

Components of the public administration system for the post-war healthcare system recovery

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Abstracts

Based on the research findings, the theoretical provisions of the public administration of post-war restoration of the health care system using a systematic approach are substantiated. The proposed provisions formed the basis of the developed information model of the structure and content of the public administration object, which consists in identifying objects related to overcoming the consequences of the Russian-Ukrainian war and objects of the health care system modernisation. The necessity of post-war formation of the health care system new model, which should meet such features as adaptability, sustainability, and safety, is substantiated for the first time. To achieve this, the author identifies the key areas of formation and implementation of the post-war recovery strategy and outlines the activities of public administration entities, which include both the healthcare system itself and a set of entities that implement policies in other areas of public life and perform support functions. The author substantiates the substantive specifics of public administration mechanisms and directions of implementation of the feedback process. These provisions form the basis for substantiating the methodological provisions and determining the directions of practical application of the strategy of post-war health care system recovery.

Keywords: public health; health care system; health care system post-war restoration; public administration; russian-Ukrainian war.

1. Introduction.

The post-war healthcare system restoration should include a clear strategy of consistent actions and effective public administration mechanisms. Modern approaches to public administration of the post-war healthcare system restoration should be completely transformed in view of the set of problems faced by the system in the context of a full-scale military invasion by the aggressor state. This determines the need to transform the theoretical and methodological provisions of public administration of the post-war healthcare system restoration. Accordingly, scientific research is being updated in the context of identifying new and transforming existing properties of the components of public administration, in the context of: a) overcoming the consequences of hostilities for the healthcare system; b) forming a system of medical services that meet post-war needs; c) forming the adaptability of the healthcare system to internal and external threats. Accordingly, there is a need to revise the content, properties and critical points of the components of public administration of post-war healthcare system restoration.

2. Analysis of the latest research and publications.

The issue of post-war healthcare system restoration in the current circumstances is a new object of public administration as a science and practice, but certain aspects of post-war reconstruction in the context of historical provisions after the Second World War were studied by I. Romaniuk, T. Shkolnikov, V. Ilyin, O. Honcharova, V. Volonitsyn, N. Shypik and others. Modern aspects of the post-war restoration of the healthcare system are described in

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scientific papers: N. Godz, S. Hrechana, B. Andrushkiv, N. Kyrych, O. Kilyar, O. Hahaliuk, N. Didenko, O. Kushnirenko, N. Hakhovych and others. Some aspects of public administration healthcare system restoration are described in the works of D. Hrytsyshen, S. Petryk, L. Serhienko, S. Dombrovska, L. Antonova, L. Krynychko, O. Motailo and others.

3. Problem statement (formulation of the study objectives).

The study of these provisions of the mechanism for identifying the consequences of war for the health care system was carried out using the methods of systematisation, grouping, analysis and synthesis, induction, and comparison. These methods make it possible to identify and group the consequences of war in the following areas: infrastructure, human, and material. In addition, it is substantiated that an important component of the consequences for the health care system is the deterioration of public health, which is reflected in the increased burden on the system. The systemic approach was used to substantiate the structure and content of the health care system components, and the links between them were substantiated from the point of view of applying the methods of analogy, abstraction and modelling. In general, this made it possible to substantiate the directions of transformation of the public administration system in the context of the formation and implementation of the post-war recovery strategy.

4. Statement of the basic material.

The healthcare system is a priority area of post-war restoration, as it must address a set of social, economic and political challenges. "Strategic planning in times of war should be aimed at post-war economic recovery – reconstruction of industrial and infrastructure capacities destroyed by war, with a view to strengthening peace and security, achieving sustainable socio-economic development, as emphasised by leading national scientific schools" [1]. Accordingly, the restored health care system should acquire properties that will meet the post-war needs of society, and the state management system of this sector will be transformed accordingly, both in future periods and in the current period in the context of the formation and implementation of the Recovery Strategy. After all, "the health care system is a special area of public administration, as it contains a set of socio-economic relations and is interconnected with other sectors of the national economy and areas of public administration" [2].

