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DEVELOPMENT OF THE PUBLIC HEALTH SYSTEM IN THE CONDITIONS OF CURRENT CHALLENGES AND THREATS

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ABSTRACT

The aim: Analysis of the development and optimization of the public health system in the face of current challenges and threats.

Materials and methods: Bibliographic, information-analytical, statistical methods and content analysis were used in the study. An analysis of the regulatory framework for the development of the public health system, including WHO strategic documents and national legislation was conducted. A critical assessment of the pre-existing public health system under the Semashko model was provided. The main stages of development of the new public health system of Ukraine, its structural, financial and economic, organizational and managerial, scientific and educational, information and communication aspects are described. Reporting materials of the Public Health Center of the Ministry of Health of Ukraine and regional health centers, the state institution «Center for Medical Statistics of the Ministry of Health of Ukraine» and state institutions «Laboratory Centers of Ukraine» were analyzed.

Results: The development of the national public health system in Ukraine is carried out in accordance with the main directions of state policy, recommendations of the WHO and other international organizations in health care and aims to ensure health and well-being, prevent and minimize the negative consequences of current challenges and threats to population health. The public health development strategy is defined and enshrined in the legal framework. Structural development includes the creation of a national, 23 regional public health centers, a network of local structures, their staffing, the formation of a network of training institutions and their continuous development. The organizational and managerial strategy provides coordination of activities, intersectoral and intersectoral cooperation, improvement of technological and resource provision of institutions and institutions of the public health system. Financial and economic activities include multi-channel financing of structures and public health activities. Information and analytical activities provide effective monitoring of health and well-being, obtaining organizational and managerial and government structures objective information for making sound management decisions.

Conclusions: Development of the national public health system in Ukraine and its optimization is carried out in accordance with the main directions of state policy, recommendations of the WHO and other international organizations in health care and aims to ensure health and well-being, prevent and minimize the negative consequences of modern challenges and threats to population health. Optimization of the public health system includes a number of measures of functional-structural, organizational-administrative, regulatory, financial-economic, scientific-educational, information-analytical nature, aimed at ensuring the implementation of the main operational functions of public health.

KEY WORDS: public health, functional and structural development, organizational and managerial, financial and economic, information and communication aspects

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INTRODUCTION

The strategic goal of health care systems is to ensure a high level of health and well-being of the population, which is reflected in a number of strategic documents at the international and national levels. To achieve this goal, it is necessary to understand and take into account the multifactorial nature of health, its perception as a result of complex dynamic influences generated by numerous determinants, awareness of health dependence on socio-economic, epidemiological, environmental context, etc.

Modern global processes show that health care systems face many complex challenges and new health challenges in the process. Healthcare systems should solve many difficult problems and face many complex challenges for public health, the answers to which must be substantiated and scientifically proven. Current healthcare challenges are manifesting at various levels, including global (COVID-19

pandemic, climate change, armed conflicts), regional (European aging, non-communicable disease epidemics, migration, etc.), national and local. However, many determinants of health are often beyond the control of the health sector, which can be influenced only by integrated direction of the various similar sectors.

The need for new approaches to health, new partnerships, strategies, mechanisms of action is growing in proportion to the growing interdependence of health and leading determinants in a complex health landscape. At the same time, the validity of development strategies and the sequence of their implementation determine the prospects for successful human development in the global, regional, national and local dimensions. In view of the above, the world community has outlined the trajectory of social development in the Sustainable Development Goals as part of the Development Agenda until 2030 [1,2].

It is known that only in the field of coordinated organized actions taken by government agencies and collective action of society as a whole, it is possible to achieve effective disease prevention, prolong life and improve public health. This approach to strengthening, preserving and protecting public health is implemented through public health services, which have been operating successfully for decades in many countries around the world.

