeria Railway Corporation Headquarters among others. The Army averred that over the years, Corporate Social Responsibility (CSR) such as the free medical outreach has increased the civilian-military relationship in terms of

intelligence gathering in military and sister agencies' operations. This revealed the rationale of the free medical service by the military which is to create a good working relationship with the civilians. Similarly, the residents of the communities attest that the gesture by the Nigerian Army will make the communities cooperate with the Army in different spheres.

Oyo State. Ibadan is the capital of Oyo State which is one of the six States in Southwestern Nigeria. In 2017, the Nigerian Army medical personnel provided free medical services to more than 2,000 residents of Apata in the Ibadan South-West Local Government Area. The free medical service was part of the activities for the Chief of Army Staff Annual Conference held in Ibadan, Oyo State. The finding revealed that the medical personnel provided free medical consultations, diagnosis, free drugs to the patients, as well as orientation on malaria and HIV/AIDS prevention. The medical outreach was held at the open field of Government College, Apata. The then Commander of the 2 Division of the Nigerian Army Medical and Hospital Services, Col. Samuel Adama, explained that the medical outreach provided primary healthcare services to the patients, while complicated issues are referred to the military hospital.

Similarly, in 2019, the 2 Division of the Nigerian Army provided a free medical outreach to the residents of Ibadan, the Oyo State capital. The outreach targeted about 1,000 residents of the metropolis. A representative of the 2 Division of the Nigerian Army, Maj. Mary Aluko, Public Health Specialist, 2 Division of the Nigerian Army Hospital, Ibadan, stated that they are targeting over 1,000 people for free medical treatment. Furthermore, the treatment aimed to assist the less privileged, elderly, pregnant women and nursing mothers. The Army medical specialist explained that the treatment would include Hypertension, and malaria among others while insecticide-treated mosquito nets and drugs were given freely.

Enugu State. Enugu State is one of the five States in Southeastern Nigeria. Enugu, the capital of Enugu State is where the 82 Division of the Nigerian Army is domiciled. The Nigerian Army had in 2019 organized a medical outreach that featured health counselling, and how to prepare healthy diets from locally sourced ingredients. Additionally, the medical corps conducted different tests and checks which included dental checks, free drugs, referral services, and eye checks as well as the donation of free 300 pairs of eyeglasses. Similarly, during the exercise, free insecticide-treated nets were donated to pregnant women and nursing mothers, free de-worming of children of school age, free disinfectants and multivitamins were given to malnourished children among others.

During the flag-off of the exercise, the General Officer Commanding of the then 82 Division of the Nigerian Army, Maj. Gen. Taoreed Lagbaja stated that the exercise was part of activities meant to strengthen Civil-Military-

Cooperation (CIMIC) for the ongoing Exercise, Golden Dawn in the Southeast geopolitical zone. The Exercise Golden Dawn, was a training exercise of the Nigerian Army in active collaboration with sister security agencies to rid the society of undesirable elements and criminals.

In the same vein, in 2019, the NAWC (Nigerian Army Women Corp) organized medical outreach as part of the ‘Exercise Atilogwu Udo 1’ for Sector 5 in the 82 Division of the Nigerian Army. The exercise featured health counselling, medical tests and check-ups. The team also undertook the distribution of free drugs, insecticide-treated nets and de-worming of children. Brig. Gen. Sylvester Oloyede, the former Commander of 82 Division, revealed that medical outreach was part of the Nigerian Army's efforts to win the hearts and minds of the civil populace for the enhancement of the exercise in the state.

This medical outreach has provided a good platform to further strengthen and deepen the long-standing civil-military relations. Also, Col. Dorothy Ojie, Chief of Staff of NAWC, Abuja, stated that the corps’ medical outreach was meant to solve the health challenges of remote communities. Furthermore, in 2015, more than 2000 civilians benefited from the free medical services offered by the 82 Division of the Nigerian Army, Enugu, to host communities.

The above findings portrayed how the Nigerian Army has been consistent in coming to the aid of their host communities in terms of providing free medical services. The Division of the Nigerian Army, Enugu had revealed the reason behind the frequent free medical outreach in the communities that host the Army formation which is, to have the support of the residents in discharging their duties. This is integral in helping the military to achieve the desired results of securing the country.

Cross River State. Cross River is one of the Six States in the South-South geopolitical zone or Niger-Delta region in Nigeria. In 2021, the Nigerian Army Free medical services for communities in Ogoja, Cross River State. The 130 Battalion of the Nigerian Army based in Ogoja initiated the free medical services as part of the Civil-Military Cooperation (CIMIC). The Commanding Officer of 130 Battalion of Nigerian Army Ogoja at that time, Major Faruk Umar stated the exercise aimed to enhance the cooperation between the Nigerian Army and other citizens. The medical outreach was programmed to coincide with an operation codenamed ‘Exercise Still Water’ whose aim was also to strengthen the relationship between the military and the community. The medical services rendered to members of the community include; health awareness, health talks, medical examination, disbursement of drugs, dental checks, free eyeglasses and a host of others. The outreach was held at RCM Primary School Utanga Obanliku Local Government Area.

Rivers State. Like Cross River, Rivers is one of the Six States in the South-South geopolitical zone or Niger-Delta region in Nigeria. In the Nigerian Army in 2016, as part of activities scheduled for the field training exercise,

codenamed ‘Operation Crocodile Smile’, troops of 2 Brigade, 82 Division of the Nigerian Army conducted a clinical outreach which has a direct impact on the lives of over 500 people in Bille Community in Degema Local Government Area. The free medical outreach has featured consultation, diagnosis and eye care, blood pressure checks, free drugs, blood tests and counselling services.

Discussion of the Major Findings

From the above table, the tremendous efforts of the Nigerian Army in healthcare delivery pro bono in Nigeria. These efforts enabled host communities of military formations to have access to clinical services not only at no cost but by well-trained medical personnel of the Nigerian Army. Free medical services are one of the many humanitarian services that the Directorate of Civil-Military Relations of the Nigerian Army carry out annually to enhance their relationship with their host communities and the civilian population in general. Since 2010 when the Civil-Military Directorate was established, the Medical Corp has been deeply involved in delivering quality healthcare services to its target population to improve their wellbeing.

The findings showed that among the Nigerian military, the Nigerian Army is the segment of the military that has been involved frequently in medical outreach more than the Air Force and the Nigerian Navy this is because the Army has more formations than the Navy and Air Force located within the civilian population. The findings showed that in an attempt to win the minds and trust of the civilians as a result of the decades of military rule which made the civilians to developed fear for the military, the Civil-Military Department has made medical outreach an important activity that is carried out at frequent intervals by the different military formations. This is in agreement with the conclusion of a desk review which concluded that the essence of health outreach is to promote the health of vulnerable populations which depends heavily on the peculiar health need and project of the community and the decision of the funders or providers¹².

Similarly, the targeted civilians in various communities where the medical or clinical outreaches were conducted had expressed their elation over the gesture by the Nigerian Army in helping them to have access to free medical services which was beyond the reach of many of the rural dwellers either because of poverty to afford the medical bills or non-availability of the healthcare facilities in the rural communities. This agrees with the findings which found that many military medical clinics and hospitals provide extensive

¹² H. Y. Shin, K. Y. Kim, P. Kang, *Concept Analysis Of Community Health Outreach*, “BMC Health Services Research”, 2020, 20:417, pp. 1-9.

medical treatment to their countries' civilian populations, a relationship that is often overlooked in country-level health security initiatives¹³.