The healthcare system occupies an important place in the structure of social relations and economic development, as the vital activity of participants in social relations depends on it. Moreover, the healthcare system is aimed at both a certain public good and a private good, i.e. ensuring individual health. The complexity of the health care system as an object of public administration lies in the fact that this system is at the intersection of the interests of most members of social relations, and therefore the restored system should ensure its adaptation to the post-war circumstances.

"The peculiarities of the healthcare system as an object of public administration are as follows:

- 1) Stakeholders: the interest of the most subjects of socio-economic relations and public administration in the development of the healthcare system as a factor in the formation of the state's human capital, which is the basis for the development of other socio-economic systems;
- 2) multisectoral: the healthcare system includes a set of economic sectors, including the provision of medical services, the pharmaceutical industry, the medical technology industry, the system of medical professionals' education, etc;
- 3) interdependence: the healthcare system is interconnected with socio-economic and political systems and natural and climatic conditions" [2].

The stability and compliance with certain socio-economic conditions of the healthcare system is one of the key tasks of the state, and therefore requires appropriate public administration mechanisms that should take into account all the properties of the object.

Taking into account the fact that the processes of healthcare system restoration are a qualitatively new object of public administration, there is a need to substantiate the properties of the public administration system itself. "building an effective multi-level organisational structure for managing the healthcare system is an important general management function - the function of organisation. There is a close connection between the management structure and the organisational structure: the organisational structure reflects the division of work between departments, groups and people, and the management structure creates coordination mechanisms that ensure the effective achievement of the overall goals and objectives of the organisation. The management structure is an ordered set of relations between units and employees involved in solving management tasks" [3, p. 333].

The application of a systematic approach, namely the consideration of public administration as a system that has the following components: object, subject, methodological action and feedback, will allow us to identify key areas of its transformation on the one hand and identify new properties that will meet post-war needs. Let us consider each component in the context of filling them with new content, properties and directions of development in the context of the Strategy for the Post-War Healthcare System Recovery formation. Consideration post-war health care system restoration public administration from this perspective will allow solving a set of research objectives:

- firstly, to identify the general properties of the healthcare system, its post-war reconstruction and newly restored healthcare system properties;
- secondly, to characterise the healthcare system properties that will meet the needs of the post-war period;
- thirdly, to identify areas for optimising the public administration entities activities in the healthcare system;
- fourthly, to substantiate the tasks of the post-war health care system restoration public administration and management of the new health care system itself;
- fifth, to determine the directions of the public administration methodology transformation through the substantiation of innovative key mechanisms for public administration.

