UDC 614.2:35.08:613.2:355.72(477):001.89
DOI https://doi.org/10.32782/2077-6594/2026.3/19

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State regulation of therapeutic nutrition systems in Ukrainian military medical facilities: scientific foundations of institutional modernization and implementation of international standards and practices

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Державне регулювання системи лікувального харчування у військово-медичних закладах України: наукові засади інституційної модернізації та імплементації міжнародних стандартів та практик

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Introduction

In the context of the transformation of Ukraine's healthcare system and the reform of the security and defense sector, the improvement of therapeutic nutrition organization in healthcare institutions within the system of the Ministry of Defense of Ukraine (hereinafter referred to as the military medical institutions of Ukraine) has become particularly relevant. Nutrition in military medical institutions is considered not only as a logistical component, but also as an integral part of the diagnostic and treatment process, the public health system, and the restoration of servicemembers' combat readiness [1].

To determine the strategic priorities for developing medical support (medical provision) within the Armed Forces of Ukraine and other components of the security and defense sector under conditions of a special period, state of emergency, and crisis situations, the establishment of an integrated system for managing medical resources, logistics, and infrastructure is envisaged. This system also includes the enhancement of therapeutic nutrition organization as an integral component of medical support [2].

According to the Military Medical Doctrine of Ukraine and the Development Strategy of the Medical Forces of the Armed Forces of Ukraine, one of the key priorities is the modernization of medical infrastructure and the implementation of contemporary medical support standards compatible with NATO member state practices. Within this framework, the modernization of food service units in military medical institutions of Ukraine should be viewed as part of healthcare quality management, patient-centered care, and sanitary-epidemiological safety, particularly in relation to the prevention of foodborne infections in line with modern public health approaches.

The implementation of these approaches requires the effective functioning of the public health system within the Armed Forces of Ukraine and the introduction of effective mechanisms of state regulation governing the organization of nutrition in healthcare institutions. In this context, the activities of the regional sanitary and epidemiological departments of the Ministry of Defense of Ukraine are of particular importance, as they are responsible for monitoring compliance with sanitary and hygienic requirements, conducting laboratory surveillance of environmental factors, and performing medical and bacteriological examinations of food service personnel.

These functions constitute the institutional foundation for the implementation of modern models of therapeutic nutrition organization in military medical institutions, oriented toward the principles of food safety, the HACCP system, infection control, patient-centered care, and the standardization of processes in accordance with international practices and NATO standards [3; 4].

Thus, the system of medical support, including the organization of therapeutic nutrition in military medical institutions of Ukraine, functions as a multi-component and intersectoral mechanism encompassing strategic management, medical logistics, epidemiological surveillance, and food safety standards.

Under conditions of martial law and adaptation to NATO standards, the scientific substantiation of state regulation for the implementation of modern models of nutrition organization in military medical institutions is becoming particularly relevant, as an effective therapeutic nutrition system constitutes an important component in preserving the health of military personnel and enhancing the overall effectiveness of medical support.

The aim of this study is to provide a scientific substantiation of approaches to the state regulation of the implementation of modern models of nutrition organization in military medical institutions of Ukraine, based on the analysis of best international practices,

as well as to identify the conditions for their adaptation during the design and reconstruction of food service units in order to improve the quality of therapeutic nutrition and the efficiency of resource utilization.

Object, materials and methods of the study

The object of the study is the state regulation of the therapeutic nutrition system in military medical institutions of Ukraine under conditions of institutional modernization and the implementation of international standards and practices.

The research materials include the regulatory and legal acts of Ukraine in the fields of healthcare and medical support of the Armed Forces of Ukraine, international standards of hospital nutrition, and scientific publications concerning the implementation of Cook & Chill, Cook & Freeze, HACCP, and Lean management approaches.

The study employed systemic, structural-functional, comparative, regulatory-legal, and content analysis methods, as well as systems-management modeling to evaluate the organization of therapeutic nutrition, analyze international experience, and develop approaches to the optimization of food service units.

Research results

Within the framework of the aforementioned strategic directions, the development of modern therapeutic and diagnostic infrastructure and the implementation of effective models for the organization of therapeutic nutrition in military medical institutions of Ukraine are of particular importance. The regulatory and legal framework for this approach is established by state acts governing the nutritional standards for military personnel, the organization of therapeutic nutrition, and the physiological requirements of the human body for essential nutrients and energy [5; 6].

