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ORIGINAL ARTICLE

# ANALYSIS OF MAIN TRENDS OF DEVELOPMENT OF HEALTH CARE IN UKRAINE

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## ABSTRACT

**The aim:** To substantiate the conceptual approaches of building a cluster model of primary medical care at the level of the hospital district in terms of the development of family medicine, in particular, the consolidation of health care institutions as the main providers of medical services in the provision of primary medical care in the hospital district and improving its efficiency.

**Materials and methods:** Methods of structural and logical analysis, bibliosemantic, abstraction and generalization were used in this work.

**Results:** The analysis of the legal framework in the field of health care of Ukraine demonstrated multiple attempts to reform it in order to increase the availability and efficiency of medical and pharmaceutical services. The practical implementation of any innovative project becomes much more difficult or even impossible without a carefully developed plan. Today in Ukraine there are 1,469 united territorial communities, 136 districts, so more than one thousand primary health care centers (further written as PHCCs) have been created against, a possible 136. A comparative analysis indicates the economic validity and possibility of such changes - the creation of a single health care facility at the level of a hospital cluster to provide primary medical care. For example, the Bucha district of the Kyiv region consists of twelve territorial communities, and 11 primary health care centers (PHCCs), the latter have separate subdivisions under their control in the form of: general practice-family medicine dispensary (GPFMD), group practice dispensary (GPD), paramedic and midwifery points (PMP), paramedic points (PP).

**Conclusions:** The implementation of a cluster model of providing primary medical care in the form of the creation of a single health care facility at the level of a hospital cluster has a number of advantages in the short term. For the patient, it is the availability and timeliness of medical care, at least at the level of the district, not the community; cancellation of paid medical services during the provision of primary medical care regardless of the place of its provision. For the subject of governance (the state) – cost reduction during the provision of medical services.

**KEY WORDS:** hospital district, cluster model, primary medical care, quality indicator, patient

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## INTRODUCTION

Improving the efficiency of providing medical care is one of the key priorities of the health care system at all stages of providing medical care. As a general rule, the patient's initial application as a subject of receiving medical services is made to a health care institution that provides primary medical care, i.e. through a general practitioner-family medicine doctor. The change in legislation in the field of health care allows to optimize the provision of medical care at hospital level. The authors propose a cluster model of primary medical care as an element of the functioning of the hospital district.

## THE AIM

The purpose of this work is to substantiate the conceptual approaches of building a cluster model of primary medical care at the level of the hospital district at the stage of development of family medicine. In particular, the enlargement of health care institutions as the main providers of medical services while providing primary medical care in the hospital district and improving its efficiency.

## MATERIALS AND METHODS

Methods of structural and logical analysis, bibliosemantic, abstraction and generalization were used in this work.

## RESULTS

The question of reforming the health care system appeared on the agenda almost immediately after Ukraine

gained independence. The socio-economic crisis of the 1990s seriously affected the resource provision of the health care sector, which continued to work according to the Soviet system in new market conditions. The primary conceptual approaches of that time were focused on finding additional sources of funding without attempting to change the organizational infrastructure of the industry. At the specified stage, solving such a task was possible by expanding the scope of paid medical services, as well as by introducing mandatory medical insurance. The format of mutual settlement between health care institutions was introduced into practice in the case of providing assistance to patients not registered at the service address of this institution.

Adopted in 1996, the Constitution of Ukraine [1] suspended the implementation of market mechanisms in health care. Soon, the "Fundamentals of the Legislation of Ukraine on Mandatory State Social Insurance" [2] was developed and adopted, which significantly reduced the flexibility and adaptability of the nascent medical insurance. Insurance companies lost interest in participating in health insurance, as the adopted legal framework created an opportunity only for a monopolistic model with the creation of a semi-state insurance fund. The approval of the government resolution in September 1996, in accordance with the then-current norm-setting trend, "List of paid services provided in state and community health care institutions and higher medical educational institutions" [3] narrowed the scope of attracting extrabudgetary funds to finance the activities of health care institutions.