Conclusion

Concluding the above findings, the Nigerian Army has been more active in using medical outreach as part of the strategy under the Directorate of the Civil-Military Relations of the Nigerian Army. This has positively impacted the lives of the targeted population in Nigeria through effective treatment of disease and free medication to people who cannot afford the medical bills and other charges in conventional Hospitals or Clinics due to financial constraints.

The Nigerian Army has 7 Divisions, and in each division, there are three brigades. This made the Nigerian Army have the highest number of formations established across Nigeria hence closer to the civilians than the Navy and Air Force. Free medical or clinical outreach has become a strong weapon in changing the perception of Nigerians regarding the military which was known to be hostile and brutal to the civilians during the military regimes from 1989 to 1999. Similarly, the medical outreach from the responses of the beneficiaries has made the civilians understand the military is established to defend and provide necessary assistance to the citizens not to be viewed as enemies of the citizens. This is one of the integral roles of the Directorate of Civil-Military Relations under the office of Chief Civil-Military Affairs of the Nigerian Army. However, the activities fashioned to restore or build the confidence of the civilians in the military do not only focus on medical or clinical outreach but there are also a series of initiatives such as the provision of water and sanitation facilities to the community, assisting schools (primary and secondary) with educational facilities. Therefore, the medical outreach initiated and funded by the Army is within the realm of military medicine in peacetime which from time to time in Nigeria, contributes to their quota in improving access to health services for their host communities either in urban or rural areas providing free health services and activities. The healthcare services delivered by the Army have created harmonious co-existence between the military and the civilians in Nigeria, particularly in communities where military formations are sited which is the rationale behind the establishment of the Directorate of Civil-Military Relations in 2010 by the Army. The Army has succeeded in delivering healthcare service to the needy free and at their doorsteps in some areas in Nigeria.

¹³ B. M. Forshey, A. K. Woodward, J. L. Sanchez, S. R. Petzing, *Military participation in health security: analysis of Joint External Evaluation mission reports and National Action Plans for Health Security*, "Draft" 2020, pp. 1-19.

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DEATH & SECURITY VACUUM IN WEST AFRICA: MUAMMAR GADDAFI & IDRIS DÉBY ITNO

Abstract:

This paper has analysed how the deaths of two African leaders have aggravated the security situation in both West Africa and some countries in North Africa. The regime change in Libya has rendered the country virtually without a central government and the implications of such a leadership vacuum is evident in the proliferation of different arms groups in the country and instability in some neighbouring countries. Similarly, the abrupt death of former Chadian President Idris Déby Itno in April 2021 has aggravated the fragile peace in the West African sub-region, particularly in the Niger Republic, Nigeria, and Mali. Secondary data elicited by the researchers revealed that Chad during Déby had contributed immensely to the peace in its neighbouring West African countries. He fought Islamic fundamentalist groups and rebels from Sudan, Libya and within Libya. Therefore, his absence, like the absence of Gadhafi gave the terrorists and other criminal elements the liberty to operate between the countries using Libya as their operational base for training their fighters, and smuggling weapons across the international frontiers of Niger, Nigeria and Mali. The incessant attacks by armed groups in Mali, Niger, and Nigeria against security personnel and civilians have been attributed to the deaths of the two leaders leading to the lack of coordinated and planned security measures in Chad and Libya.

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Keywords:

Death, Gaddafi, Idris Déby, Security Situation, Security Vacuum, Niger, Nigeria

Introduction

The regime change in Libya after the death of Muammar Gadhafi has exacerbated security challenges for its North African neighbours and some West African countries with historical trade routes and a relationship with Libya that predate the slavery and colonial eras. The Federal Republic of Nigeria, Niger Republic, and Mali are among the West African countries that are suffering from the effects of regime change in Libya. These three countries have been fighting Islamist insurgents before the death of Gaddafi on October 20, 2011, Boko Haram in Niger and Nigeria and Al-Qaeda in Mali. Following Gaddafi's death at the hand of the rebel Tuareg soldiers recruited and enlisted into his army, known as the Islamic Legion, who stole heavy weapons from arms depots in Tripoli and Ajdabiyya, and returned to Mali in the southwest. From 2006 to 2009, the Tuareg faction rebelled against the Malian government led by Ibrahim Ag Bahanga, and they were ready to do so again if the opportunity presented itself. Similarly, the Tuareg forces started military operations in Mali on January 16, 2012, with sophisticated weapons, under the leadership of Ibrahim Ag Bahanga and Mohammed Ag Najm (a former military commander in Gaddafi's Islamic Legion). Tuareg forces had captured Mali's major northern cities of Kidal, Gao, and Timbuktu, as well as their surrounding areas, by March 2012, demonstrating that they were more than a match for Mali's limited and poorly equipped army³.

This indicates that the stability of Libya and by extension, the presence of Muammar Gaddafi had both security and economic impacts on both North and West African countries because he had relatively succeeded in bringing the majority of the dissenting groups and rebellious elements under control. However, after Gaddafi's regime collapsed, the coastguards and Navy were disbanded in Libya, ushering in a new era of large-scale sea-bound fuel smuggling onboard tankers bound for Europe (mainly Italy, Malta, Spain, Crete and Turkey). The centre of the terrorist activities in Libya is a stretch of coast between Zawiya (45 kilometres west of Tripoli which is home to the region's largest refinery and storage facility, and Zuwara, a major seaport for fuel⁴. This

³ R. Larémont, *After the Fall of Qaddafi: Political, Economic, and Security Consequences for Libya, Mali, Niger, and Algeria*, "Stability: International Journal of Security & Development" 2013, VOL. 2, No. 2:29, pp. 1-8.

⁴ S. Mark, *Africa's Changing Place in the Global Criminal Economy*, "Continental Report" 2017, No. 1, pp. 1-40.

serves as the income for the organised criminals and Islamic fundamentalist organisations operating in West and North Africa.

Before the downfall of Gaddafi's regime, insecurity has not reached the level it reached in 2021, with spillover effects being the security challenges in some West African countries that share a boundary with Libya. The activities of terrorist groups such as Boko Haram and Al-Qaeda in the Maghreb have been on the increase in Nigeria, Niger and Mali as well as Algeria because of the dispersion of fighters and weapons from Libya. In the turbulent areas of West and North Africa, during the era of Gaddafi, Libya was a haven of peace. This was particularly true during Gaddafi's rule over the last two decades. Libya's borders were relatively well-controlled, and Gaddafi was sometimes a positive participant in Mali and Niger peace agreements. Perhaps most importantly, Libya provided not only much-needed foreign direct investment to neighbouring Sahel countries but also employment for people from nearby and faraway African countries. However, now that everything is gone, and Libya has become a source of instability, the Sahel region is suffering greatly.