In accordance with the world guidelines, Ukraine has developed a national Strategy for Sustainable Development until 2030, which is consistent with the global document and the Strategy for Sustainable Development «Ukraine – 2020» and the Renewed Strategy for Sustainable Development of the European Union. This document identifies strategic directions for long-term development for Ukraine and promotes the integration of sustainable development goals into national plans, strategies and programs. The strategy includes 17 goals. The goal 3 «Good health and well-being» contains a number of important objectives, including stopping the HIV/AIDS and tuberculosis epidemics, reducing premature deaths from non-communicable diseases, ensuring general quality immunization of the population, reducing tobacco consumption, etc [3].

The strategic European document «Health 2020. A European policy framework and strategy for the 21st century» mains the priority of public health development. Investments in the institutional structure of public health and strengthening organizational and staff resources, improving health care, health promotion, and disease prevention are recognized as important aims. Traditional approaches include public health analysis, epidemiological surveillance, health promotion, prevention, communicable disease control, environmental protection and sanitation, disaster preparedness and response, health hygiene, etc. Modern approaches include social determinants, social health gradient and strategic management of health [4].

The European capacity building plan and public health services contain a forward-looking vision for public service in the 21st century and a base for action [5].

THE AIM

Analysis of the development and optimization of the public health system in the face of current challenges and threats.

MATERIAL AND METHODS

Bibliographic, information-analytical, statistical methods and content analysis were used in the study. An analysis of the regulatory framework for the development of the public health system, including WHO strategic documents and national legislation was conducted. A critical assessment of the pre-existing public health system under the Semashko model was provided. The main stages of development of the new public health system of Ukraine, it's structural, financial and economic, organizational and managerial, scientific and educational, information and communication aspects are described. Reporting materials

of the Public Health Center of the Ministry of Health of Ukraine and regional health centers, the state institution «Center for Medical Statistics of the Ministry of Health of Ukraine» and state institutions «Laboratory Centers of Ukraine» were analyzed.

RESULTS

The analysis of normative and legal documents of the national level on the development of the public health system allowed to determine the strategic guidelines and tactical steps for the development of a new important area, their compliance with global and European trends.

According to legal documents, together with the State Sanitary and Epidemiological Service, public health functions were performed by other central executive bodies and local self-government bodies, including the Ministry of Education, Agrarian Policy, Infrastructure, Regional Development, Youth and Sports. state ecological inspection, state emergency service, etc.

The formation of a modern public health service in the context of reforming Ukraine's health care system take into account WHO recommendations and international experience. In accordance with the principles of Ukraine state policy and international documents signed by Ukraine, the country has begun construction of a new modern European health care system, which includes public health service as an integral part. The process of its formation involves studying and taking into account the positive experience of other countries and WHO recommendations. The National Reform Strategy for Ukraine 2015-2020 identified the public health care system development as one of its priorities [6]. The implementation of such important task must be carried out in accordance with the international documents, first of all with «Health 2020. A European policy framework and strategy for the 21st century».

The priority of public health building in Ukraine was enhanced by the adoption of a strategic course of European integration and signing of an association agreement between the EU, the European Atomic Energy Community and their member states. Article 22 «Public Health» of the Association Agreement between Ukraine and the EU provides that all participants will develop cooperation in the health care direction to improve its safety and human health protection as a precondition for sustainable development and economic growth [7].

The analysis of the legal framework showed the compliance of strategic documents at the national level with European and international ones. The implementation of the provisions of global and regional strategic documents in health care field and development of public health services is realized in the Concept of development of the public health system, approved by the Ukrainian government in 2016. The need for public health services development arise because of health condition of population in Ukraine, existing challenges and threats, directions of development strategy for the national health care system and international obligations [8].