The preservation of legislative and economic mechanisms for health care financing against the background of hyperinflation led to stagnation in the industry and a noticeable deterioration in the state of health care in the late 1990s. This led to an intensification of the search for ways out of the current situation, which was facilitated, in particular, by the decision of the Constitutional Court of Ukraine adopted on May 29, 2002 No. 10-рп/2002 regarding the interpretation of the provisions of the third part of Article 49 of the Constitution of Ukraine (provision of free medical care by state and community healthcare institutions). This decision determined that medical services may go beyond medical care and in this case be provided on a paid basis [4]. At the same time, the list of paid medical services should be established by the laws of Ukraine. This decision was not implemented for a long time, since the above-mentioned government list was not canceled and continued to be applied, and when developing concepts for the development of the health care sector, only norms were proposed for co-payment of services by citizens, which did not fully correspond to the content of the decision of the Constitutional Court.

At the same time, on June 21, 2001, the first Budget Code of Ukraine was adopted, which was valid until January 1, 2011. For the first time, it regulated the state financial system and clearly outlined the rules of budget financing, in particular, the sphere of health care [5].

In December 2000, the Decree of the President of Ukraine approved the Concept of Health Care Development of the Population of Ukraine [6]. It provided, in particular, that "the reform of the economic foundations of the health care system will be aimed at creating transparent financial and economic mechanisms for targeted accumulation and targeted use of funds necessary for the full implementation of citizens' constitutional rights to health care, medical assistance and medical insurance . In order to achieve the appropriate level of health of the population, the state will maintain control over the mechanisms for ensuring the volume and quality of medical care, which will gradually increase due to budgetary funding and attracting additional sources of funding" [6]. The concept also defined that "the state-communal model provides for the creation of two sectors of medical care: the sector of publicly available medical care and the sector of additional opportunities in the field of health care. The sector of publicly available medical care will ensure the protection, strengthening and restoration of the population's health using technologies determined by the basic standard of quality of publicly available medical care, supply of the most necessary medicines and medical products to the population, stay in a hospital. Within the sector, universal medical care sufficient to ensure a basic standard of quality will be provided to all categories of the population for all types of diseases, injuries, during pregnancy and childbirth. The sector of additional opportunities will contribute to meeting the needs of citizens in health care, which involves the use of technologies, the level of which exceeds the generally available standards. At the same time, the provision of medical care within the framework of the sector of additional opportunities will not replace the care that is provided" [6].

In addition, the Concept provided for the division of medical care into primary, secondary and tertiary levels. The document stated that "Medical care at the primary level will include preventive measures, outpatient treatment and inpatient care in the main specialties, at the secondary level - specialized, technologically more complex, at the tertiary level - high-tech care and treatment of the most complex and rare diseases. At the same time, it is assumed that the main part of medical services to the population should be provided at the primary level. The financial and economic mechanism of providing medical care at the primary, secondary and tertiary levels can differ significantly. The demarcation of different levels

will be determined by the medical and technological standards of providing medical care. State control over compliance with the specified standards will be carried out at each level" [6].

In the organizational-structural part of this Concept regarding the services of providing specialized medical care, the following goals were defined:

"arrangement of the network of centers of specialized medical care;

provision based on multi-channel financing of the operation of a network of medical and preventive facilities for providing free medical and social assistance to chronic patients who need long-term treatment and care, the disabled, the elderly, etc.;

rationalization of the use of the bed fund based on the improvement of the resource-normative base of treatment and prevention facilities, the introduction of modern resource-saving medical technologies, standards of diagnosis and treatment, differentiated depending on the level of the treatment-diagnostic process and the stage of providing medical care;

improving the quality of inpatient and specialized medical care in medical and preventive facilities of various forms of ownership.

Medical care, which replaces hospitalization, will develop by expanding the network of cost-effective organizational forms of medical care: day hospitals, inpatients at home, ambulatory surgery centers, etc.; expansion of the range of such medical services and improvement of the resource-normative base in the context of the reorganization of the provision of primary medical care and its transition to the principles of general medical practice (family medicine); wider application of the specified forms for the prevention and diagnosis of diseases, treatment and rehabilitation of patients".

In order to implement the above-mentioned Decree, the Measures for the Implementation of the Concept of the Development of Health Care of the Population of Ukraine [7] were approved, where the relevant central bodies of the executive power were instructed "during the formation of budgets of all levels to provide for a gradual increase in budgetary allocations for health care based on the available budgetary resources and ensure their effective use. To prepare proposals for amendments to legislative acts and to develop new laws on the creation of legal, economic and management mechanisms for the implementation of the constitutional rights of citizens to health care, social protection of patients and medical workers, ensuring sanitary and epidemic well-being and meeting the population's needs for necessary medicines and medical products".

