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## PROSPECTS FOR HEALTHCARE PERSONNEL TRAINING IN THE PUBLIC HEALTH SYSTEM OF UKRAINE

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**Ключові слова:** *громадське здоров'я, кадри, вища медична освіта, компетентність*

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**Abstract.** *Prospects for healthcare personnel training in the public health system of Ukraine. Khomenko I.M., Ivakhno O.P., Pershehuba Ya.V., Piven N.V. Purpose: scientific substantiation of training of medical personnel for the public health system of Ukraine. During 2017-2020, the Department of Public Health conducted a systematic analysis of public health staffing in Ukraine, developed countries and Europe. For the first time, a model of formation of specialists' competencies for the public health system of Ukraine in the postgraduate education program with a multidisciplinary approach to training is substantiated and developed, which includes such disciplines as epidemiology, hygiene, medical statistics, laboratory diagnostics, information technology, legal law and others. This enables to reveal the tools and methods of system management, improve the availability and quality of work during the formation and development of the industry. The need for medical education for public health specialists who are ready to perform basic operational functions to preserve and strengthen the health of the population of Ukraine has been established. For the first time, methodological approaches to the improvement of higher medical education at the undergraduate and postgraduate levels have been scientifically substantiated, taking into account modern requirements for the functioning of the public health system; competence models of the public health specialist in modern conditions of realization of his activity are created; standards of higher education at the first (bachelor's) and second (master's) levels in the specialty 229 "Public health" in the field of knowledge 22 "Health Care" have been developed.*

**Реферат.** *Перспективы подготовки медицинских кадров в системе общественного здоровья Украины. Хоменко И.М., Ивахно А.П., Першегуба Я.В., Пивень Н.В. Цель работы: научное обоснование подготовки медицинских кадров для системы общественного здоровья Украины. На протяжении 2017-2020 годов кафедрой общественного здоровья проведен системный анализ кадрового обеспечения общественного здоровья в Украине, развитых странах мира и Европы. Впервые научно обоснована и разработана модель формирования компетентностей специалистов для системы общественного здоровья Украины в программе последипломного образования с мультидисциплинарным подходом к подготовке, который включает учебные дисциплины – эпидемиологию, гигиену, медицинскую статистику, лабораторную диагностику, информационные технологии, юридическое право и другие, что дает возможность раскрыть инструментарий и способы управления системой, повышения доступности и качества работы в период становления и развития отрасли. Установлена необходимость медицинского образования для специалистов общественного здоровья, готовых к выполнению основных оперативных функций по сохранению и укреплению здоровья населения Украины. Впервые научно обоснованы методологические подходы к усовершенствованию высшего медицинского образования на додипломном и последипломном уровнях с учетом современных требований функционирования системы общественного здоровья; созданы компетентностные модели специалиста общественного здоровья в современных условиях реализации его деятельности; разработаны стандарты высшего образования на первом (бакалаврском) и втором (магистерском) уровнях по специальности 229 «Общественное здоровье» в отрасли знаний 22 «Здравоохранение».*

The development of a new public health system for Ukraine has a number of problematic issues that need to be addressed [12].

Based on the international experience and the experience of the countries of the European region, the priority areas of development of the national public health system in are the adoption of legislative documents and training of human resources [10].

The National Strategy for Health Care Reform in Ukraine for the period up to 2020 emphasizes health and its protection, which is a powerful element in state policy. It is a framework document that focuses on people, positive result and its implementation in the life of the country: the focus of health services on primary care, reforming the hospital network and public health [10].

The main function of the state in the field of public health is aimed at developing policies and strategies for disease prevention, health care and its promotion – morbidity monitoring, a response to disease outbreak, vaccination, laboratory diagnosis of health threats, safety of water and food products, living environment (environmental and production factors); tuberculosis, HIV-infection, viral hepatitis, maternal and child health, reproductive and mental health [1, 5, 9, 13].

Law of Ukraine No. 392-IX of 18.12.2019 "On Amendments to Certain Laws of Ukraine on Improving Educational Activities in the Field of Higher Education" prescribes the term "competence", which includes the ability to successfully socialize, learn, pursue professional activities, which arises on the basis of a dynamic combination of knowledge, skills, abilities, ways of thinking, views, values, and other personal qualities [6]. Such professional characteristics are crucial for the modern public health professional.

Today in Ukraine there is an extensive and uncoordinated public health system, which includes the Public Health Center of the Ministry of Health of Ukraine, regional public health centers, State Institution "Laboratory Centers of the Ministry of Health of Ukraine", health centers, centers of medical statistics, departments of monitoring and evaluation of AIDS centers, which requires a significant increase in the efficiency of management of this structure and perfect mastery of functional responsibilities by officials.