The Semashko model's assessment of the existing public health system revealed a number of fundamental shortcomings and inconsistencies with its current challenges. It is known that Semashko model of health care system in Ukraine was characterized by centralization of management, state funding, extensive development of the network institutions. It was aimed at maintaining hospitals, focused mainly on treating patients with insufficient investment in prevention sector. In such conditions, the needs of a healthy population were not taken into account. That did not allow to control and influence on the incidence. The functions of the public healthcare system were divided among various services. The State Sanitary and Epidemiological Service took a key position and focused mainly on the control of infectious diseases by regulating risk factors and providing inspections of sanitary legislation compliance. At the same time, the implementation of epidemiological surveillance did not correspond to modern approaches. There was a lack of technologies to improve the health of the population. Total control of sanitary facilities has led to a deterioration of the business climate in the country and has not helped to reduce the incidence of the population. Insufficient attention has been paid to monitoring, analyzing and assessing the risks to public health. The extensive laboratory network had outdated laboratory equipment without of research quality control systems and standard operating procedures because of insufficient material support.

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Public health functions were performed by other central and local executive organizations, including the ministries of education, agrarian policy, infrastructure, regional development, youth and sports, the State Environmental Inspectorate, and the State Emergencies Service together with the State Sanitary Epidemiological Service. However, effective interagency cooperation between State Sanitary Epidemiological Service and the Ministry of Health (MOH) of Ukraine was absent.

Significant problems of preventive services before the reform were the unstructured system of disease reporting; the existence of parallel surveillance systems for individual infectious diseases; lack of information systems for accounting, monitoring of diseases that operate in real time; insufficient funding of institutions; formal involvement of civil society, business entities, public and charitable organizations in the formation and implementation of public health policy; lack of integration of medical science into the world scientific space, etc.

Thus, the need to create a modern public health service in Ukraine was conditioned by the need for the system to be able to withstand the challenges and threats to public health. The Concept of development of the public health system 2016 defined the principles, directions, tasks, mech-

anisms and deadlines for the development of the public healthcare system. It aims to formulate and implement of effective public policies to maintain and enhance the health of the population, increase life expectancy and improve the quality of life, prevent disease, maintain an working age group and promote a healthy lifestyle in society. The organizational principles of the public health system define legality, intersectoral cooperation and coordination, setting priorities, efficiency, accountability and continuity.

The Concept envisages the creation of a multisectoral public health system with a coordinating role of the Ministry of Health; harmonization of its legal framework with European legislation; introduction of a multisectoral approach to problem solving; ensuring the functioning of the Public Health Center of the Ministry of Health; meeting the health, risk assessment and problem-solving needs of the population at the national and regional levels; ensuring centralization and decentralization; involvement of medical workers in the performance of certain tasks in the field of public health; setting priorities to ensure their priority funding; improvement of analytical and information components of activity, creation of information databases and information exchange system; formation of an interdepartmental coordination council at the Ministry of Health; introduction of mechanisms for financing the public health system, etc.

According to the Concept, the public health system was created as a component of the national health care system.

The organizational structure of the public health system is headed by the Center for Public Health of the Ministry of Health of Ukraine. The Public Institution «Public Health Center of the MOH» was established in 2015. The PHC is a sanitary and preventive health care institution, which main task is to provide active work in the field of public health. It conducts epidemiological surveillance (observation), laboratory activities, performs actions to protect the population from infectious diseases and non-communicable diseases, biosafety and biological protection, performs organizational and methodological functions in the field of public health. The main directions of the activities of the PHC include analytical-informational, laboratory-diagnostic, preventive-educational, organizational-methodical, scientific-practical, scientific, medical practice, research, consulting and publishing [9].

Structurally, the Center includes departments for support of reforms and regional development, development of educational programs and professional competencies, project management and international cooperation, communications and outreach, organization of surveillance, statistics and analysis, information systems, research, antimicrobial resistance and infectious control, coordination of programs for diagnosis and treatment of HIV, tuberculosis, viral hepatitis and opioid dependence, pharmaceutical management and stockpile management, development and monitoring of prevention programs and non-medical support, behavioral risk factors, MSME and emergency response, production and environmental factors work, legal support, as well as a number of reference laboratories, a branch of the Ukrainian Institute of Public Health Research [10].