In July 2002, the Government Program for providing citizens with state-guaranteed free medical care was approved [8]. This document established a list of types of free medical care, defined the indicators on the basis of which the amounts of such medical care were to be calculated. In particular, the indicator of the volume of outpatient polyclinic care is determined according to the number of visits per 1,000 patients, and the indicator of the volume of inpatient care is determined by the number of bed days and the number of hospitalizations per 1,000 patients, as well as the average length of stay of one patient in a hospital. According to this Program, the scope of submission and calculations of indicators of the cost of medical care must be performed in accordance with methodological recommendations [8].

In December 2005, the Decree of the President of Ukraine "On urgent measures to reform the public health care system" was issued [9].

The basis of the reforms in that period, in addition to the definition of the guaranteed part of the aid financed exclusively from budget funds, was also the strengthening of the role of the family doctor, the change in the proportions of the distribution of financial funds in favor of the primary level, and the strengthening of the organizational, legal and financial independence of health care institutions . Since the second half of the 2000s, such innovations have also been added, such as the transition of medical institutions to the status of community enterprises, the creation of hospital districts, the system of financing primary care according to the capitation method, financing the services themselves, and not the facilities (beds, heating radiators, etc.). The issue of mandatory health insurance has not lost its relevance. But, despite the large number of conceptual approaches and ideas, unfortunately, none of the concepts was implemented. In some regions, a number of experiments were carried out on the creation of community enterprises, the introduction of procurement of medical services, and other innovations, but there was no systemic reform at the state level.

At the same time, non-state-controlled processes of commercialization of the activities of state and community health care institutions were actively growing in the industry itself. At hospitals, so-called charitable funds and cash registers were massively created, to which almost every patient seeking medical care was forced to pay for services. Complex types of treatment, in particular, surgical interventions, became paid by more than 60-70%. The order of purchase and distribution of medicines did not provide a transparent mechanism for their accounting and control of their intended use. The social and political demand for the settlement of this situation grew.

The next conceptual direction of reforming the health care system was determined and agreed upon by ex-

perts and systematized in the government resolution "Some issues of improving the health care system" adopted on February 17, 2010 No. 208 [10]. The following were determined, in particular:

- Clear distribution of institutions according to the level of assistance and transition of most of them to the status of community enterprises;
- Introduction of contractual relations in the provision of medical services;
- Determination of the guaranteed volume and resolution of the issue of paid services at the legal level;
- Financing of primary care on the basis of standards of costs per person, and secondary care - through the conclusion of contracts between the customer and the provider of medical services based on the principle of payment for the services actually provided, taking into account the needs of the population;
- Development of public-private partnership;
- Implementation of specialization of healthcare facilities, i.e. formation of hospital districts [10].

In June 2010, the Committee on Economic Reforms under the President of Ukraine approved the Program of Economic Reforms for 2010-2014 "Prosperous Society, Competitive Economy, Effective State" [11].

In the "Medical service reform" section of this program, the main goal was defined ("improving the health of the population, ensuring equal and fair access of all members of society to medical services of appropriate quality") and set the following tasks:

– improve the quality of medical services;
– increase the availability of medical services;
– to improve the efficiency of state financing;
– to create incentives for a healthy lifestyle of the population and healthy working conditions [11].

The document also determined that "the implementation of reforms in the budgetary model of financing healthcare of Ukraine will allow to prepare the conditions for the transition to the insurance model (social health insurance)" [11].

The implementation of the medical reform was envisaged in three stages. At the first stage (until the end of 2010), it was planned to integrate funds for the provision of primary health care at the level of districts and cities, for the provision of secondary (specialized) and emergency medical care at the level of the region, for the provision of tertiary (highly specialized, high-tech) care - at the regional and state levels, as well as redistribute funds in favor of financing primary health care and preventive medicine, as well as move to contract financing of community and state health care institutions.

At the second stage (by the end of 2012), it was planned to test the proposed changes in the pilot regions, optimize the territorial network of medical facilities, create hospital districts, and introduce the remuneration of medical personnel, based on the assessment of the volume and quality of the work performed.