Statement of the Research Problem

In volatile and conflict-prone sub-regions, the fall of the Gaddafi regime and the collapse of the Libyan state has exacerbated existing security problems and threats. The Sahel region, especially Northern Mali, was one of the first areas in West Africa to be affected by post-Gaddafi instability⁵. Similarly, cross-border transit of criminals and terrorist groups from North Africa affects West Africa. For decades, Libya has played an important role in the security and political growth or instability of the region. The former Libyan leader Muammar Gaddafi, armed with petrodollars, meddled in regional political movements and insurgent uprisings, supporting and endorsing leaders and projects like Charles Taylor's adventures in the Mano River Basin and Foday Sankoh's Revolutionary United Front. Following the collapse of the Gaddafi regime, thousands of poor and jobless migrant workers, as well as armed men who had fought for Gaddafi, returned to their homes in the south and helped to foment an uprising against Mali's government⁶.

During the reign of Idriss Déby, Chad's position in the region and globally has witnessed a lot of dramatic changes in the security sector. Under the context of the 'war on terror', Chad has been a central ally of France and the United States. In August 2014, Operation Barkhane replaced the French anti-terrorist

⁵ M. Eljarh, *Security Challenges and Issues in the Sahel-Saharan Region: The Libya Perspective*, Bamako, 2016; A. Marc, N. Verjee, S. Mogaka, *The Challenge of Stability and Security in West Africa*, Washington DC 2013.

⁶ *Ibidem*.

operation Eperview, which was formed in 1986, and moved to a new base in N'Djamena. Chad also acts as a base for US military assistance to Nigeria in the fight against Boko Haram. Additionally, Déby sent 1,200 military personnel to Mali, who formed the first contingent of the UN Multidimensional Integrated Stabilization Mission in Mali (MINUSMA) in April 2013, following the French military counter-operation. The mission aimed to assist Mali's political processes as well as perform a variety of security-related tasks to restore stability in the country. In the fight against Boko Haram, Déby contributed one-third of its forces to the Multinational Joint Task Force (MNJTF), which fights Boko Haram in the regions of Lake Chad, Nigeria, Cameroon, Benin, and Niger Republic (about 3,000 out of 8,700 soldiers, police and civilians)⁷.

It is against the above discourse that this paper examined the reasons why some of the countries that share common boundaries with Chad expressed fear that the demise of Déby could inflame the security situation in West and parts of North Africa similar to what was expressed when Gadhafi was killed. Therefore, the objective of the paper is to identify the reason why the Niger Republic and Nigeria's leaders raised alarm over the death of Déby. To achieve the objective of the study, the researchers compared the departure of the former Libyan leader Muammar Gaddafi and that of Idriss Déby and its implication for the security of the continent. To write this article, the researchers sourced data from secondary sources such as online journals, textbooks, monographs and other documented texts. Thematic analysis was adopted for the analysis of the secondary data and findings generated from the data.

Security Situation in West Africa in the Post-Gaddafi Era

A review of the effects of the toppling of Muammar Gaddafi has been found that the lack of a central government that controls the whole country gave room for the coming of different rebel groups and the spread of weapons. Therefore, the threat of terrorist groups in Africa's Sahel region, such as Boko Haram, a Nigerian-based Islamic terror organization, and al Qaeda in the Islamic Maghreb (AQIM), who now have access to thousands of arms thought to have originated from Gaddafi's large weapons caches, is exacerbating the security situation in Mali, Niger Republic, Nigeria, Burkina Faso, and Sudan. This shows that the flow of weapons from Libya has been fuelling armed violence in the aforementioned countries in Africa, particularly in West, Central

⁷ M. Debos, *Behind the Cliché of the Chadian 'Desert Warriors', Militarized Politics and Idriss Déby's Global Political Capital*, "African Politics, African Peace" 2016, Paper No. 22, 1-6.

and North Africa, this is not to assert that the countries were peaceful before the death of Gaddafi but how his death has aggravated the situation⁸.

Before the downfall of Gaddafi's regime, the former President of Chad, Déby had anticipated the negative implications of the removal of Gadhafi when he warned African leaders against supporting the removal of Gadhafi because it would destabilize or aggravate the security situation in the Sahel region. Since 2011 when Gaddafi left power, Chad's government have been reasonably anxious about possible new threats on its northern border which have varied terrorist groups carrying out their activities and launching attacks in Chad and neighbouring countries. These include Islamist groups who have established themselves in Libya; and the Teda (or Tubu) who live astride the frontiers of Chad and Libya and have periodically rebelled against the government in N'Djaména, notably under President Déby. Also, non-Teda Chadian rebels, notably Beri opponents of the Déby regime, could acquire backing in Libya and build rear bases in the Chadian-Libyan border area (and this is likely the threat that N'Djaména deems the most serious). This stance taken by Déby underscores the strategic importance and relevance of Gadhafi in the region despite his accused connivance with rebels or political opponents in other African countries to cause instability.

The Role of Chad in Regional Security under Idriss Déby

Following the killings of some military personnel from the Niger Republic military in 2016, the Chadian troops were dispatched to Niger, demonstrating both the degree of military cooperation in response to the popular threat posed by violent extremist groups operating in the Lake Chad region, as well as the critical role played by the Chadian Armed Forces in launching operations against the militants. Similarly, the Chadian forces were instrumental in an operation codenamed 'Gama Aiki' which lasted until September 2016, when it was replaced by Operation Rawan Kada (Crocodile Dance, also known as Gama Aiki II). In the same region, Rawan Kada placed a greater focus on stabilization. The Multinational National Joint Tax Force appears to have been primarily focused on ISIS-WA in the Lake Chad region and along the Niger-Nigeria border, rather than the joint Cameroon-Nigeria operations that have targeted JAS further south⁹. The study shows the contribution of the Chadian forces to the fight against Boko Haram which is strategic in preventing the

⁸ K. Aning, F. Okyere, M. Abdallah, *Addressing Emerging Security Threats in Post-Gaddafi Sahel and the ECOWAS Response to the Malian Crisis*, Kofi Annan International Peacekeeping Training Centre "Policy Brief" 2012, 1, pp. 1-7.

⁹ S. M. Omar, C. A. Ndubuisi, *Responses to Boko Haram in the Lake Chad Region: Policies, Cooperation and Livelihoods*, "ISS Research Report" 2018, pp. 1-32.

terrorists from using Chad as a route from their operation base in Libya to attack communities in Niger, Nigeria and Cameroon.

A study revealed that under the leadership of Déby, the Chadian armed forces had taken part in three major anti-terrorist operations in Africa, earning a reputation as one of the most respected armies in the Lake Chad Basin and the Sahel. It is an important member of the Multinational Joint Task Force (MNJTF) and the G5 Sahel Joint Force. With over 1,400 troops, the Chadian army is also the main troop donor to the United Nations peacekeeping mission in Mali (MINUSMA). Similarly, the study found that the emergence of insurgency groups, especially in the Lake Chad region, where Boko Haram continues to pose a security threat, is exacerbating the situation. As a result, the Chadian National Assembly declared a state of emergency in the Lake area in November 2015, effectively putting it under military administration. The government also increased its police presence in N'Djamena and restored the death penalty for terrorism offences. Boko Haram's threat prompted the reconfiguration of the Multi-National Joint Task Force (MNJTF), which has its headquarters in N'Djamena. Furthermore, in March 2020, Boko Haram attacked a Chadian military base in Bohoma, killing 98 Chadian soldiers, the country's largest military loss in history. In April 2020, the Chadian armed forces launched a major offensive against Boko Haram in response to this military defeat, killing at least 1000 Boko Haram soldiers. Boko Haram's violent operations in the Lake Chad Basin region, especially Chad, have resulted in persistent insecurity in the nation. Even though the country has become a leader in the fight against terrorism under President Déby's leadership, the resurgence of Boko Haram attacks on Chad's western border with Nigeria remains a major threat to national security¹⁰. The study carried out by Happi has brought to the fore the efforts of former President Déby to address insecurity around the Lake Chad region which invariably, assisted Nigeria, Cameroon, and the Niger Republic in the fight against the insurgents and the collective goal to achieve relative peace and stability.