Ukraine has not yet adopted the Law "On the Public Health System", which would address the issue of decentralization in responding to the challenges related to the health and well-being of the population, the mechanism of financing the industry. The modern model of public health in Ukraine is based on the principle of decentralization, which is

based on the public health systems of the United States and the European Union. The main goal in the implementation of public health is aimed at changing the paradigm of thinking of the population - from the need for treatment to maintaining and strengthening own health [4].

Forecasting the need for public health personnel is perhaps one of the leading issues in the health care system for the near future.

The purpose of the study is to scientifically substantiate the training of medical personnel for the public health system of Ukraine.

#### MATERIALS AND METHODS OF RESEARCH

During 2017-2020, the Department of Public Health of Shupyk National Healthcare University conducted research on the mechanism of organization and development of the public health system in Ukraine. The bibliosemantic method was used in the study of scientific information, organization of development and development of the public health system, issues of training of human resources for the sphere of public health; systematic and analytical approach in the study of the regulatory framework for the provision of medical care to the population, the generalization of the own data; sociological and expert research. The department developed an author's program of sociological research, which included methodological approaches to the development of public health based on international experience, staffing in different periods of the system and training at the primary, secondary and tertiary levels of higher medical education. Sociological research involves more than 1,000 managers of regional laboratory centers of the Ministry of Health of Ukraine, physicians of preventive and clinical specialties with work experience of 20 years or more; statistical methods (according to generally accepted, using the licensed program Microsoft Excel 2010).

#### RESULTS AND DISCUSSION

The main conclusions of the study concerned the involvement of human resources of laboratory centers of the Ministry of Health of Ukraine (80%) and the use of their material and technical base (62.1%) at the initial stage of formation of public health centers. One of the effective mechanisms for the adaptation of laboratory centers to the functioning of the public health system was the harmonization of the scope and types of laboratory studies on epidemiological surveillance in the national vertical of subordination (68.4%). The process of training specialists of laboratory centers to work in the public health system took place through training in specialized cycles of thematic

improvement (TI) with the inclusion of issues in related fields, including epidemiology, medical statistics, legal law, economics and ecology. It is established that a public health specialist needs knowledge and skills in the use of modern information technologies in medicine, medical statistics and evidence-based medicine, identification of risks in public health disorders (75-89.6% of experts mentioned these problems). With the introduction of electronic document circulation of accounts and records in the field of public health, these skills will significantly increase the effectiveness of the field. Awareness of the socio-economic development of the country, the demographic situation and the state of health of the population are very important for specialists in the public health system (69.8-82.3% of the proposals of experts) [2, 3].

The adoption of a legal framework for public health activities that regulates the rights and responsibilities of specialists was supported by 100% of experts. In the current situation of public health development, the mobility of specialists (93.8% of expert support) is important to facilitate

the exchange of experience with other countries, including the EU, necessary to harmonize the adoption of new legislation and optimize the system in general. The problem of funding has found support among experts at the state budget level (86.5%), which is important for solving tasks of national importance. Funding from local budgets was identified by 16.7% of experts, from other sources – supported by 82.3% of experts (through the provision of paid services) and 63.5% with sponsorship and not prohibited by the law of the country revenues.

Research has shown that the leading functions of public health professionals include the development of prevention programs (98.4% of expert opinions) and the dissemination of information on public health – 78.9% of experts' proposals. The operation of knowledge about public health indicators, methods of their evaluation and interpretation is peculiar only to specialists with medical education, which indicates the necessity of the such for public health professionals (Table).

### Expert assessment of the role of the public health system in addressing public health issues

Type of activity	Significance value, %
Leading role in solving preventive measures for public health	98.4
Ensuring leadership in communication in health care for different segments of the population	86.3
Participation in prenosological assessment of changes in public health	84.2
Active public activity in the promotion of health policy	78.9
Participation in management decisions on health care at various levels	60.4

The image of public health professionals is important. Providing the state with a decent social protection of specialists in the public health system will have an impact on increasing the need and activity of entrants in obtaining higher medical education in this specialty. In 2020 insufficient information about the field of activity led to a low need for higher education applicants majoring in

Public Health – only 120 students were enrolled in medical universities in Ukraine.

Ensuring the sanitary and epidemiological well-being of the country is an essential function of the public health system. Monitoring of environmental factors is of great importance for conducting a causal analysis to determine the impact of factors on public health (94.7%). Primary prevention of

infectious and non-infectious diseases, determination of a safe living environment are based on the analysis of public health indicators, the formation of a conscious attitude of various segments of the population to personal health, compliance with healthy postulates by every citizen of the country.