At the third stage (by the end of 2014), it was planned to transfer all medical institutions to the system of contractual relations between the customer and the provider of medical services, to introduce a unified methodology for calculating the cost of medical services paid by the state and, ultimately, to ensure preparation for the introduction of mandatory social medical insurance [11].

In order to implement this Program, the National Action Plans for the implementation of the Program of Economic Reforms for 2010-2014 "Prosperous Society, Competitive Economy, Effective State" for 2011, 2012 and 2013 were approved by the Decrees of the President of Ukraine [12, 13, 14]. In accordance to them, a number of normative legal acts were adopted, in particular, changes to the "Basics of Ukrainian legislation on health care", on the basis of a special law, a pilot project was launched to reform the health care system in Vinnytsia, Dnipro, Donetsk regions and the city of Kyiv [15], acts of the Cabinet of Ministers and the Ministry of Health of Ukraine determined the procedure for providing assistance at various levels, established primary health care centers in most regions of Ukraine, developed basic criteria for the selection of health care facilities for the creation of intensive care hospitals, prepared a draft resolution on hospital districts .

This reform process was stopped for an audit of its results in 2014 after the Revolution of Dignity. A separate law introduced a moratorium on the liquidation and reorganization of health care institutions of state and community forms of ownership [16], which became invalid only in January 2015. At the same time, the need to determine the further development vector of the health care system, which was in the process of several years of reform, prompted the development of updated conceptual and strategic documents and their implementation.

In accordance with the order of the Ministry of Health of Ukraine adopted on 24.07.2014 No. 522, the Strategic Advisory Group on Reforming the Health Care System in Ukraine (SAG) was formed [17], which developed the National Strategy for Reforming the Health Care System in Ukraine for the period 2015-2020 [18]. This document did not receive regulatory approval, but on its basis, two conceptual documents of the Cabinet of Ministers of Ukraine were adopted in November 2016: Concept of reform of the financing of the health care system [19] and Concept of development of the public health system [20]. These government decisions were

designed to contribute to increasing the availability of quality medical care by transitioning to health care financing based on mandatory state health insurance for citizens. For this, it is planned to accumulate funds directly in the state budget. The Concept also envisages the introduction of a state-guaranteed package of medical care, the creation of a single national customer of medical services - the National Health Service of Ukraine, which was also entrusted with the functions of quality management of medical services. The providers of medical services were to become autonomized (reorganized into community non-commercial enterprises) health care institutions. The second Concept defined the principles of building a holistic public health system, which was responsible for the implementation of ten operational functions of public health, from participation in the formation of policies in health care to the promotion of a healthy lifestyle and communications in health care.

In September 2016, by order of the Ministry of Health of Ukraine, restrictions on the staffing structure of institutions were removed [21]. Another prerequisite for the implementation of the concept of health care system financing reform was the Law of Ukraine "On Amendments to Certain Legislative Acts of Ukraine Regarding the Improvement of Legislation on the Activities of Health Care Institutions", adopted in April 2017, which was supposed to solve two main tasks: change in the organizational and legal status of state and community health care institutions and their financing. The law also defined a number of incentives, including financial ones, for the reorganization of health care institutions - state and community institutions into treasury enterprises and community non-commercial enterprises, and a simplified procedure for the reorganization of health care institutions was established. Also, the definitions of "medical service" and "medical care" were introduced for the first time, which now means "the activities of health care institutions and natural persons - entrepreneurs, who are registered and received the appropriate license in accordance with the procedure established by law, in the field of health care, which is not necessarily limited to medical care, but is directly related to its provision" [22].

The Law of Ukraine "On State Financial Guarantees of Medical Services of the Population" adopted in June 2017 became the main legislative basis for the implementation of the said Concept [23].

The purpose of the Law was "to create an effective mechanism for financing the provision of medical services and medicines at the expense of budget funds to ensure the preservation and restoration of the health of the population of Ukraine. It is also determined that the amount of medical services and medicines, the cost of which is covered by state guarantees and the degree of coverage, is fixed at the level of the law in the state-guaranteed package, within which the state will guarantee full payment from the state budget for the necessary medical services and medicines in an emergency, at the palliative and primary level, and partially at the secondary (specialized) and tertiary (highly specialized) levels, provided by health care providers. At the same time, the medical care component at all levels will always be fully paid for by the state.

To ensure the ability to forecast the amount of health care costs, the Cabinet of Ministers of Ukraine annually approves a specific list of services and medicines that are included in the guaranteed package" [23].