Additionally, Chad's involvement in the fight against Boko Haram increased in intensity between January and February 2015. At that time, the ANT (Armée Nationale Tchadienne) deployed combat units in Cameroon, Nigeria, and the Niger Republic to support neighbouring armies under pressure from the Salafist fighters. Chadian military assistance to neighbours around Lake Chad continued throughout 2016. President Déby's regional policy has thus enabled him to minimize the secondary fallout from the Ghaddafi regime's collapse by strengthening his position on the international scene. Between 2015 and 2021, Chad was the most stable country in the region, which enabled it to

¹⁰ C. Happi, *Chad Conflict Insights: Peace & Security Report*, Institute for Peace and Security Studies 2021.

benefit from Western political, economic, and military support, despite its inadequacies in terms of economic management and democracy. Before the emergence of the Boko Haram insurgency and the regime change in Libya, in early 2000, after the ANT had suffered several defeats, President Déby managed to convince his Libyan neighbour to stop providing support to the rebellion. Déby started to make contact with the Libyan opposition and, during a Benghazi summit, threatened to leave CEN-SAD (Community of Sahel-Saharan States) in the end, he managed to have Adoum Togy dismissed from the organization¹¹.

Chadian combat battalions served as the core of respective regional forces tasked with consolidating stability and security in the Central African Republic while also assisting in the demobilization of militant groups: FOMUC (2002-2008), MICOPAX (2008-2013), and MISCA (2013-2014). Although the Chadian military in CAR interfered several times in 2003 and 2004 to suppress the predation of the 'libérateurs' (Chadian mercenaries who were the real strike force behind François Bozizé), it remained silent in 2013¹². Many Seleka mid-level commanders were mostly Chadians, either rebelling against Déby in the 2000s or in Darfur, where they were recruited by Seleka officials or daughters who had reconciled with Idriss Déby's regime and were demobilized in Chad but left out of the political decision and ready for a new well-paid military adventure.

Idriss Déby attempted to initiate a dialogue between people who are close to Boko Haram leader Abukar Shekau and President Jonathan's representatives in October 2014; a new meeting could have been held in December 2014, if the two sides had adopted pragmatic steps they had agreed on. Nothing occurred (on both sides), and Idriss Déby was correct in his assessment that the days were numbered for a larger confrontation. This has pinpointed the role of Déby in the security circle of the sub-region whose absence creates a vacuum and endangers the beleaguered security situation in Chad, Nigeria, Niger Republic, Mali and Cameroun as well as Sudan.

From 2015 to 2021, Chad proved to be a successful counter-terrorism partner for France and the United States. Although ECOWAS member states debated whether or not to form a military coalition to combat radical Islamist armed groups in northern Mali, Idriss Déby Itno took the unusual step of sending 2,000 troops to Mali through Niger to confront militants in the north. Two years later, Idriss Déby used the same sense of initiative to foresee the danger posed by Boko Haram and initiate an offensive against the Jihadi

¹¹ J. Tubiana, C. Gramizzi, *Tubu Trouble: State and Statelessness in Chad–Sudan–Libya Triangle*, Graduate Institute of International and Development Studies, Geneva 2017.

¹² R. Marchal, *An emerging military power in Central Africa? Chad under Idris Déby*, "Sociétés politiques comparées", vol. 40, 9-10.2016.

movement in collaboration with Cameroonian and Nigerien forces. What structural factors allowed Chad to emerge as a regional military force so quickly? Four factors are taken into account: regional demand and supply, financial capacity, ambiguous ties with the international community, and a well-trained military apparatus as a result of a civil war¹³.

Findings and Discussion

The Government of the Niger Republic had in 2016 requested Chad to send troops to the Niger Republic which was politically sensitive, even though the Chadian contingent was able to dissipate the threat and restore relative peace for the local population.

Chad was willing to invest a substantial sum of money during the Déby period without knowing whether it would be reimbursed, but it did so solely to protect the country and, by extension, its neighbours. It's impossible to know or pretend that N'Djamena was certain of being reimbursed to the last penny. In spring 2015, the Chad contingent in northern Cameroon allegedly cost CFA Franc 6 billion per week. It is also uncertain who will be responsible for paying the bill. Chad's military presence in Mali, Cameroon, and Nigeria has relieved Washington and Paris. As a result, they could generously reimburse its costs or, at least, use Chad's financial constraints, as France did in gaining access to the Heavily Indebted Poor Country Initiative (over one billion US dollars in irrevocable debt relief)¹⁴.

Concerns in West Africa after the death of Déby

The death of Chad's President, Idriss Déby, has sparked fears about the country's and West Africa's stability. Déby headed over one of West Africa's most formidable and well-equipped militaries. In the Lake Chad Basin and the Sahel, where Islamist extremist groups have wrought havoc in recent years, his forces supplied critical support to international security efforts¹⁵.

Voids have been created and it is these gaps that will most likely lead to a worsening of the current security situation in numerous sections of the Sahel. Chad was a stabilizing force during the late President Déby¹⁶. This underscores

¹³ *Ibidem*, p 6.

¹⁴ *Ibidem*, p. 10.

¹⁵ A. Hammerschlag, *Chad President Déby's Death Raises Security Concerns in West Africa*, <https://www.voanews.com/a/africa_chad-president-debys-death-raises-security-concerns-west-africa/6204954.html> (30.11.2021).

¹⁶ T. Obiezu, *Experts Say Death of Chad's Deby Will Impact Regional Security*, <https://www.voanews.com/a/africa_experts-say-death-chads-deby-will-impact-regional-security/6204969.html> (30.11.2021).

the significance of the late Déby in tackling insurgents based in Chad, Sudan, and the Central African Republic from taking Chad paving the way to destabilize other countries in the West African sub-region.

Nigeria, one of the countries affected by activities of Islamist insurgencies, expressed concern over the death of Déby citing fear of security deterioration in the neighbouring countries. Nigeria's Foreign Affairs Minister stated that Déby has played a significant role in the preservation of peace in the Lake Chad region and brought a modicum of stability to the region and his absence can lead to the setback as the result of his death. Since the death of Déby in April 2021, the security situation in Nigeria has been aggravated, particularly in the North West, where the armed bandits, cattle rustlers and kidnappers have intensified their attacks on villages, ransacking and killing the local population. The Nigerian Government and security experts are attributing the deterioration of the security situation in Nigeria to the importation of illegal weapons and ammunition to Nigeria from the Niger Republic, Chad and Cameroun. This is similar to what happened during the overthrow of Gaddafi in 2011. As a result of the Libyan conflict, the entire sub-region faces new security challenges. While the Western-backed National Transitional Council (NTC) liberation forces toppled Gaddafi's regime, subsequent developments show how the Libyan crisis has increased the challenges facing countries in the Sahel, with ramifications that extend far beyond West Africa's borders¹⁷.