Doctrinal documents in the field of medical support for the defense forces of Ukraine, in particular the Military Medical Doctrine of Ukraine (Resolution of the Cabinet of Ministers of Ukraine dated 31 October 2018 No. 910, as amended on 25 February 2026 No. 247), the Doctrine "Medical Forces of the Armed Forces of Ukraine" (2020), the Doctrine on Medical Support of the Defense Forces (2021), and the Development Strategy of the Medical Forces of the Armed Forces of Ukraine until 2035, define the conceptual foundations for the development of the military healthcare system in accordance with contemporary security challenges and NATO standards.

These documents are aimed at the unification of approaches to medical support, increasing the interoperability of medical services, improving logistics, and enhancing the efficiency of healthcare delivery. Particular emphasis is placed on the development of medical infrastructure, modernization of resource provision, and the implementation of modern models for the organization of therapeutic nutrition as an integral component of the treatment process and rehabilitation of military personnel.

In this context, therapeutic nutrition in military medicine is regarded not merely as an element of logistical and material support, but as a component of medical care, clinical management, infection control, and the rehabilitation of military personnel. Modern models of its organization should be based on the principles of clinical nutrition, food safety, standardization of dietary provision, and a personalized approach tailored to patients' needs.

The modernization of food service units and the implementation of modern nutrition models in military medical institutions of Ukraine constitute a component of state policy in the field of military healthcare, ensuring the integration of medical, organizational, and technological solutions aimed at improving the quality of healthcare services, standardizing processes, and ensuring the efficient use of resources.

In Ukraine, a new regulatory framework governing the construction and reconstruction of healthcare facilities, including food service units with different models of patient nutrition organization, has been established. It includes the State Sanitary Norms and Rules "Sanitary and Anti-Epidemic Requirements for Newly Constructed, Reconstructed, and Renovated Healthcare Facilities. SSanNiR No. 354-2023" and SBN V.2.2-10:2022 "Healthcare Facilities. General Provisions", which define modern requirements for the design and operation of medical institutions. These documents, developed with the participation of specialists from the Research Institute of Military Medicine Problems of the Ukrainian Military Medical Academy, address existing regulatory gaps and take into account contemporary models of therapeutic nutrition organization in the planning of food service infrastructure [7; 8].

SSanPiN No. 354-2023 defines indirect requirements for the organization of patient nutrition, primarily related to sanitary and hygienic conditions for the operation of food service units. These include requirements for spatial planning and zoning of premises, placement of refrigeration equipment, organization of food flow processes, and waste disposal systems. The document also prohibits the use of communal dining halls in clinical departments, stipulating that patients must receive meals exclusively in wards in compliance with infection control requirements. In addition, it establishes rules for the separate storage of staff food, ensuring its segregation from patient food, medications, and laboratory samples [7].

In accordance with paragraph 8.6.3.1 of SBN V.2.2-10:2022, the design of food service units in healthcare facilities is carried out in compliance with the requirements of SBN V.2.2-25:2009 "Food Service Enterprises" [8]. The document defines modern types of food service enterprises, including preparation factories and centralized kitchen factories, intended for the centralized production and delivery of ready-to-eat meals to healthcare institutions.

A review of contemporary approaches to the reform of the nutrition system in Ukraine indicates

that the education sector has already implemented innovative models, including catering, outsourcing, as well as the concepts of "base kitchen" and "factory kitchen," which are legislatively regulated by Resolution of the Cabinet of Ministers of Ukraine No. 305 [9].

These models demonstrate the effectiveness of production centralization, logistics optimization, and the involvement of external operators, and are potentially relevant for adaptation within the system of the Ministry of Defense of Ukraine.

The school nutrition reform in Ukraine, provided for by Resolution of the Cabinet of Ministers of Ukraine No. 305 dated 24 March 2021, ensures the transition of educational institutions and children's health and recreation facilities to new principles of nutrition organization [9]. Paragraph 3 of the Resolution also introduces updated terminology regulating modern approaches to the planning and management of the nutrition system, including:

− outsourcing – a method of organizing food services that involves the production and distribution of ready meals by a food market operator using the material and technical base of the institution;

− catering – a method of organizing food services that involves the delivery and distribution of ready meals prepared outside the institution;

− base kitchen – a model of food service organization that involves centralized preparation and delivery of hot meals to institutions where full-cycle food production is impossible or impractical.