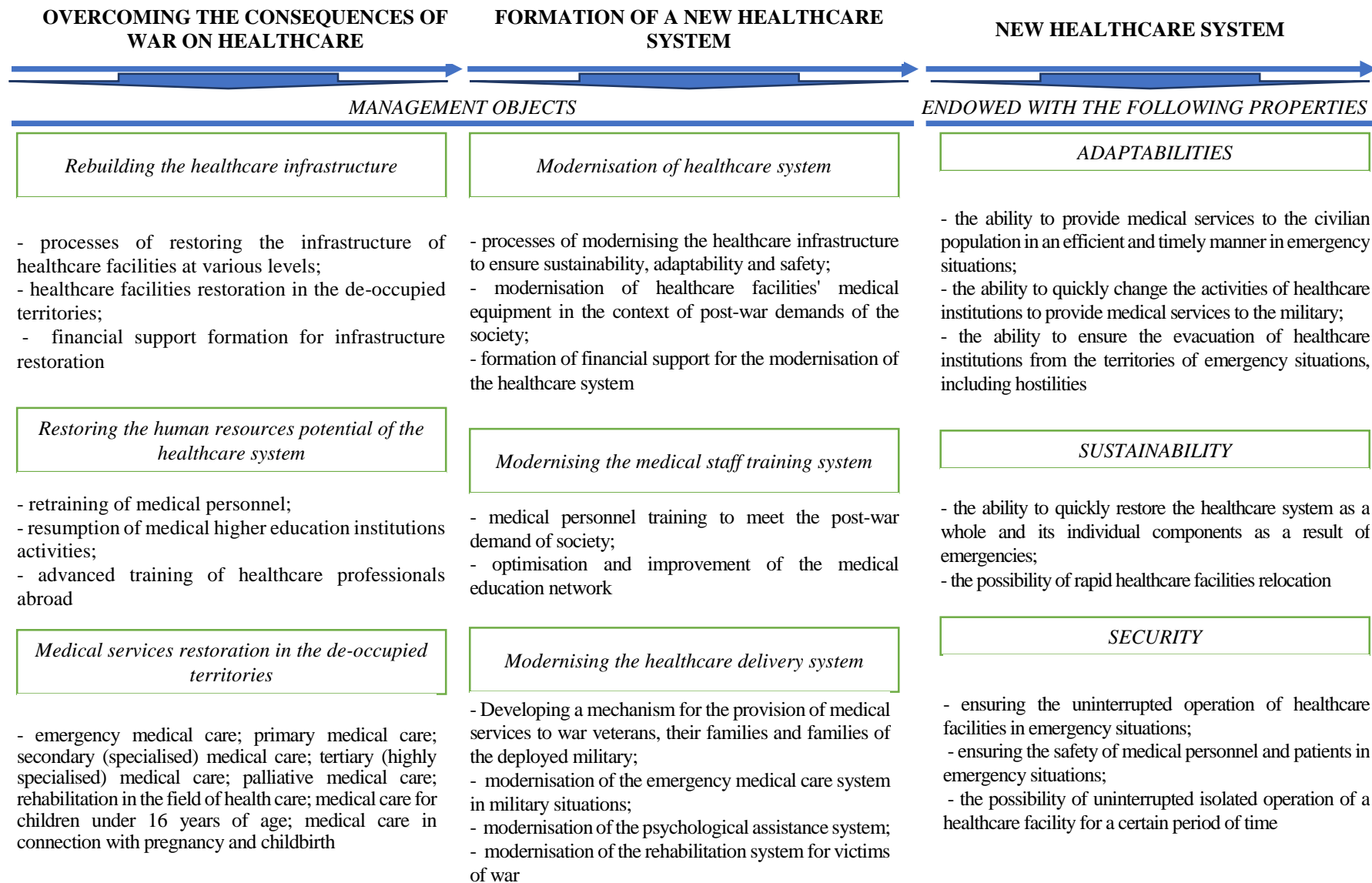


Fig. 1. The object of state management post-war healthcare system restoration

The following is a description of each element of the public healthcare management system and identifiers of their key features and new properties.

The complexity of the public administration object in the context of the defined object and subject field of the study is that it includes the properties of the pre-war healthcare system as well as the consequences of the Russian-Ukrainian war and the post-war healthcare system properties. In addition, the healthcare system is multi-level, and therefore each lower level is both an object of state administration for the higher level and a subject for the lower level. Based on the abovementioned, we see the structure of the post-war restoration public administration object as follows (fig. 1).

Determining the properties, structure and content of the object of public administration is extremely important for the development of a strategy for the post-war recovery of the healthcare system. The author's approach presented in Fig. 2, the author's approach describes the object of public administration as a complex dynamic object characterised by inter-sectoral, socially oriented and multidisciplinary nature. In addition, the health care system is at the intersection of interests of most participants in social relations, who can pursue both individual goals and social, public ones.

The process of post-war healthcare system restoration is characterised by a set of objects according to the following: overcoming the consequences of the Russian-Ukrainian war for the healthcare system; formation of a new healthcare system; new healthcare system. Each component has its own specific features that determine the content of public administration mechanisms and strategic goals.

Overcoming the consequences of the Russian-Ukrainian war as an object of public administration is characterised by the following components and properties:

1. Restoring the healthcare infrastructure. This process should be carried out in several directions, which are determined by the course of hostilities, occupation of state territories and damage caused by air threats (ballistic missiles, unmanned aerial vehicles, etc.). The main components of the post-war restoration of healthcare facilities are the reconstruction of healthcare facilities located in the territories controlled by the Ukrainian government and not subject to military operations, i.e. not within the frontline, but damaged by air strikes. "In 10 oblasts, 48 hospitals were shelled several times, which highlights not only the indiscriminate nature of the attacks, but also the possibility that the strikes were deliberate. For example, the Sievierodonetsk City Multidisciplinary Hospital in Luhansk Oblast suffered at least 10 attacks between March and May 2022. One of the hospitals in Kharkiv region was hit five times and another four times" [4].