Furthermore, the demise of Gaddafi in the aftermath of the Arab Spring has far-reaching ramifications for numerous African countries. In the already weak and turbulent Sahel area, it has sparked a combination of rebels, weapons, refugees, smugglers, and violent Islamic extremist operations. Multiple rebel factions, such as the MNLA and Ansar Dine, have escalated their activities in northern Mali, where significant towns such as Gao and Kidal have been taken. In expressing fear over the collapse of Gaddafi's regime in Libya, the former President of the Niger Republic averred and expressed worry over the future of West Africa in the post-Gaddafi era. Mahamadou Issoufou stated that the Libyan conflict has heightened the dangers that countries in the area face. Issoufou stated that "We are already threatened by fundamentalists, as well as criminal organizations, drug traffickers, and gun traffickers... All of these issues have gotten worse in recent years". All the more dangerous because Libyan weapon depots have been stolen, and such weaponry have spread across the area. Furthermore, Issoufou narrated that "Yes, I am concerned we fear that, as in Somalia, the Libyan state could collapse, bringing religious extremists to power".

¹⁷ K. Aning, F. Okyere, M. Abdallah, *op. cit.*, pp. 1-7.

Before the change of leadership in Chad, the absence of a unified government in Libya created a security void in North and West Africa, this is because of the strategic location of Libya at the Mediterranean coast which made it easy for the arms smugglers to move illegal weapons from Europe to Libya and distribute it to West Africa countries with security challenges and the control of Libya terrorists of Islamic fundamentalists has further worsened the insecurity in virtually all the countries that surrounded Libya and their neighbours such as the Niger Republic, Nigeria and Cameroun.

Security Situation in Nigeria and Niger Republic

After the deaths of Déby and Gadhafi, the security situation in the Niger Republic and Nigeria as well as Mali is out of proportion and Governments in those countries are struggling to bring the situation under control. The activities of Islamic fundamentalists in Northeast Nigeria have been subdued though there are pockets of attacks on civilians and security personnel in Borno and Yobe States. However, the armed bandits who ransacked villages stole livestock, kidnapped people for ransom or killed villagers have intensified their activities in Northwest Nigeria from 2013 to 2021. This is attributed to the proliferation of weapons and the spread of armed bandits across Nigeria and the Niger Republic's boundaries. In 2021, there were bouts of deadly attacks by armed bandits and cattle rustlers in the Niger Republic. In the Niger Republic, on November 4, 2021, 11 soldiers were killed in Dagne village, at the border with Mali. Similarly, on November 2, 2021, 69 civilians were massacred in the village of Adab-Dab, close to Bani Bangou in the Western region of Tillaberi. Additionally, in July 2021, the town of Tchoma Bangou like Bani Bangou is located in the Western region of Tillaberi. In July 2021, 49 people were killed in the Tillaberi area, 5 were civilians, 4 soldiers, and 40 terrorists. Before July, in January 2021, 70 unarmed civilians were gruesomely killed in Tchoma Bangou and 30 in Zaroumadareye.

In Nigeria, the activities of the armed criminals in the Northwest region which share a land boundary with the Niger Republic have reached a boiling point. The armed criminal elements have been killing and kidnapping defenceless civilians and in some instances armed security personnel in Zamfara, Sokoto, Katsina, Niger, Kaduna, and parts of the Kebbi States. The deteriorating security situation has compelled the Federal Government of Nigeria in September 2021 to cut-off mobile telecommunication services in Local Government Areas, among the other security measures, in Zamfara, Katsina, Kaduna and the Sokoto States in order to disable communication between the armed criminals with their informants who reside in town and cities. However, the shutdown of telecommunication service has not yielded the

desired results, as the cattle rustlers and bandits continue to unleash horrific attacks in the Northwest unabated.

Discussion of the Major Findings

Deducting on the above findings from Nigeria and the Niger Republic, the absence of two leaders, Gaddafi and Déby has exacerbated the security challenges in countries that already have security challenges such as the Niger Republic, Mali, and Nigeria. This does not directly relate to the beleaguered security situation in two countries (Niger and Nigeria) to the collapse of Gaddafi and Déby but their absence contributed to the proliferation of weapons and fighters who once worked in support of the Gaddafi regime and the rebels that late President kept them at bay throughout his regime, prevented from entering Chad and other neighbouring countries such as Nigeria. This is corroborated by the conclusion of a study conducted by Eljarh in West Africa which concluded that in a volatile and conflict-prone region, the fall of the Gaddafi regime and the breakdown of the Libyan State has exacerbated existing security vulnerabilities and threats. The Sahel and Northern Mali, in particular, were the first to suffer from Libya's post-Gaddafi turbulence¹⁸. This is also one of the reasons why the Tillaberi region in the Niger Republic has been under incessant attacks by terrorists due to its proximity to Mali. Similarly, in Nigeria, Katsina, Zamfara and Sokoto States share a common boundary with the Niger Republic which is also suffering from the influx of armed terrorists from Libya and Chad and is besieged by the activities of armed groups, terrorizing motorists, security personnel and defenceless villages.

The findings further portrayed that Libya and Chad are strategic countries in Africa and influence the stability or otherwise of not only their internal security but including other African countries. The debilitating security situation in Nigeria which led to the death of a senior army officer in November 2021 in an ambush by ISWAP in Borno State is among the happenings some security experts anticipated when Deby died in April. This is substantiated by the analysis made by one of the global security analysts Alexandre Marc stated that Chad's army is one of the most effective in Sub-Saharan Africa, having appeared on all fronts in the struggle against jihadist organizations in the Sahel over the previous 20 years. It has also been involved in civil wars in neighbouring countries, most notably in Sudan and the Central African Republic (CAR), as well as in Libya indirectly¹⁹.

¹⁸ M. Eljarh, *op. cit.*, pp. 1-17.

¹⁹ A. Marc, *The Death of Chadian President Idris Déby Itno threatens stability in the region*, <<https://www.brookings.edu/blog/order-from-chaos/2021/04/29/the-death-of-chadian-president-idris-deby-itno-threatens-stability-in-the-region/>> (30.11.2021).

Conclusion

Regardless of the system of government adopted in Libya and Chad as well as the democratic credentials (undemocratic credentials in the case of Gaddafi) and human rights records (dismal human rights records) during their regimes, Libya and Chad under the guidance of Gaddafi and Déby were stabilizing forces of the security situation in some West African countries. Therefore, the current situation in Libya, its neighbours and other adjoining countries in the West and Central African regions is an indication of a strategic blunder by some African leaders who watched hands-akimbo, as foreign forces overthrew Gaddafi. In the same vein, the sudden demise of Déby, unlike Gaddafi has caught most of the neighbouring countries of Chad off-guard and ill-prepared for the security challenges they may face without a strong leader who has been controlling the influx of fighters from Sudan and Libya to infiltrate some West African countries. In this sense, addressing the aggravating security concerns in Mali, the Niger Republic, and the Federal Republic of Nigeria is intertwined with the security atmosphere in their neighbours that armed fighters are using as training grounds and sources of weapons. What is novel in this paper is the comparative analysis of the worsening security situation in some countries in West Africa which is attributed to the collapsing security in Chad and Libya.