Delivery of ready-made hot meals is carried out in insulated thermal containers, with a total cycle time (preparation, transportation, and distribution) of up to 2 hours. The food service unit of the base kitchen model corresponds functionally to the "base kitchen" model and additionally includes portioning and packaging areas, separate entrances/exits for logistics, as well as premises for the return, washing, and storage of containers. The food service unit of the receiving institution includes areas for reception and short-term storage of meals, distribution of thermal containers, meal serving, dishwashing, and administrative and support facilities, in compliance with sanitary requirements.

The base kitchen includes the main technological zones (receiving and storage of raw materials, preparation areas, main cooking, meal dispatch, serving lines, dishwashing and equipment storage, and administrative and staff facilities) and is equipped with the necessary equipment in accordance with sanitary legislation.

The factory kitchen is a centralized model of mass meal production involving blast chilling, storage, and transportation under controlled temperature conditions (3–5°C). Delivery is carried out in sealed containers and insulated thermal boxes. The food service unit of the receiving institution includes areas for receiving, storing, and reheating products, meal distribution, serving, dishwashing, and administrative and support facilities.

The implementation of these provisions led to the development of the Code of Established Practice of Ukraine 4:2024, prepared with the participation of specialists from the Research Institute of Military Medicine Problems. The document defines the principles of design and operation of food service units in educational institutions in accordance with nutrition organization models and HACCP principles [10]. Its scientific and methodological basis is formed by research on sanitary and hygienic requirements and the standardization of food service infrastructure [11; 12].

The models implemented in the education sector (central kitchen, Cook&Chill, Cook&Serve) have methodological significance for the medical support system of the Armed Forces of Ukraine as a reference framework for adapting similar solutions in the military medical domain.

The application of the base kitchen model in healthcare institutions contributes to the centralization of nutrition services, improved logistics efficiency, process standardization, food safety assurance, and the rational use of resources.

Centralized production ensures economic efficiency and sanitary-epidemiological safety, and also enables the scalability of the system to serve multiple healthcare facilities, which is particularly important in military medicine. The use of Cook&Chill and Cook&Freeze technologies enhances the resilience of the food service system by providing a reserve of ready-made products and ensuring continuity of nutrition in emergency situations and under martial law.

The effectiveness of base kitchens depends on personnel and logistical capacity, including the stable supply of resources and adequate staff training to operate under conditions of increased workload and strict food safety requirements.

Particular attention is given to the catering model as one of the promising approaches to food service organization. This model is characterized by the preparation of meals outside the healthcare facility, followed by the delivery of ready-to-consume products directly to the place where medical care is provided. In the context of reforming the material and technical support system of the Armed Forces of Ukraine, catering is gradually being introduced as an element of a centralized and market-oriented approach to food service organization, particularly in mobile medical units, field hospitals, and temporary medical formations.

One of the key advantages of the catering model is the mobility and flexibility of the food service system. This approach makes it possible to organize meal provision in healthcare facilities where the capacity of on-site food service units is limited. Table 1 presents the advantages and risks of applying the catering model in military healthcare institutions.

Particular attention is given to catering as a promising model of food service organization, which involves the preparation of meals outside the healthcare facility with subsequent delivery of ready-to-consume products directly to the place where medical care is provided.

Table 1

Advantages and Risks of the Catering Model in Military Healthcare Facilities

Advantages	Risks and Limitations
Mobility and flexibility of the food service system	Dependence on the stability of logistics routes
Applicability in facilities with limited food service capacity	Disruptions in delivery under combat or emergency conditions
Centralization of production and standardization of technological processes	Risk of temperature control violations during transportation
Use of standardized recipes and portion control systems	Increased sanitary and epidemiological risks of product contamination
Ensuring consistent food quality and safety	Need for enhanced quality control and traceability systems
Optimization of resources and operational costs	Limited flexibility of menus and patient-specific dietary adaptation
Applicability in mobile medical units and field conditions	Dependence on the competence and reliability of external providers
Improved efficiency of centralized food supply	Potential disruptions in continuous food provision in crisis situations

In the context of reforming the material and technical support system of the Armed Forces of Ukraine, it is gradually being implemented as an element of a centralized and market-oriented approach to food service organization, particularly for mobile medical units, field hospitals, and temporary medical formations.