The Center for Public Health has carried out a significant amount of work on the formation of the regulatory framework of the public health service at various levels of government and the implementation of tasks provided by the Concept of Public Health System Development. With his participation, the National Action Plan on Non-communicable Diseases to Achieve Global Sustainable Development Goals, the Strategy for Ensuring Biosafety and Biological Protection on the Principle of Single Health for 2025, the National Strategy for Combating HIV / AIDS and Tuberculosis were substantiated and developed. and viral hepatitis until 2030, the National Action Plan for Combating Antimicrobial Resistance, approved at the government level, etc.

Given the epidemiological context, the Center for Public Health initiated and conducted an «Assessment of measures implemented in response to COVID-19». The key objective of the event is to review the health system's ability to respond to the COVID-19 outbreak and to identify practical ways to improve the ongoing response to the COVID-19 outbreak..

In 2021, at the initiative of the Center for Public Health in Ukraine, the Joint External Evaluation (JEE) was launched. It is a voluntary, joint, multisectoral process to assess a country's capacity to prevent, identify and respond quickly to public health risks and emergencies, regardless of their nature.

During 2016-2020, the regional development of the public health system was carried out. At the regional level, 23 public health centers have been established. Monitoring and evaluation departments have been opened in 18 public health centers, and immunoprophylaxis departments in 16 public health centers. The staff of 23 regional public health centers at the end of 2020 was 2153.5 units.

The Center for Public Health has prepared an operational guidance structure for the development and planning of regional public health programs.

At the initiative of regional public health centers, 13 regional programs were created, 5 of which were approved by regional councils. The main areas of regional public health programs are immunoprophylaxis and infection control, combating the spread of HIV / AIDS, combating the spread of hepatitis B and C, prevention of breast cancer among women.

In the framework of the project «Strengthening the implementation of the WHO Framework Convention on Tobacco Control in Ukraine» to improve cross-sectoral cooperation on tobacco control at the regional level and protect the population from the harmful effects of tobacco smoke in two regions approved Strategies and Action Plan for Tobacco Control 2021 – 2025.

Test operation of the Pathogen Control System was launched in three laboratories of the Center for Public Health.

Further steps in building and optimizing the public health system are related to the formation of a network of territorial Centers for Disease Control and Prevention. The creation of a network of territorial CDC began in

accordance with the Government resolution and order of the MOH in 2021 [11].

The Chief State Sanitary Doctor of Ukraine, who is the Deputy Minister of Health, heads the management vertical in the public health system according to the draft law of Ukraine «About the Public Health System» [12].

Addressing financial and economic issues has been an important aspect of building a public health system. Given the multifaceted and diverse activities of public health centers at different levels of government, its funding requires significant economic resources. A multi-channel mechanism was used to address funding issues. According to reports from regional public health centers, their funding system is hybrid and in 2020 contained 5 sources of funding, including state budget (55%), regional budget (15%), National Health Service of Ukraine (23%), Global Fund (7%), own revenues (0.001%).

Along with structural, organizational, managerial and financial and economic transformations, considerable attention is paid to the formation of its staffing in the process of building the public health system. The specialty «public health» was included in the list of fields of knowledge and specialties in which higher education students are trained since 2017.

Educational standards for the training of bachelors and masters of public health were developed by working group of the MOH.

Educational standards for the training of masters of public health were approved by the Ministry of Education and Science of Ukraine in 2018. Educational standards for bachelors of public health were approved in 2020. Educational standards for the training of doctors of philosophy in public health are undergoing final examination and were developed in 2021.

Training of bachelors of public health was started in Ukraine since 2018, and training of masters of public health was started since 2019. Bogomolets National Medical University was one of the first educational institution in Ukraine, which received licenses to train bachelors and masters of public health [13,14]. Six higher education institutions had licenses to train bachelors and thirteen education institutions had a license to train masters of public health in 2021.

Some amendments had drafted to the National Classifier of Ukraine «Classifier of professions» to include new professions «environmental and health specialist» and «public health specialist» in order to employ graduates of higher education institutions in the field of public health.