The restoration of the infrastructure of such healthcare facilities takes place during wartime and is usually focused on military needs. At the same time, however, it is necessary to take into account new approaches to the organisation of medical care in the European Union (in the context of the European integration course) and to formulate the organisation of healthcare institutions that will meet the needs of the post-war period. The problem that can be traced in this context in the current wartime environment is the lack of a comprehensive approach to infrastructure restoration with a vision of the future. In fact, all reconstruction is carried out only to the maximum extent possible to achieve the pre-war state, without understanding the problems that may arise in the future.

An important task in the implementation of the strategic goals of the state management of the healthcare system restoration process is the organisation of medical services at all levels in the de-occupied territories. This task is extremely difficult to implement due to the high risk of hostilities and the proximity of the frontline. To a greater extent, international humanitarian organisations and volunteer organisations are responsible for organising and implementing medical services. In some of the de-occupied territories, field centres for the provision of medical services by disaster medicine teams have been deployed. According to the Cabinet of Ministers of Ukraine (publication of 20 December 2022), "currently, 4 disaster medicine teams are deployed in the de-occupied territories of Kherson and Mykolaiv regions. Each team consists of highly qualified emergency medical personnel. Since the beginning of their work (23 October 2022), the disaster medicine teams have provided assistance to 2,936 patients and visited 90 settlements in these regions. The disaster medicine teams started their work in Ukraine in April in the liberated Kyiv region. Since then, they have been constantly travelling to the territory of the de-occupied communities and providing medical care to those who have been deprived of it for a long time due to the occupation" [5].

At the same time, according to the official data of the Ministry of Health of Ukraine, work has begun on developing an action plan to restore the healthcare system in the de-occupied territories. "The Ministry of Health will begin work on the restoration and reconstruction of medical facilities in the de-occupied territories that were destroyed as a result of Russia's war against Ukraine. Work is currently underway to create a plan for the development and restoration of healthcare facilities affected by Russian aggression. The capacities of the new hospitals will be determined based on the hospital planning model, which the Ministry of Health has been developing in recent years. It should be noted that more than 350 medical facilities have been destroyed or damaged" [6].

The most important problem of the Healthcare System Restoration Strategy is financial support, as the war has led to a decline in the economy, which leads to a decrease in state budget revenues, as well as a significant burden on the budget due to increased military spending and a significant burden on the social sector. Accordingly, external donors should become sources of financial support.

2. Restoring the human resources potential of the healthcare system. "Not only patients, but also doctors moved to other regions or went abroad because of the war, which also affected the medical system. First of all, it led to the redistribution of specialists within the country, and a large number of internally displaced healthcare workers found jobs in other cities. In the first three months of the war (compared to the previous three), there was a sharp demand for doctors in Lviv, Ivano-Frankivsk and Dnipro, i.e. in the regions where people migrated the most. The

West of Ukraine was oversaturated with specialists at the beginning of the war, but in the East and South, along the front line, there was, and still is, a shortage of medical workers" [7]. According to the Minister of Health of Ukraine: "We know about the number of losses among medical workers, but only about the part of the losses that were officially reported to us, we cannot have all the information. We don't know the exact number of losses in Mariupol, Volnovakha, Popasna, parts of Donetsk and Luhansk regions. It is not always possible to obtain data from Kherson and southern Zaporizhzhia" [8].

The main areas of post-war healthcare system personnel restoration are as follows:

retraining of medical personnel. The retraining of medical personnel should be carried out in the context of the needs of wartime and post-war. The full-scale invasion has shown that tactical medicine and medicine in general are unprepared for military emergencies. This is primarily due to the lack of medical personnel and the training of existing ones. In this context, it is extremely important to solve the problem of retraining medical personnel and creating a register of medical workers. In particular, the retraining should focus on the development of tactical medicine skills and the use of modern technologies in providing emergency medical care to both military personnel and civilians. An important component of post-war recovery is the training of medical professionals who will be able to provide rehabilitation medical care to both civilians and military personnel, which will be extremely important for both the state and the population, ensuring a high level of social consensus in society. The next area of retraining for healthcare professionals is the development of psychological care skills for rehabilitation purposes for the affected population and for the restoration of the psychological health of the population after military operations.