The study concluded that the aftermath of Gaddafi's death is having a significant impact on Africa, especially the Sahel region. Mali has experienced the first big reaction to the coup d'état, with increased proliferation of weapons and mercenaries joining rebel groups, exacerbating the already precarious defence, socio-economic, and environmental conditions, with numerous implications for the West African sub-region.

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II. COMMENTARIES

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CYBER RISKS AND THREATS FOR E-HEALTH PORTALS. A ROMANIAN APPROACH

Abstract:

Cyberspace is a platform for interaction at the level of society, being highlighted by major benefits visible in several sectors of activity, such as: supporting policies and promoting national interests, developing and supporting the business environment and the medical services industry, increasing the quality of life, raising the level of knowledge and predictive capacity in order to prevent risks and threats to national security, developing technical capabilities and skills of human resources in order to achieve national security objectives.

Keywords:

Cyberthreats, e-health, e-health portals, Romania

Types of attacks aimed at stealing data or information, encrypting data, blocking access to services, unauthorized access, manipulation, interruption or destruction of data and information. The risks to which users who ‘enter’ cyberspace are exposed generate ongoing challenges that require a series of actions and responses accompanied by vigilance and long-term investments.

Counteracting cyber aggression by working together can be an effective cyber security system: for the state, companies or public institutions and users. The state can contribute by ensuring an appropriate legislative framework to ensure information security, companies or public institutions must provide

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methodologies, procedures and investments in technical solutions to ensure security, and users must be concerned with information and self-training in the field because they can be both risks as well as a factor of protection of the infrastructure in which it operates.

In this context, the security challenges of e-Health portals also lie in the fact that the data and information stored here are some of the most sensitive, which must be very well protected and at the same time easily accessible. Designing an e-Health portal is a challenge due to specific requirements and functionalities, because the complexity of integrating e-Health services, which are implemented using different technologies, will make it difficult to provide new services at the request of users.

E-Health portals provide healthcare providers with a single point of access to their patients' digital health information. Healthcare providers can thus access laboratory results, images of radiological investigations, diagnostic information, medication data, medical history and other information related to patients' health, thus giving them a complete picture of their health, which brings added value to caring decisions.

The medical services industry is undergoing a major evolution in the information age, as most of the medical records of patients have moved to the online environment, and medical professionals are realizing the benefits of smart medical devices. However, the more the healthcare industry adapts to the digital age, the more often there are concerns about threats to the confidentiality, safety and security of the medical data transmitted.

In the case of e-Health portals, which are at the intersection of medical informatics, public health and business, they are a major target for hackers because they contain very sensitive information, while current cyber security solutions for e-Health portals protect only certain security levels.

The widespread use of security tools and advanced technology provides the infrastructure needed to create modern and reliable security solutions in the field of e-Health portals. The problem that arises is that connecting together the right security tools to ensure overall security without affecting the performance of the portal and user productivity is difficult and requires special configuration. There is little research exploring the relationship between medical data confidentiality and cyber security. Precisely for this reason, this paper explores the risks and vulnerabilities of e-Health web portals, that is, to the security of medical data and information that are shared online.

For this reason, in this paper, an important emphasis will be placed on the challenges represented by the hostilities in cyberspace from an academic, strategic and legal perspective looking for the answers to the following questions:

- Do existing theories provide sufficient answers to the current challenges posed by cybercrime conflicts, and if not, could alternative approaches be developed?

- How do states and non-state actors use cyber weapons when pursuing strategic and political goals?
- How does the emergence of conflicts in cyberspace pose a challenge to the current legal framework?

The conceptual framework will help us to better understand:

- conceptual delimitation of IT portals for citizens' health management, institutional analysis of the place and role of institutions empowered to ensure the security of e-Health IT portals;
- identification of threats and vulnerabilities to the security of e-Health IT portals, - analysis of the impact of attacks on e-Health IT portals, related to the need for the protection and confidentiality of medical data;
- transforming the lessons learned by experts in the field into constituent elements of a strategy to prevent risks and vulnerabilities and counter threats to e-Health IT portals;
- identifying tools and methods to prevent and counter cyber-attacks on e-Health portals, for the next generation of cybersecurity systems, to increase the capacity of e-Health portal specialists and administrators to counteract the actions of malicious actors;
- identifying the current limitations of cyber security solutions for e-Health portals and proposing next-generation cyber security solutions for this type of portals.

In our case, we aim to validate the following research hypothesis: The more e-Health portals are integrated into the development of the medical act, the greater need to operationalize a culture of security of the personnel with attributions in the use of these portals.

This is necessary because e-Health portals increase efficiency and add value to healthcare by avoiding misdiagnosis and unnecessary therapeutic interventions², supporting the continuity of medical practice, improving communication between medical institutions and by expanding access to evidence-based human health knowledge, thus reducing the gap that exists between health professionals and patients.

The question for cybersecurity professionals is: How can I protect the e-Health IT portals of institutions and organizations from appearing on hackers' victim lists? Thus, the better known the possible threats and vulnerabilities to e-Health IT portals, the more effective will be the strategies developed by experts in order to protect them.

² M. Hough, *Reducing Misdiagnosis: Healthcare Technology Set To Save Thousands Of Lives And Billions Of Dollars*, <<https://www.healthitoutcomes.com/doc/reducing-misdiagnosis-healthcare-technology-set-to-save-thousands-of-lives-and-billions-of-dollars-0001>> (30.11.2021).

For my work, I chose a qualitative research method to identify cyber threats to e-Health portals, respectively the solutions to prevent and counter them. Researchers use qualitative methods to explore real situations, understand a phenomenon, identify the meaning of events, answer questions or capture descriptions of human experiences. The respondents were selected among institutions or companies with attributions in the field of cyber security.

In order to establish the most important aspects that should be taken into account in order to streamline the means and methods of preventing and combating cyber risks and threats to e-Health portals, we interviewed a number of twenty cybersecurity experts from institutions or companies with responsibilities in the field, as follows: cybersecurity experts from institutions with responsibilities in the field of defence, public order and national security, researchers from research institutes in the field of cybersecurity, workers in private companies with activity in the field of cyber security, as well as IT experts from institutions/companies with the object of activity in the medical field.

