

## ABSTRACT

Technological development, advancing globalization, and the increasing complexity of modern societies bring numerous benefits but also significantly heighten the probability of crisis situations. Phenomena such as armed conflicts, pandemics, natural disasters, or economic crises demand the preparation of both management structures and societies for responsible and effective responses. Observations of current events confirm the necessity of having efficient crisis management systems capable of rapid reaction to unpredictable situations. It is of key importance to develop comprehensive action plans and systems supporting decision-making in crises, both global and local. Particularly, the healthcare sector, as the cornerstone of societal security, faces the challenge of devising crisis management strategies that take into account both external and internal determinants.

Modern crisis management in the healthcare sector plays a crucial role in ensuring the continuity of healthcare services, particularly in the face of escalating threats such as pandemics, natural disasters or financial crises. The dynamic changes in the environment, caused by advancing globalization and the growing complexity of social systems, require decision-makers to develop integrated response strategies that consider both local conditions and international best practices. The analysis of past management strategies enables the identification of best practices and the formulation of procedures that should be prioritized by leaders and decision-makers in this field. The effectiveness of such measures depends, among others, on the optimization of decision-making processes, efficient resource allocation, and effective personnel management in crisis situations, which enhances the system's resilience to future challenges.

The COVID-19 pandemic emphasized the need to revise crisis management strategies. During the pandemic, many national healthcare systems, including the Polish ones, had to adapt dynamically to unpredictable changes. The analysis of the experiences of the pandemic not only assesses the effectiveness of previous actions but also identifies areas in need of improvement. The most important issues are:

- **Infrastructure gaps and insufficient resources** – Shortages of medical equipment and limited human resources were significant limitations in effective management.
- **Organizational problems** – The lack of consistent procedures and a complex decision-making structure complicated rapid responses.

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- **Staff burnout** – The pandemic exacerbated existing issues of work overload, which impacted the effectiveness of actions.

Such reflection is crucial for developing strategies that prepare the healthcare sector for future crises better. In the face of chronic issues, such as overwork and burnout among medical staff, crisis management must consider both external and internal organizational factors.

The specific conditions of the Polish healthcare system, including the centralization of management and the dominance of public funding, create unique challenges in the context of crisis management. Factors such as chronic underfunding, staff shortages, and limited infrastructure represent additional barriers. There is a need to analyze internal organizational aspects, such as human resource management, support for the mental health of staff, and the development of key soft skills. Furthermore, international comparisons highlight the importance of adapting proven practices from other countries to local realities. Despite the growing number of studies on crisis management, there still remains a need to develop more advanced models that take national specifics into account. The Polish healthcare sector lacks a holistic approach that would integrate internal factors, such as personnel management and resource optimization, with broader strategies for responding to external crises.

The internal condition of medical facilities plays a particularly important role, including the mental and physical well-being of staff, which determines the effectiveness of crisis management. Identifying and the analysis of determinants of healthcare unit functioning are crucial for developing strategies that limit the effects of internal crises and improve the quality of care. These findings could contribute to eliminate chronic problems in the Polish healthcare system, such as burnout among doctors and nurses or infrastructure shortages, which weaken the ability to respond to global crises. The conclusions drawn from research on the COVID-19 pandemic could serve as a foundation for creating new, more effective management models.

The main objective of the dissertation was to determine the effective crisis management strategies in the Polish healthcare sector and to formulate recommendations for improving their effectiveness in the face of future challenges. For this purpose, detailed hypotheses were defined, including those regarding the reactivity of current strategies, the importance of infrastructure, and the impact of managerial competencies on the effectiveness of actions. The main hypothesis assumed that the existing crisis management strategies in Poland are insufficient due to their reactive nature and the lack of adequate infrastructural and organizational preparation. Extensive empirical research was conducted with the participation

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of 787 healthcare workers, along with an analysis of literature, reports, and case studies. Theoretical and empirical research allowed for the verification of the hypotheses, highlighting the shortcomings of current strategies. In the statistical study, in addition to descriptive statistics, Pearson correlations and the SEM path analysis model were calculated. All statistics were performed in SPSS, AMOS and Python. Statistical tests were calculated at a significance level of  $\alpha = 0.05$ .

The research identified several key determinants of effective crisis management:

- **Material and financial resources** – Their availability determines the ability to respond flexibly and effectively in crisis situations.
- **Managerial competencies** – Crisis management requires leadership based on quick and accurate decision-making, supported by organizational skills.
- **Modern information technologies** – The rapid implementation of telemedicine systems, electronic databases, and analytical tools supporting decision-making are the basis of effective management.
- **Internal and external communication** – Efficient information flow between all levels of the organization improves the quality of decisions made under uncertainty.

The crisis management model developed in the dissertation, integrates an approach to internal crises (e.g., burnout, organizational deficits) with external crises (e.g., epidemics, disasters). This model is based on three pillars:

- **Flexibility of decision-making processes** – The introduction of rapid decision-making mechanisms, the development of emergency plans, and the use of technologies supporting risk analysis.
- **Sustainable approach to human resources** – Stress management, preventing burnout, and psychological support for staff, which help maintain high work quality.
- **Integration of information technologies** – The use of telemedicine systems, real-time data analysis, and electronic document exchange to improve coordination of actions.

An integrated approach to crisis management in healthcare allows more effective preparation for emergency situations.

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The dissertation consists of six chapters, which discuss, among others, the theoretical foundations of crisis management, the specifics of the Polish healthcare sector, the author's crisis management model and a comparative analysis of the international strategies. The applied methodology, which includes statistical analysis and a comprehensive assessment of determinants, allowed for the development of recommendations aimed at improving the effectiveness of actions in the healthcare sector. The presented model stands for a tool to support crisis management practices and highlights areas which require special attention, such as internal management and supporting infrastructure.

This work provides important insights for improving crisis management in the healthcare sector, particularly in the context of the specific challenges of the Polish system. The presented model and the recommendations resulted from the research are of key importance for improving the functioning of the Polish healthcare sector. The implementation of organizational and structural changes can contribute to enhancing the system's resilience to future challenges. These recommendations include:

- **Adoption of proactive strategies** – Implementing preventive measures to reduce the scale of crises.
- **Investment in infrastructure and technologies** – Ensuring adequate material resources and access to modern information systems.
- **Support for healthcare personnel** – Reducing workload, psychological support, and offering training to develop soft skills.

The dynamically changing socio-economic conditions require continuous updates to strategies and consideration of new challenges, such as demographic changes or technological advancements. The findings developed in this dissertation can be used not only to improve national strategies but also as a basis for further research on crisis management models in healthcare, particularly in the context of their implementation in other public sectors.

The solutions presented in this dissertation address the key needs of the healthcare sector in Poland, while also pointing to directions for the development of crisis management policies. The implementation of the proposed changes can significantly improve the quality of healthcare and increase the health security of society.

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