- resumption of activities of medical higher education institutions. It is worth noting that a number of higher education institutions from the occupied territories were evacuated before the full-scale invasion of Russia, and some of them were evacuated afterwards, in particular, in the cities of Kherson and Mariupol. The evacuated higher education institutions that have not resumed their activities in the respective territories and are operating in safe areas include the following institutions in Luhansk and Donetsk regions and the Autonomous Republic of Crimea: Donetsk National University, Donetsk National Technical University, Donbas National Academy of Civil Engineering and Architecture, Mykhailo Tugan-Baranovsky Donetsk National University of Economics and Trade, Donetsk Law Institute of the Ministry of Internal Affairs of Ukraine, Donetsk National Medical University, Donetsk State University of Management, Donetsk University of Economics and Law, Horlivka Institute of Foreign Languages of the Donbas State Pedagogical University, Makiivka Institute of Economics and Humanities, Luhansk Taras Shevchenko National University, Donbas State Technical University, Luhansk National Agrarian University, Luhansk State Medical University, Luhansk State Academy of Culture and Arts, Luhansk State University of Internal Affairs named after Eduard Didorenko, Volodymyr Dahl East Ukrainian National University, Volodymyr Vernadsky Tauride National University, Donetsk Regional Institute of Postgraduate Pedagogical Education, Luhansk Regional Institute of Postgraduate Pedagogical Education. This list includes two medical higher education institutions that operated in the cities of Donetsk and Luhansk. It is worth noting that a number of institutions have resumed their activities in the safe areas, and some of them have been reorganised by merging with other higher education institutions. For the healthcare system, in terms of post-war restoration of human resources, it is extremely important to resume training of medical personnel in the context of optimising the network of higher education institutions. The optimisation of the network of higher education institutions, both medical and general, should be based on transparent rules and take into account national interests, which are primarily aimed at restoring the state and ensuring its strategic security.

- the advanced training of healthcare professionals abroad is a special object of formation and implementation of public administration decisions on restoring human resources and improving their quality. Addressing this issue will help to solve two problems, namely: to formulate an approach to the European integration processes of the medical training system, and to improve the quality of the healthcare system's human resources for the effective delivery of medical services during martial law and the post-war period.

The implementation of these measures should be accompanied by a set of organisational provisions and mechanisms for making effective management decisions. Accordingly, there is a need to form personnel reserves and a register of doctors in Ukraine. This will allow for a prompt response to internal and external threats and the formation of human resources in particularly dangerous areas. This issue is characterised by the complexity of the system of objects of public administration of post-war recovery processes and their diversity, i.e., covering different areas of social relations, as well as the interests of participants in such relations, which should be grouped into private, public and state.

3. Restoration of medical services in the de-occupied territories. This object of public administration is characterised by two consecutive components:

- firstly, the organisation of medical care in the de-occupied territories through the deployment of mobile hospitals to provide primary healthcare during martial law;

- secondly, the restoration of healthcare institutions in the de-occupied territories in the post-war period.

The abovementioned describes the system of objects of public administration in relation to the processes of overcoming the consequences of the Russian-Ukrainian war. The complexity of the object of public administration of the post-war recovery processes is determined by the multi-vector nature of social relations and the properties of the consequences of the Russian-Ukrainian war. This greatly complicates public administration decisions and the ways to assess their effectiveness.

The most important component in terms of restoring the healthcare system and bringing it into line with post-war needs and the world's best practices is the modernisation of the healthcare system. This stage is the most crucial, as

the new healthcare system should not match its pre-war characteristics, but should ensure an increase in the quality, accessibility and innovation of medical services. The healthcare infrastructure, both in the context of restoring the infrastructure that was lost and that was not lost, must be modernised, damaged as a result of the Russian-Ukrainian war. This process should be carried out in three areas: modernisation of the healthcare infrastructure; modernisation of the medical personnel training system; and modernisation of the medical services delivery system.