We asked the following twelve questions:

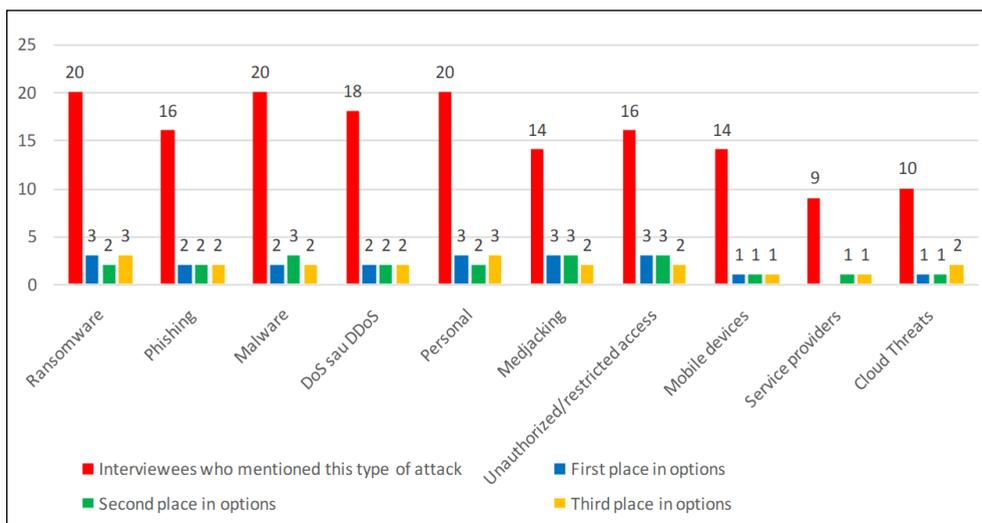
- 1) What types of actors involved in cyber aggression do you know?
- 2) What types of cyber-attacks do you know?
- 3) What do you think are the most used methods for a cyber-attack?
- 4) What are the most used methods of protection and counteraction in the event of a cyber-attack?
- 5) What types of cyber-attacks have affected Romania and who was at their origin?
- 6) What measures did Romania use to prevent and respond to cyber-attacks?
- 7) What types of IT portals do you know and what are their benefits?
- 8) What cyber threats to computer portals do you know/can you imagine?
- 9) What differences can you identify between e-Health portals and other types of IT portals?
- 10) What cyber threats do you know/imagine about e-Health portals?
- 11) What cyber-attacks on e-Health portals in Romania do you know / can you imagine?
- 12) What methods of preventing and counteracting cyber-attacks on e-Health portals in Romania do you know/propose?

One of the biggest threats to the cyber security of e-Health portals mentioned by the respondents is the medical staff (users), or rather the lack of adequate education on the cyber security of the medical staff. It all comes down to cybersecurity education - do all employees know how to identify and prevent phishing attacks, ransomware attacks or malware attacks? Well, you should! Managers need to ensure that the organization has a cybersecurity strategy and policy that is not only well understood, but fully followed and implemented.

Another category of threats mentioned by respondents is providers. Healthcare providers often work with other providers without properly assessing the risk. Unauthorized personnel can easily access computers that are not in restricted areas. If these open computers have access to sensitive patient information, unauthorized staff or others in the area can quickly find harmful information. In other cases, successful phishing attempts on general-purpose computers provide a gateway for hackers to more sensitive areas of the network.

When asked what cyber threats to e-health portals do you know/can you imagine? the answers given by the respondents were as per the chart below.

Figure 1. Types of cyber threats to e-Health portals



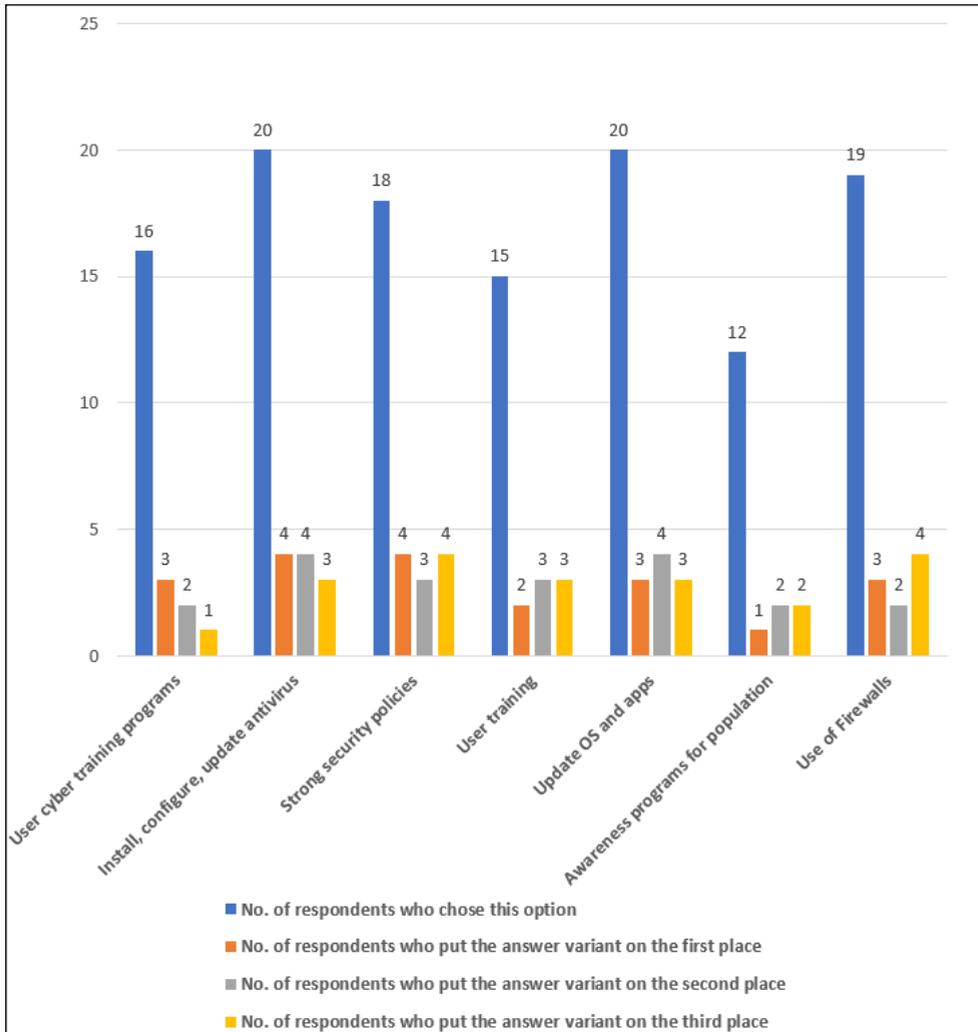
Source: own studies.

Unfortunately, many reports show that employees are the weakest link in an organization's security defence. Organizations must make security a priority and conduct frequent employee training. Often, most security budgets tend to be spent on technology-centric solutions, but institutions and companies need to pay more attention to the human side of security.

When it comes to medical devices, respondents said their security is often lacking, making them easy targets for hackers. As the Internet of Medical Things (IoMT) continues to grow, these devices are designed to export information to external sources and interact with the world outside the medical office. This data could be intercepted or manipulated, creating a number of problems. Furthermore, hackers could gain access to manage most devices connected to the network, including how they operate.

Regarding the question: What methods of preventing and countering cyber-attacks against e-Health portals do you know/propose? the answers resulted somehow normally from those received to the previous question, that is, depending on the possible types of attacks, we implement measures to prevent and counter them.

Figure 2. Measures to prevent and counter-attacks on e-Health portals.



Source: won studies.

Respondents highlighted the fact that although efficient firewalls and other means of defence are used, the human factor remains a weak link that needs to be trained. To minimize human error, system administrators must constantly remind all staff about risky behaviour. This can include anything from downloading unauthorized software and creating weak passwords to visiting malicious websites or using infected devices.