The organization of catering services requires reliable logistics routes, specialized transport for the delivery of hot meals, and the ability to ensure safe movement under combat conditions. Blocked transport routes, the threat of shelling, or the presence of routes in high-risk areas may lead to disruptions in temperature control, deterioration of product quality, and interruptions in the provision of meals to patients and military personnel.

In practical application, this model can be used in combination with other food service systems, including base kitchens, field kitchens, and dry ration supply systems. For example, stationary healthcare facilities may be served by centralized base kitchens, while mobile medical units may receive meals through catering deliveries or field kitchen-factories. Such a combined system enhances the resilience of food provision under changing operational conditions.

The majority of food service units in military healthcare institutions in Ukraine operate on outdated technological and spatial planning solutions that do not meet current requirements for energy efficiency, infection control, automation, and the implementation of modern models of therapeutic nutrition.

This necessitates the development of specialized regulatory documents for the design, reconstruction, and operation of food service units, taking into account contemporary managerial, organizational, medical, and sanitary requirements, as well as international approaches to therapeutic nutrition management.

The regulatory framework in the field of school nutrition can serve as a methodological reference for adaptation within the military healthcare system, considering the principles of standardization, food safety, hospital food service management models, and Lean approaches aimed at process optimization and resource efficiency in line with NATO practices.

Discussion of research results

Contemporary hospital food service systems in the European Union, the United States, Canada, and the United Kingdom are based on the principles of sustainable development, food safety, and the efficient use of resources.

According to Carino et al. (2020), the implementation of structured foodservice systems in hospitals contributes to reducing environmental impact and improving the efficiency of food supply chains [13].

Studies by Osman et al. (2021) confirm that the modernization of hospital food services improves patients' nutritional status and treatment outcomes, thereby supporting the implementation of appropriate organizational and technological approaches [14].

The Cook&Chill and Cook&Freeze technological models are widely used in centralized food service systems. According to research by Bux, Zizzo and Amicarelli (2023), Cook, Goodwin and Collins (2023), and Pramandari et al. (2023), Cook&Chill reduces energy consumption and food waste, whereas Cook&Hold results in lower food losses and higher patient satisfaction. Overall, the selection of a model should ensure a balance between efficiency, environmental sustainability, quality, and food safety [15; 16; 17].

Lobefaro et al. (2021) found that modern cooking technologies, including sous-vide and low-temperature processing, ensure better preservation of nutritional value, reduce micronutrient losses, and enhance food safety. The authors also emphasize the potential of the Niko Romito (NR-FPT) technology for implementation in therapeutic, including military medical, food service systems [18].

Buller et al. (2023) and Wilandh et al. (2024) demonstrate that modern hospital food service systems should integrate patient-centered approaches, environmental sustainability, and high standards of food quality [19; 20].

According to Sathiaraj et al., a patient-centered nutrition model contributes to body weight stabilization, increased energy and protein intake, and improved patient satisfaction during oncological treatment. Thus,

individualized nutrition is an effective approach for optimizing nutritional status and improving clinical outcomes [21].

Another important research direction concerns food waste management. Cook et al. (2022, 2023) propose standardized approaches to food waste auditing and the integration of waste reduction strategies into hospital management systems [22; 23].

Navarro et al. (2016) found that improving the aesthetic presentation of hospital meals increases food intake, reduces food waste by 19%, and contributes to lower readmission rates, thereby confirming the effectiveness of this approach in preventing malnutrition in inpatient settings [24].

Yona et al. (2020) demonstrated that the involvement of a dietitian in hospital food service systems improves its organization, increases patients' food intake, and reduces food waste and overall costs. The authors emphasize the effectiveness of dietary supervision from both clinical and economic perspectives [25].

Wilandh et al. (2025) identified key barriers to hospital food service reform, including low prioritization of the field, limited resources, organizational difficulties, staff resistance, and insufficient managerial support. At the same time, successful implementation of reforms is ensured by effective leadership, interdisciplinary collaboration, clear nutrition policies, and stepwise implementation of changes [26].

In Ukraine, the reform of the therapeutic nutrition system in healthcare institutions is ongoing within the framework of the medical guarantees program, as evidenced by the public consultation of the draft amendments to Order No. 931 of the Ministry of Health of Ukraine [27].