The issue of modernising the healthcare infrastructure consists of the following provisions:

- processes of modernising the infrastructure of healthcare facilities to ensure sustainability, adaptability and safety. Modernisation of the healthcare infrastructure is a special vector for the formation and implementation of the post-war restoration strategy, as it should be aimed at ensuring the quality and accessibility of healthcare services, taking into account the post-war needs of society (physical and psychological rehabilitation), inclusiveness and innovation. These are all the requirements that the European Union currently sets for accession candidates.

- modernisation of medical equipment in healthcare facilities in the context of post-war demands from society. Given the changing needs of the population in the post-war period, there is a need to modernise medical equipment for primary, secondary (specialised) and palliative care, as well as rehabilitation of those affected by the hostilities. In addition, other types of medical care will require both restoration and modernisation;

- formation of financial support for the healthcare system modernisation. The most optimal way to form financial support for the modernisation of the healthcare system in the post-war period is to attract resources from private businesses, international financial institutions, charitable organisations, international private investors, etc. We believe that public-private partnerships and the involvement of both domestic and international partners should be one of the most effective ways to do so. Accordingly, there is a need to develop an effective mechanism for attracting private partners through transparent rules and requirements for their activities.

In order to ensure the quality and safety of medical services in the post-war period and the preparedness of the healthcare system for natural and man-made emergencies, there is a need to modernise the system of medical training. Modernisation of medical staff training should include transformation of educational programmes, revision of accreditation regulations in view of the specifics of medical specialities, mandatory consideration of the experience of training medical specialists in European higher education institutions, and mandatory development of research competence. We believe that ensuring the quality of training of medical professionals and taking into account all of the above provisions is possible only if the educational reform is implemented, which should include optimisation of the network of higher education institutions and their choice of their place in this network, in particular: research universities, universities and specialised academies.

Modernisation of the healthcare delivery system in the context of post-war demands should determine: first, the formation of a mechanism for the delivery of healthcare services to war veterans, their families and families of active duty military personnel; second, the directions of transformation of the emergency medical care system for the purpose of providing healthcare services in emergency situations, including military operations; third, the procedure for providing psychological assistance to the population affected by the Russian-Ukrainian war, military personnel and their families; and fourth, the procedure for providing psychological assistance to the population affected by the military operations.

Determining the directions of overcoming the consequences of hostilities and modernising the healthcare system should form a new system that meets a set of properties, the key and priority ones of which are the following:

- adaptability, which is characterised by the following capabilities: first, to provide high-quality and prompt medical services to the civilian population in emergency situations; second, the ability to quickly change the activities of healthcare facilities to provide medical services to the military; third, to ensure the evacuation of healthcare facilities from the territories of emergency situations, including hostilities;

- resilience, which characterises the healthcare system as a system that: firstly, quickly recovers as a whole and its individual components in the aftermath of emergencies, including military operations; and secondly, ensures the prompt relocation of healthcare facilities;

- security, which allows the healthcare system to ensure: first, the uninterrupted operation of healthcare facilities in emergency situations; second, the safety of medical staff and patients in emergency situations; third, the uninterrupted isolated operation of a healthcare facility for a certain period of time due to environmental risks.

The presented characteristics of the object of public administration characterise the complexity and multidirectionality of the formation of the Strategy for the post-war healthcare system restoration, which requires balanced public administration decisions and transformation of the subjects of its formation and implementation.

The subjective side of the system of public administration of the post-war health care system recovery is related to the activities of central executive authorities that implement state policy in the field of health care and other related and supporting areas; local governments, in particular health care departments; state, municipal and private health care institutions; higher education institutions that train personnel in the field of health care; civil society institutions that represent the interests of the population. In general, the functioning of public administration entities in the processes of post-war restoration of the health defence system can be visualised as follows (Fig. 2).