Scientific support for the development and operation of the public health system is provided by scientific institutions subordinated to the Center for Public Health and the Ministry of Health of Ukraine, including state scientific institutions of hygienic and epidemiological profile.

Information and analytical activities of the public health system include the collection and processing of information for the formation of the public health information fund, preparation and publication of periodic reports on health status, sanitary and epidemiological situation and environmental indicators, etc. Data from more than 30

reporting forms are subject to analysis, including on diseases of socially significant and socially dangerous diseases.

To ensure uninterrupted monitoring and analysis, it is necessary to continue subventions from the state budget for regional public health centers and to develop appropriate regulations, taking into account all existing risks.

To improve communication with all stakeholders in public health, the Center has developed a draft Communication Strategy on Priority Public Health, which is in the process of being agreed.

In the context of international cooperation in solving public health problems, close cooperation with international public health organizations and foreign partners is maintained, development and revision of existing regulations in order to harmonize European Union legislation in the field of public health and sanitary legislation. . Attracting international technical and financial assistance for the implementation of priority projects in the field of public health in Ukraine is carried out within the framework of projects of the Global Fund, the European Union, other partners and donors.

DISCUSSION

Analysis of the development and optimization of the public health system in Ukraine shows the progressive nature of development, compliance with strategic documents of international and national levels and validity given the current nature of the challenges and threats to public health. The European Action Plan on Capacity Building and Public Health Services states that public health systems in individual countries of the WHO European Region have significant differences in organizational and structural models, governance, funding, staffing, etc. [5]. Ukraine has formed a national public health system in accordance with internationally recognized strategies, which are reflected in a number of documents of the WHO, WHO / Europe and other international organizations [1,2,4]. The substantiation of the functional-structural model took into account the national features of the health care system, the existing challenges and threats to public health, the possibility of minimizing them. The study and use of foreign experience was important.

As a result of the long process of formation and improvement of the public health system, a functional-structural model was created, which ensures the implementation of the main operational functions of public health, including epidemiological surveillance and assessment of health and well-being of the population, monitoring and response, including in emergencies, protection and promotion of health, prevention of diseases, etc. They are provided by an extensive network of public health institutions at the state, regional and local levels, their optimal organizational structure, multi-channel funding, strategic management, training and continuous development, and more.

Crucial was the formation of the legal framework for public health services at various levels of government. A number of regulations, strategies and programs have been approved at the governmental level. The active work of regional public health centers has contributed to the adoption

of important regional programs on topical issues of public health and well-being. The introduction of multi-channel financing helped to solve economic problems during the development of the system. The training of bachelors and masters of public health by universities, along with the use of existing medical and preventive staff, the introduction of training and other forms of continuing professional development have helped to solve staffing problems.

Extensive international cooperation, participation in international projects and support of international organizations play an important role in the processes of optimizing the national public health system.

CONCLUSIONS

The development and optimization of the public health system in Ukraine was based on the socio-economic, epidemiological, environmental context, existing challenges and threats to the health and well-being of the population. The development of the public health system is carried out in accordance with the principles of state policy of Ukraine and international documents signed by Ukraine, taking into account the recommendations of the WHO. The country has defined and approved a strategy for public health development, formed a regulatory framework, built a network of public health institutions at various levels of government, conducts training and research, develops intersectoral cooperation and international cooperation. The system is able to implement the basic operational functions of public health.

Important tasks for the future are further development of the legal framework of the system, improvement of technological and resource provision of public health, adoption of the Law of Ukraine «On Public Health» and implementation of its provisions, development of intersectoral and international cooperation in public health.