The analysis of contemporary research shows that hospital food service systems in the European Union and North America are evolving toward the integration of clinical nutrition, a patient-centered approach, and the technological modernization of foodservice systems. It has been established that the implementation of centralized models (cook-chill, cook-freeze, central kitchen), process standardization, improved logistics, and the involvement of dietitians enhance food quality, reduce food waste, and improve treatment outcomes. The effectiveness of such reforms depends on managerial support, interdisciplinary collaboration, and the institutional prioritization of nutrition as an integral component of healthcare delivery.

Prospects for further research

Further research is aimed at deepening the scientific substantiation of state regulation of therapeutic nutrition in military healthcare institutions of Ukraine, taking into account international standards and hospital food service management models. A key priority is the development of criteria for evaluating the effectiveness of implementing Cook&Serve, Cook&Chill, and Cook-freeze models based on clinical, economic, and logistical indicators.

An important research direction is the assessment of the impact of modern food service models on patients' nutritional status, length of hospital stay, food waste levels, and the overall efficiency of medical support for military personnel.

Future studies should also focus on the digitalization of food service management, the implementation of HACCP-based monitoring systems, menu standardization, and the modeling of infrastructural solutions for the design and reconstruction of food service units, considering modern technological approaches, resource constraints, and an interdisciplinary framework.

Conclusions

1. The study provides a scientific justification for the need to establish a comprehensive system of state regulation of therapeutic nutrition in healthcare institutions of the Ministry of Defense of Ukraine, based on the integration of international practices, NATO standards, HACCP principles, and modern hospital food service management models, supported by the use of digital tools for monitoring food quality and safety.

2. It has been established that the implementation of Cook&Serve, Cook&Chill, individualized, and multi-portion nutrition models contributes to improved resource efficiency, optimized logistics, enhanced quality of therapeutic nutrition, and an overall improvement in the medical support of military personnel.

3. The existing regulatory framework governing food service organization in educational institutions may serve as a methodological basis for adaptation within the military healthcare system, providing scientific justification for the implementation of modern nutrition models in accordance with international standards, as well as principles of efficiency, safety, and process standardization.

4. The establishment of a permanent intersectoral working group for the development of regulatory and methodological support for the design and operation of modern food service units is substantiated. It is recommended to include specialists in military medicine, food hygiene, dietetics, clinical nutrition, engineering and technological fields, as well as experts in HACCP and modern hospital food service management systems.

The formation of such an expert environment will ensure the standardization, coherence, and practical feasibility of managerial and regulatory decisions in the field of therapeutic nutrition in military healthcare institutions.

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Purpose. The aim of the study is to provide a scientific substantiation of approaches to state regulation for the implementation of modern food service organization models in military medical institutions of Ukraine, based on an analysis of international experience and the identification of conditions for their adaptation to improve the quality of therapeutic nutrition and resource efficiency.

Materials and Methods. The study materials included regulatory and legal acts of Ukraine, international standards for hospital nutrition, and scientific publications on modern food service organization models. The research employed systemic, structural-functional, comparative, and legal analysis, as well as content analysis and system management modelling.

Results. Current doctrinal and regulatory documents have been found to form the basis for transforming therapeutic nutrition in military medical institutions. The integration of hospital food service management models, HACCP principles, and technologies such as Cook&Chill, Cook&Freeze, catering, and central kitchen systems has been substantiated, leading to improved food quality, safety, and resource efficiency. A synthesis of international experience confirms the effectiveness of centralized and patient-oriented hospital food service models and their potential for implementation in Ukraine's military healthcare system.

Conclusions. The study substantiates the need to develop a comprehensive system of state regulation of therapeutic nutrition in healthcare institutions of the Ministry of Defence of Ukraine, based on international best practices, HACCP principles, and modern food service management models. The implementation of updated hospital food service models with an individualized approach is expected to enhance resource efficiency and improve the quality of therapeutic nutrition.

Key words: Armed Forces of Ukraine, military medical facilities, catering services, modernisation of canteens, base kitchen, support kitchen, central kitchen, catering model, EU standards, international practices.

Мета. Метою дослідження є наукове обґрунтування підходів до державного регулювання впровадження сучасних моделей організації харчування у військово-медичних закладах України на основі аналізу світового досвіду та визначення організаційно-управлінських й інфраструктурних умов їх адаптації для підвищення якості лікувального харчування, ефективності використання ресурсів і рівня медичного забезпечення військовослужбовців.