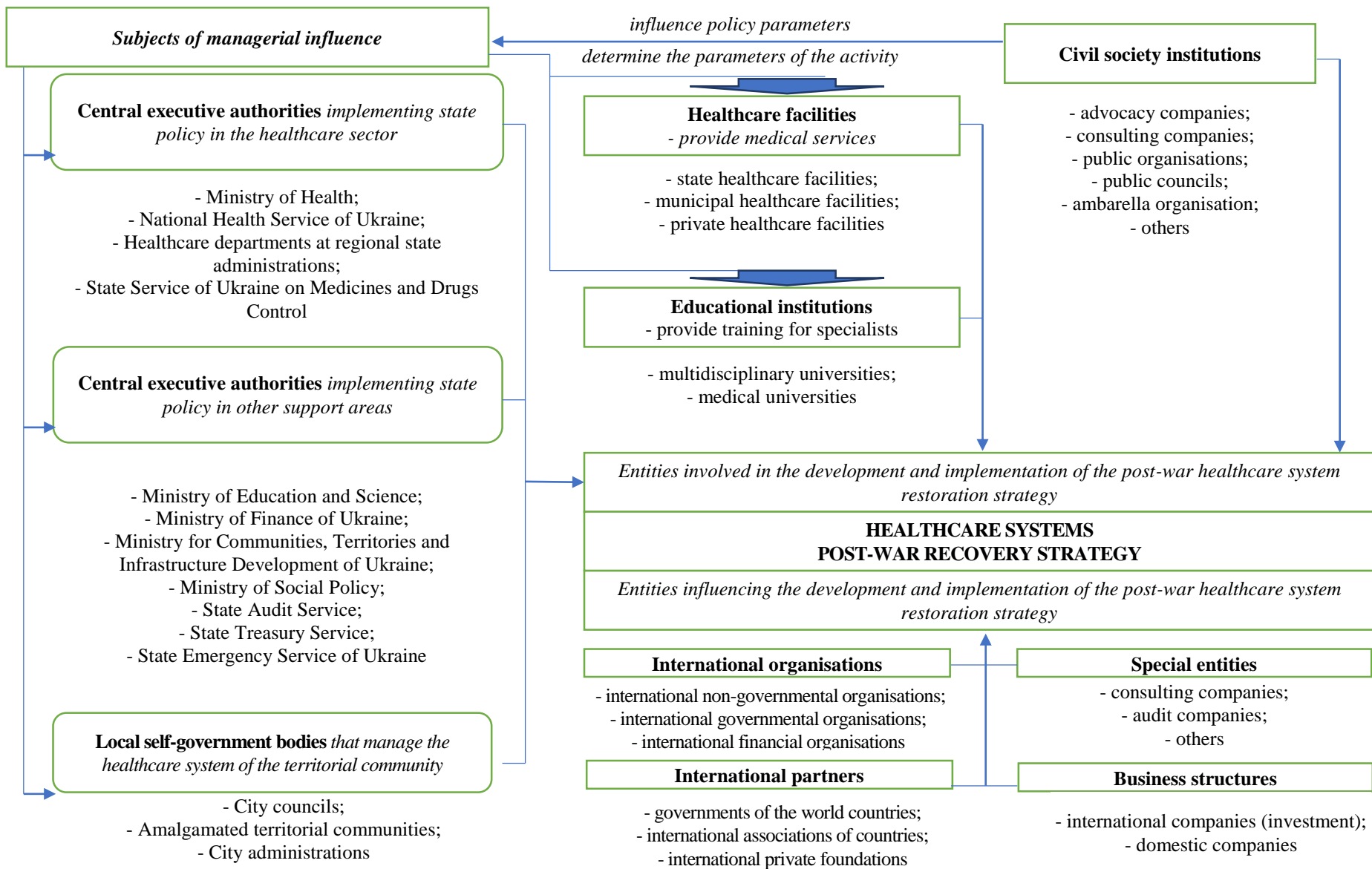


Fig. 2. Subjective composition of state healthcare management

The public administration entities of the healthcare system in general and in the context of the post-war healthcare system restoration strategy implementation can be defined as follows:

- entities of managerial influence, i.e., the entities that formulate and implement public administration decisions. These entities include:

1) central executive authorities implementing the state policy in the healthcare sector (Ministry of Health of Ukraine; National Health Service of Ukraine; Healthcare Departments at regional state administrations; State Service of Ukraine on Medicines and Drugs Control);

2) central executive authorities that implement state policy in other supportive areas (Ministry of Education and Science of Ukraine; Ministry of Finance of Ukraine; Ministry of Community, Territorial and Infrastructure Development of Ukraine; Ministry of Social Policy; State Audit Service; State Treasury Service; State Emergency Service of Ukraine);

3) local self-government bodies that manage the healthcare system of the territorial community (city councils; amalgamated territorial communities; city administrations);

- entities targeted by management actions that determine the parameters of their activities. These entities are healthcare institutions that provide medical services. The state influences the activities of private, state and municipal healthcare institutions. In the context of restoring healthcare in the unoccupied territories, private healthcare institutions will also play an important role in the context of the lack of state capacity in this area. The issue of human resources is the responsibility of higher education institutions, both medical and multidisciplinary (medical faculties);

- entities influencing the formation and implementation of the post-war healthcare system recovery strategy, which include: international organisations (international non-governmental organisations; international governmental organisations; international financial organisations); international partners (governments; international associations; international private foundations); specialised actors (consulting companies; audit companies; others); business structures (international companies (investment); domestic companies).

Thus, the composition of public administration entities includes both the healthcare system itself and a set of entities that implement policy in other areas of public life and perform support functions. It is important to focus on the actors that influence the implementation of public policy, namely civil society institutions, whose main purpose is to ensure that the interests of relevant participants in social relations are taken into account. In addition, the actors influencing the formation and implementation of the post-war restoration strategy are of great importance.

A special component of the public administration system in any area, including healthcare, is the methodological impact, i.e. the influence that occurs through the mechanisms of public administration. "The governance system should have a structure that would define sustainable links and relationships within the mechanism, as well as the main directions of management impact, which would ensure its integrity. Therefore, substantiation of the mechanism structure is one of the key tasks of developing its general concept, since, like any management system, the management mechanism consists of two subsystems - the managing (subject) and the managed (object)" [9]. The mechanisms of public administration constitute its methodology, although they are manifested to a greater extent in a practical way. "Mechanisms of public administration are practical measures, means, levers, incentives by which public authorities influence any social relations in order to achieve their goals. The mechanism of public administration serves as a mechanism of public self-government. It can be represented by a chain diagram. At the same time, the factors that influence the processes of public administration can be political, economic, social, cultural in accordance with the main spheres of social activity. Also, in accordance with the main forms of public administration, they can be of a political, administrative and legal nature. Most often, public administration uses a complex mechanism, which is a system of political, administrative, economic, social, humanitarian, organisational and legal means of targeted influence of public administration bodies" [10].

When studying the strategic provisions of the post-war healthcare system restoration state management, the following mechanisms should be prioritised:

- financial and economic mechanism, which determines the establishment of financing sources for post-war restoration and modernisation, as well as the specifics of financial support for the new healthcare system;

- information and communication mechanism, which allows to form a comprehensive information and communication system of the processes forming and implementing the strategy of post-war healthcare system restoration;

- legal mechanism, which forms the legal basis for the development and implementation of the post-war restoration strategy and defines responsibility for achieving key indicators of its implementation;

- organisational mechanism aimed at implementing organisational measures for the formation and implementation of the strategy, interaction between participants at different stages.

Each of these mechanisms determines the impact of public administration on the post-war restoration processes and the effectiveness of strategy implementation, as they are entrusted with a set of management functions.

5. Conclusion.

The complexity of formulating a post-war restoration strategy is caused by the lack of precise time limits, which affects the mechanisms of public administration on the one hand and determines the specifics of feedback on the other. Feedback in the classical sense of the system is the implementation of corrective measures based on the information

received about the effectiveness of a public administration decision. However, unlike in ordinary conditions, martial law can make its own adjustments to achieve goals in terms of time and geography. Accordingly, when formulating the proper content of the strategy and organising the processes of its implementation, it is necessary to take into account these features and set parameters for the actual achievement of strategic goals, as well as parameters for emergency situations and assessment of their impact on the achieved key indicators of the strategy.

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