The vast majority of experts (84.2%) indicated the participation of public health professionals in making a clinical diagnosis, which can be realized with laboratory confirmation of the disease (on the example of the current epidemic of COVID-19 disease) [8]. This position enhances the role of laboratory centers in the public health system.

The effectiveness of the public health system is determined by the system of activities, the coherence of cross-sectoral communication channels, ensuring leadership in the field (86.3%).

The importance of medical training for public health is determined by the main operational functions of the system, which are aimed at preserving and strengthening the health of the population. Leading providers of training in public health are higher education institutions (92.6% of expert opinions).

In 2020, the research was aimed at determining the position of the state in relation to the development of the public health system, its formation over the past five years of operation. Given the epidemiological situation in Ukraine and worldwide, the most in-demand specialists in the public health system are epidemiologists [15]. The situation indicated the need to increase the level of training of specialists in epidemiological specialty and socio-psychological issues in health care (according to the score of expert decisions, the positions received 8.5 and 7.5 points of support, respectively).

The level of professional training of public health specialists should be assessed by attestation commissions of the Ministry of Health of Ukraine at the regional and central levels [2].

Given the reforming of the public administration system in Ukraine, adopted in 2014, the state of health of various segments of the population, shortcomings in working conditions in all sectors of the economy, there arises question about the need to introduce positions of public health specialists in trade, public catering, housing and communal services, public organizations and administrative institutions of the country.

The expediency of medical education for public health specialists was also confirmed by the Order of the Ministry of Health of Ukraine N 983 dated 16.05.2018 "On amendments to the list of health care facilities", registered in the Ministry of Justice of Ukraine on 11.06.2018, N 691/32143, in which

public health centers are classified as health care facilities. Epidemiological, clinical, or syndrome-based surveillance is assigned to public health centers, including the continuous systematic collection, analysis, and interpretation of data related to public health, necessary for health planning, analysis, and evaluation. Epidemiological surveillance over public health can serve as an early warning system for impending health emergencies and includes documenting the impact of interventions, clarifying the epidemiology of health problems to prioritize public health policies and strategies in general. Public health programs at the regional and local levels have areas of impact on the environment: medical, social, economic, environmental, infrastructural. Separate systems of epidemiological surveillance of certain infectious diseases do not allow for effective monitoring of the situation, which requires their coherence and unity [7, 11].

Health in all policies with the active involvement of various sectors of the state, for mutual benefit contributes to sustainable development in society, the recognition of current problems in the field of health complex and related to the social determinants of health, which once again reaffirms the priority of the functioning of the public health system at the intersectoral level. "Health in all policies" has no restrictions on the vertical and horizontal management [14].

Establishing a health base in childhood through preventive measures, the formation of a healthy lifestyle is one of the leading functions of the new public health system for Ukraine [14].

Adequate assessment of the functioning of the public health system requires undergraduate and postgraduate training, advanced training and assessment of personnel for the competent solution of priority tasks and objective assessment of their results. The development of the public health system for the period up to 2030 is focused on bringing the world on the trajectory of a settled and sustainable environment. Health protection, ensuring the safety of the environment, labor, food, with the involvement of the entire state apparatus and communities, ensuring strategic management in the interests of health and well-being was determined by the WHO Regional Office for Europe at its 62nd session.

## CONCLUSIONS

1. The formation of a competency model of a public health specialist in the system of continuous professional development of doctors in Ukraine in order to improve its quality and accessibility is recognized at the international level, and the promotion of public health at the regional level with

the participation of the Department of Public Health of Shupyk National Healthcare University of Ukraine was confirmed by the organization and conduct of grant activities, publication of textbooks, scientific articles cited in the periodical scientometric publications Scopus and Web of Science.

2. Scientific achievements of the department have a great practical application for the formation of human resources in the public health system, namely: the use of the standard of higher medical education of the first and second (master) levels; dissemination of modern information technologies in the modernization of the educational process; practical application of scientifically based measures to pre-

serve and strengthen the health of different groups of the population by age and professional levels.

3. Modern higher education in Ukraine is being transformed in accordance with the requirements of the time, the pace of development and the level of access to information technology, the conditions of development of the market of educational services. The introduction of smart technologies, distance learning has expanded access to education and increased the competitiveness of the Department of Public Health of Shupyk National Healthcare University of Ukraine among providers of higher medical education.

Conflict of interest. The authors declare no conflict of interest.

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