Матеріали і методи. Матеріалами дослідження є нормативно-правові акти України у сфері охорони здоров'я та військово-медичного забезпечення, доктринальні документи Міністерства оборони України, міжнародні стандарти лікарняного харчування та наукові публікації щодо сучасних моделей організації харчування. У дослідженні використано комплекс загальнонаукових і спеціальних методів, зокрема системний, структурно-функціональний, порівняльний, нормативно-правовий, контент-аналіз і системно-управлінське моделювання.

Результати. У результаті дослідження встановлено, що сучасні доктринальні та нормативно-правові документи у сфері військово-медичного забезпечення формують концептуальну основу для трансформації системи організації лікувального харчування у військово-медичних закладах України. Обґрунтовано доцільність інтеграції міжнародних моделей hospital food service management, принципів HACCP та сучасних технологічних рішень (Cook&Chill, Cook&Freeze, кейтеринг, фабрика-кухня, базова кухня), що забезпечує підвищення якості харчування, безпечності харчових продуктів та ефективності використання ресурсів у військово-медичній системі.

Визначено, що адаптація успішних моделей організації харчування, апробованих у цивільних секторах (зокрема, в освіті), створює методологічні передумови для модернізації харчоблоків військово-медичних закладів України. Запропоновані підходи дозволяють забезпечити централізацію виробництва, оптимізацію логістичних процесів, стандартизацію дієтичного забезпечення та підвищення стійкості системи харчування в умовах надзвичайних ситуацій і бойових дій.

Доведено, що впровадження сучасних моделей організації харчування потребує комплексної модернізації інфраструктури харчоблоків, удосконалення нормативно-правового регулювання та розвитку системи контролю якості, що у сукупності сприятиме підвищенню рівня медичного забезпечення військовослужбовців і наближенню до стандартів держав-членів НАТО.

Узагальнення сучасних досліджень свідчить, що системи лікарняного харчування в країнах ЄС та Північної Америки трансформуються у напрямі інтеграції клінічної нутриціології, пацієнтоорієнтованого підходу та технологічної модернізації foodservice-систем. Встановлено, що впровадження централізованих моделей (cook-chill, cook-freeze, central kitchen), удосконалення логістики, стандартизація процесів і залучення дієтологів підвищують якість харчування, зменшують втрати, оптимізують витрати та покращують клінічні результати. Ефективність реформ визначається організаційною підтримкою, міждисциплінарною взаємодією та інституційною пріоритетністю харчування як складника медичної допомоги. Сукупність результатів підтверджує високий потенціал адаптації сучасних моделей лікарняного харчування у системі військово-медичного забезпечення України.

Висновки. Таким чином, у результаті дослідження науково обґрунтовано необхідність формування комплексної системи державного регулювання організації лікувального харчування у військово-медичних закладах України, заснованої на інтеграції міжнародних практик, принципів HACCP, сучасних моделей hospital food service management та цифрових інструментів контролю якості й безпечності харчування.

Встановлено, що впровадження моделей Cook&Serve, Cook&Chill, індивідуалізованого та мультипорційного харчування сприятиме підвищенню ефективності використання ресурсів, покращенню якості лікувального харчування, оптимізації логістичних процесів і забезпеченню належного рівня медичного забезпечення військовослужбовців.

Обґрунтованим є створення постійно діючої міжсекторальної робочої групи з метою розроблення нормативно-методичного забезпечення щодо проєктування, реконструкції та функціонування сучасних харчоблоків у військово-медичних закладах. До складу зазначеної робочої групи доцільно включити представників наукових установ військово-медичного профілю, фахівців у галузі гігієни харчування, дієтології, клінічної нутриціології, інженерно-технологічного забезпечення, а також експертів із впровадження міжнародних стандартів безпечності та управління харчуванням, зокрема HACCP і contemporary hospital food service management. Формування такого міждисциплінарного експертного середовища сприятиме забезпеченню наукової обґрунтованості, системності, практичної спрямованості та уніфікації майбутніх нормативно-управлінських рішень у сфері організації лікувального харчування у військово-медичних закладах.

Ключові слова: Збройні сили України, військово-медичні заклади, організація харчування, модернізація харчоблоків, базова кухня, опорна кухня, фабрика-кухня, модель кейтерингу, стандарти ЄС, міжнародні практики.

Conflict of Interest: absent.
Конфлікт інтересів: відсутній.

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Дата першого надходження статті до видання: 27.05.2026
Дата прийняття статті до друку після рецензування: 26.08.2026
Дата публікації (оприлюднення) статті: 28.10.2026