The law also stipulates that medical services and medicines can be obtained at the expense of the state budget in health care institutions of any form of ownership and from individual entrepreneurs who have concluded contracts for medical care of the population with the National Health Service of Ukraine. It was determined that the financing of the provided medical services and medicines is carried out according to the unified approved tariffs.

It is expected that the result of the implementation of the new health care financing model will be the principle of "money follows the patient", which means directing budgetary funds to pay for certain medical services and medicines provided directly to patients, and not to the priority maintenance of the infrastructure of medical facilities.

The new financing mechanism began to be implemented gradually, at the primary level, starting in 2018. Its implementation at the secondary and tertiary levels, which was initially planned to be carried out by 2020, began to be implemented only in March 2021.

Thus, the reform of the national health care system, aimed at ensuring the constitutional rights of citizens to health care, led to a number of organizational changes in the system of providing assistance, its financing, management, resource management, including human resources. The emergence of new structures, new forms of medical care, the redistribution of functions between them, actualized the problems of optimizing various types of medical care, substantiating the principles of its functioning in new financial, economic and organizational-management conditions.

The modern vector of development of the health care system in Ukraine was received by the Verkhovna Rada of Ukraine on July 1, 2022, when the Verkhovna Rada of Ukraine adopted the Law of Ukraine "On Amendments to Certain Legislative Acts of Ukraine on Improving the Provision of Medical Care" [24], which updated the basic law - Fundamentals of Ukrainian legislation on

health care health, and the Laws of Ukraine "On State Financial Guarantees of Medical Services of the Population", "On Rehabilitation in the Field of Health Care", "On Remuneration", "On Protection of Personal Data", Civil Code of Ukraine.

The adopted Law provides a new definition of the term "hospital district", which now means the territory within which the provision of high-quality, comprehensive, continuous and patient-oriented medical and rehabilitation care is ensured through the organization of a capable network of health care institutions [24].

The creation of hospital districts in the course of reforming specialized medical care was also foreseen in its previous models.

For the first time at the legislative level, the concept of a hospital district was defined in the Law of Ukraine "On the procedure for reforming the health care system in Vinnytsia, Dnipro, Donetsk regions and the city of Kyiv" as "an organizational and functional association of health care institutions of the pilot region, which satisfy the need of the population of one or more administrative-territorial units of such a region for secondary (specialized) medical care" [15]. In accordance with this law, in October 2012, the Procedure for the establishment of hospital districts in Vinnytsia, Dnipro, Donetsk regions and the city of Kyiv was approved. It provided for the creation of hospital districts at the rate of one such district "for one or more administrative-territorial units of the pilot region with a population of 150 to 350 thousand people, taking into account the density of settlement and the sex-age structure of the population, the state of transport communications, their geographical location, prospects of socio-economic development, as well as the positions of territorial communities" [25]. Within each hospital district, on the basis of existing health care facilities, the following types of facilities were to be created, such as a multidisciplinary intensive care hospital of the first or second level, a multidisciplinary children's intensive care hospital, a planned treatment hospital, a restorative (rehabilitation) treatment hospital, a medical consultation center and diagnostics (consultative and diagnostic center), specialized medical center, hospice.

In the Procedure for the establishment of hospital districts, adopted by Resolution No. 932 of the Cabinet of Ministers of Ukraine on November 30, 2016, it was determined that a hospital district is a functional association of health care facilities located in the relevant territory, which ensures the provision of secondary (specialized) medical assistance to the population of such territory. On the territory of each oblast there could be from one to several hospital districts. This procedure provided for the creation of hospital districts around multidisciplinary intensive care hospitals of the first or second level. The boundaries of the hospital district were determined according to the principle: "The service area of the hospital district is determined by the timeliness of arrival at multidisciplinary intensive care hospitals, which should not exceed 60 minutes, and should be equivalent to the radius of the service area of 60 kilometers, provided there are paved roads" [26]. The Order of the Ministry of Health of Ukraine adopted on February 20, 2017 No. 165 approved the Model Regulation on the Hospital District, which provided for the creation of a hospital council in each district "to identify problematic issues, coordinate actions, develop proposals and recommendations for the implementation of state policy in the field of health care at the level of the hospital district as well as regarding the organization and functioning of medical care in the hospital district", the planning and financing of the development of the district was determined [27]. However, this order was not registered with the Ministry of Justice of Ukraine, which limited its implementation.