REFERENCES

1. Transforming our world: the 2030 Agenda for Sustainable Development. <https://sustainabledevelopment.un.org/post2015/transformingourworld> [date access 03.10.2021].
2. Health in 2015: from MDGs, Millennium Development Goals to SDGs, Sustainable Development Goals. Geneva: WHO. 2015, 216 p.
3. Natsionalna dopovid «Tsili Staloho Rozvytku: Ukraina» [National Report «Sustainable Development Goals: Ukraine»]. Kyiv: Ministry of Economic Development and Trade. 2017, 176 p. (In Ukrainian).
4. Health 2020. A European policy framework and strategy for the 21st century. Copenhagen: WHO EURO. 2011, 190 p.
5. European Action Plan for Strengthening Public Health Capacities and Services. Copenhagen: WHO EURO. 2015, 42 p.
6. National Health Reform Strategy for Ukraine 2015-2020. Kyiv. 2015, 41 p.
7. Uhoda pro Asotsiatsiiu mizh Ukrainoiu, z odniiei storony, ta Yevropeiskym Soiuzom, Yevropeiskym spivtovarystvom z atomnoi enerhii i yikhnimy derzhavamy-chlenamy, z inshoi storony [Association Agreement between the European Union and the European Atomic Energy Community and their member states, of the one part, and Ukraine, of the other part]. 2014. http://zakon.rada.gov.ua/laws/show/984_011#Text [date access 03.10.2021]. (In Ukrainian).

8. Kontsepsiia rozvytku systemy hromadskoho zdorovia v Ukraini [The concept of public health system development in Ukraine] 2016. <https://www.kmu.gov.ua/npas/249618799> [date access 03.10.2021]. (In Ukrainian).
9. Statut Derzhavnoi ustanovy «Tsentri hromadskoho zdorovia Ministerstva okhorony zdorovia Ukrainy» [Charter of the State Institution «Public Health Center of the Ministry of Health of Ukraine»]. https://phc.org.ua/sites/default/files/users/user90/Statut_2021_03.09.2021_1870.pdf [date access 03.10.2021]. (In Ukrainian).
10. Pro vvedennia v diiu struktury ta shtatnoho rozpysu: Nakaz DU «Tsentri hromadskoho zdorovia Ministerstva okhorony zdorovia Ukrainy» vid 26.02.2021 r. №08-od [On the implementation of the structure and staffing schedule: Order of the Public Institution «Public Health Center of the Ministry of Health of Ukraine» dated 26.02.2021 №08-od]. https://phc.org.ua/sites/default/files/users/user90/PHC_nakaz_2021.02.26_08-od.pdf [date access 03.10.2021]. (In Ukrainian).
11. Pro deiki pytannia orhanizatsiinoi diialnosti derzhavnykh ustanov – laboratornykh tsentriv Ministerstva okhorony zdorovia Ukrainy : Nakaz MOZ Ukrainy vid 02.06.2021 r. №1103 [On some issues of organizational activities of state institutions – laboratory centers of the Ministry of Health of Ukraine: Order of the Ministry of Health of Ukraine dated 02.06.2021 No. 1103]. <http://www.dolc.dp.ua/wpress/wp-content/uploads/2021/06/%D0%9D%D0%B0%D0%BA%D0%B0%D0%B7-1103.pdf> [date access 03.10.2021]. (In Ukrainian).
12. Proekt zakonu Ukrainy «Pro systemu hromadskoho zdorovia». http://w1.c1.rada.gov.ua/pls/zweb2/webproc4_1?pf3511=70025 [date access 03.10.2021]. (In Ukrainian).
13. Hruzieva T.S., Hrechyshkina N.V., Pelo I.M., Dufynets V.A. Naukove obhruntuvannia osvithno-profesiinykh prohram pidhotovky bakalavriv ta mahistriv hromadskoho zdorovia [Scientific basis for educational and professional training programs for bachelors and masters of public health]. Bulletin of Social Hygiene and Health Protection Organization of Ukraine. 2020;3:106–113. doi: 10.11603/1681-2786.2020.3.11631.
14. Gruzieva T.S., Hrechyshkina N.V., Antonyuk O.Y. et al. Self-assessment of the content of the public health master's educational program for compliance with the european public health core competences programme. Wiad Lek. 2021;74(3):713–717. doi: 10.36740/WLek202103227.

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The Authors declare no conflict of interest.

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