Another option of the interviewees was strong security policies: high complexity passwords to be changed no more than 30 days, creating different groups of users with different privileges, setting custom access ranges where possible, authentication with more many factors, etc.

The greater the number of people using e-Health IT portals (medical, administrative, patient, etc.) who are trained to use them, and complying with the cyber security rules applicable to these portals, the lower the risk of exploiting vulnerabilities.

Academics can help meet the growing need for cybersecurity by training the next generation of cyber defenders, and it is crucial that such training programs be designed to prepare students for this type of fieldwork. Unfortunately, the collection of data on cybersecurity is hampered in some cases where cybersecurity professionals feel uncomfortable with traditional methods of human factor analysis.

Regarding the e-Health portals in Romania, the respondents mentioned that medical institutions allow the mobile connection of both medical staff and patients and do not always require that the devices comply with security standards. This leaves their networks vulnerable to malware and hackers, as not all of the organization's plans and security also cover staff communication devices. This problem is exacerbated once staff remove equipment (in the case of upgrades) – network information or passwords may still be accessible, making it a natural access point for criminals.

Respondents also noted that a large number of connected medical devices, with different specifications and from different manufacturers, makes maintaining security particularly difficult for IT professionals – health. While medical devices do not always store significant amounts of patient data, they can be vulnerable entry points for attackers to access data-rich servers. Keeping these entry points up to date and safe must remain a priority for the medical industry, in order to reduce costs and damage through attacks on this type of device.

Regarding the methods of preventing and counteracting cyber-attacks on e-Health portals in Romania, the respondents pointed out that the human factor remains a weak link, which must be trained. To minimize human error, system administrators should constantly remind all staff about risky behaviour. This

can include anything from downloading unauthorized software and creating weak passwords to visiting malicious websites or using infected devices.

Along with the use of outdated systems, some users are not trained on cyber security measures. They may not even have the latest and greatest software installed on their computers at home. Without proper training, users do not know what warning signs to look out for. So they are more likely to click on a link asking them to 'restore access' to the email platform or appointments than to ask themselves if this is safe or not.

It is also not enough to install various antivirus applications or software. Continuous updates on time are essential to ensure that healthcare systems receive the best possible protection at all times.

Strong security policies should be implemented: high-complexity passwords to be changed no more than 30 days, creating different groups of users with different privileges, setting custom access ranges where possible, multi-factor authentication, etc.

For example, at a hospital, nurses may need to share information with other employees in their unit, but there is no reason for other departments to see this. Visiting physicians can only receive access to information about their patients. Security settings should also monitor unauthorized access or access attempts at each level and send email or phone alerts to network administrators.

It is important to highlight that the methods of protection against cyber-attacks must start from strong password policies, the use of firewalls, the up-to-date updating of the OS and other software used, the use of licensed antivirus and its permanent update, the creation of backups to methods related to each user's level of training or information/awareness: avoiding pirated software and untrustworthy sites, using maximum caution when browsing the Internet, avoiding revealing passwords or personal information through the internet, rigorously questioning anyone who offers you very cheap or free goods or services on the basis of 'too good to be true' or 'nothing is free'.

Given the formulated research hypothesis, I present the following conclusions. The unprecedented development of IoT technology and the connection to the Internet of various types of objects in our daily lives, such as sensors or various devices (medical devices, appliances, electronics, etc.) increase the risk that they are attacked by exploiting their vulnerabilities. IoT is applied in areas such as smart cities, home monitoring and automation, e-Health, production, energy and utilities, smart grids, smart transportation and traffic management.

E-Health portals include a wide range of web-based interventions, for example, test results, electronic records, e-consultations, telemonitoring and web viewing of medical records. However, e-Health is more than a technology;

it is a different way of working and thinking, and it requires a change in attitude that sometimes goes beyond the boundaries of a health care organization.

As technology evolves and attackers become more skilled, there will be more and more vulnerabilities identified. With technological advances, hackers are becoming more adept at finding holes and cracks in the security systems of institutions or companies and can gain access to protected files and data, which poses a significant threat to cybersecurity.

With the exponential upward progress of technology, the presence of malicious actors and other threats to the cyber security of computer networks is also increasing. Increased awareness and knowledge of the risks and vulnerabilities of technology, both by users and hackers, increase the risks of cyber fraud. In order for individuals, institutions or companies to protect their information in the living space, it is important to take security measures against cyber security breaches.

State institutions and companies shall use a strategic combination of robust IT systems to reduce costs, facilitate secure and easy user access to databases, and increase operational efficiency in order to remain competitive in today's globalized ecosystem. IT portals offer a competitive advantage when it comes to users working remotely in the management of databases, documents, information and other critical processes.

Technology in the field of web portals is evolving rapidly, but so are the risks. The ability to ensure the confidentiality, integrity, access and non-rejection (authenticity of identity) of information provides unique opportunities and risks. As the defence dwindles, cyber threats become more sophisticated, persistent, and more impactful.

Data on healthcare, financial profile, patterns of social behaviour and other types of information are becoming increasingly valuable - either for legitimate businesses interested in targeted marketing or for people who want to illegally obtain services at the expense of another or for criminals who take advantage of the sale of this packaged identity or use it to commit fraud worth millions. All this information can be easily accessed from all types of devices, from traditional desktops and laptops to smartphones, through Internet portals.

Therefore, the massive use of computer portals in everyday life increases the risk that users' data (personal, financial, medical data, etc.) are accessed and used without their consent and to the detriment of malicious actors, which confirms the second hypothesis of the research.

Healthcare organizations are increasingly working with e-Health portals that allow patients to play a more active role in managing their health which affects the interactions between the patient and the healthcare professional. E-Health is more than a technology: it is a different way of working and thinking

and requires a change in attitude, which sometimes goes beyond the limits of a health care organization³.

Although there is an undeniable increase in attacks and breaches of the confidentiality of health data, it is possible for IT professionals to defend themselves against apocalyptic scenarios. IT departments in the field of health must act as if a threat to the e-Health portal is imminent and respond as such – both from internal and external sources. A network is more secure when everyone accessing the network can be identified and tracked.

Mapping the attack surface and marking all entry points and high-risk points can make it easier to continually assess, reassess, and uncover vulnerabilities. Mapping provides an opportunity to take a closer look at how healthcare data is accessed across the network. We may find that many access points (for example, remote access, messaging applications, or VPNs) are not designed for the level of use that their implementation often demands. Our goal is to make the e-Health portal as difficult a target as possible. Most healthcare data breaches are opportunistic in nature. Using rigid security standards and strengthening access portals helps us shut down dangerous opportunities without sacrificing access needed by the business, such as a nurse or professional whose access cannot (and should not) be restricted.

As much as we help employees understand the role they play in cybersecurity and the impact they can have on patients' lives, we will foster an atmosphere in which security is valued and respected. Regular information and communication on the security status of the organization reiterate the organization's emphasis on cyber security. Participating in staff training sessions and turning cybersecurity into a regular topic in meetings could help reduce the risks and threats to e-Health portals.

In this context, I believe that this paper can contribute to the development of cybersecurity in health organizations, in terms of maintaining the balance between identifying risks and vulnerabilities associated with e-Health portals and finding the best and fastest responses to possible attacks on them, without hindering or blocking the access of entitled users to the data and information contained therein.

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