In December 2019, the Law of Ukraine "On Amendments to Certain Legislative Acts of Ukraine Regarding Emergency Measures in the Field of Health Care" determined that "a hospital district is an aggregate of health care facilities and natural persons - entrepreneurs, registered in the established by the law of order and received a license for the right to carry out economic activities in the field of medical practice, providing medical services to the population of the relevant territory" [28]. The new Procedure for the creation of hospital districts provided for the creation of only one hospital district within the Autonomous Republic of Crimea, region, cities of Kyiv and Sevastopol and determined that "within the hospital district, a capable network of the hospital district is being formed, which consists of basic health care facilities and other health care facilities, including multidisciplinary children's hospitals, perinatal centers, specialized centers and health care facilities of health, which provide medical assistance for oncological, infectious diseases, tuberculosis and other socially significant diseases" [29].

The implementation of the changes outlined in the Law of Ukraine "On Amendments to Certain Legislative Acts of Ukraine Regarding the Improvement of Medical Assistance" adopted on July 1, 2022, provides for the development of health care institutions through the prism of the cluster model. The hospital district is defined as the basis for ensuring the territorial accessibility of quality medical and rehabilitation care to the population, and the hospital district, in turn, is divided into hospital clusters, within which comprehensive access of the population to inpatient medical care is

organized. The boundaries of hospital districts and hospital clusters, the procedure for their definition and functioning, as well as the procedure for determining cluster, super-cluster and other types of health care institutions that are part of the capable network of health care institutions of the hospital district, are determined by the Cabinet of Ministers of Ukraine based on the needs of the population in medical care and providing comprehensive medical and rehabilitation care.

The legislator singled out such types of health care institutions as a general health care institution - a multidisciplinary hospital that provides medical and rehabilitation assistance to the population of a territorial community or several communities and provides basic areas of inpatient medical care in accordance with the list determined by the Cabinet of Ministers of Ukraine, stabilization of the patient's condition and his routing to cluster and supra-cluster health care institutions; cluster – a multidisciplinary hospital facility capable of meeting the population's need for medical and rehabilitation assistance in the area of the hospital cluster for the most common diseases and conditions in the areas of inpatient medical care in accordance with the list determined by the Cabinet of Ministers of Ukraine; supercluster – a multidisciplinary hospital facility that has available resources and technologies aimed at providing medical care in the most complex and/or rare cases of diseases to the population of the entire hospital district in the areas of inpatient medical care in accordance with the list determined by the Cabinet of Ministers of Ukraine.

This approach made it possible to combine secondary (specialized) and tertiary (highly specialized) medical care [30] into specialized medical care. Thus, the Law of Ukraine "On Amendments to Certain Legislative Acts of Ukraine Regarding the Improvement of the Provision of Medical Care" Article 35 2 of the Fundamentals of the Health Care Legislation of Ukraine is set out in a new version, which regulates the general principles of providing specialized medical care and gives it the following definition: Specialized medical care - medical care provided in outpatient or inpatient settings by doctors of the appropriate specialization (except general practitioners - family doctors) in a planned manner or in emergency cases and includes consultation, diagnosis, treatment and prevention of diseases, injuries, poisoning, pathological and physiological (during pregnancy and childbirth) conditions, including with the use of high-tech equipment and/or highly specialized medical procedures of high complexity; referral of a patient in accordance with medical indications for the provision of specialized medical care from another specialization" [24].

Such legislative changes provide for the following division of medical care by type: emergency, primary, specialized, palliative care. It is also determined where medical assistance can be provided, in particular by the location, residence (stay) of the patient, in outpatient settings, in day hospital settings, in inpatient settings [24].

These transformative processes will affect the procedure for providing medical care, patient routes, and coordination between types of medical care and relevant health care facilities. Each type of medical care has its own peculiarities of its provision, in most of the legal acts that regulate a certain type of medical care, there are references to norms that do not correspond with each other. A unified approach and the same understanding of the health care system, the principles of its construction, the procedure for providing medical care in the relationship: "health care institution - doctor - patient" is a prerequisite for the development and adoption of a single unified regulatory act. For comparison: in Ukraine, in 2010, tax legal relations were normalized for this purpose and in this way, and the Tax Code of Ukraine [30] was adopted, which unified and codified tax regulatory acts [32].

Thus, the resolution of the Verkhovna Rada of Ukraine adopted on July 17, 2020 No. 3650 "On the formation and liquidation of districts" formed a sub-regional level of the administrative-territorial system of Ukraine, according to which 136 enlarged districts were formed, against 490 [33]

In our opinion, the boundaries of the hospital district should coincide with the boundaries of the oblast as an administrative-territorial unit, and the hospital cluster should be determined by the territory of the district of the corresponding hospital district, for example, the Kyiv region consists of seven districts, accordingly, the network of the hospital district of the Kyiv region may have the following hospital cluster model (Fig. 1).

In the cluster model of the Law of Ukraine "On Amendments to Certain Legislative Acts of Ukraine Regarding the Improvement of Medical Care" [24], primary medical care was left out of consideration, and therefore we offer the following model of primary medical care.

Thus, in accordance to the Procedure for the establishment of hospital districts, which was approved by the Cabinet of Ministers of Ukraine Resolution No. 1074 adopted on 27.11.2019 "Some issues of the establishment of hospital districts", the establishment of hospital districts is carried out on the basis of a combination of the following principles, in particular:

- safety and quality of medical care based on evidence-based medicine;
- timeliness of access to medical care;
- economic efficiency, which consists in ensuring the highest possible quality of medical care under the condition of rational and economical use of resources. [29]

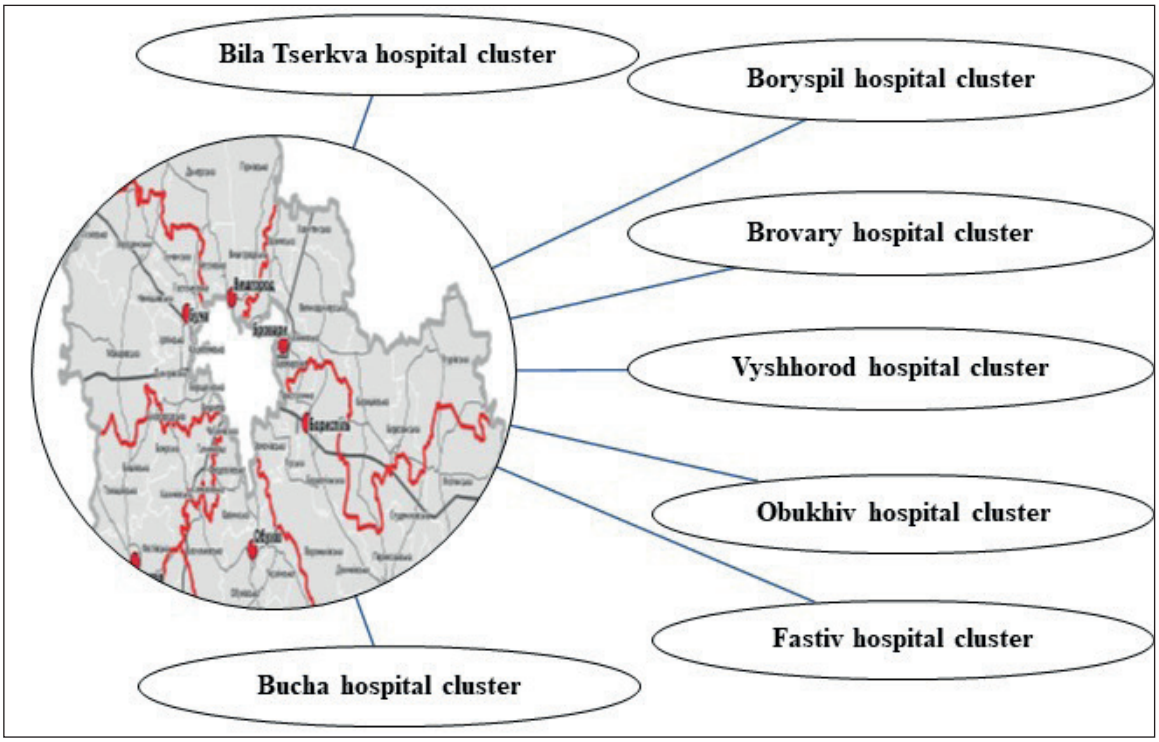


**Fig. 1.** A cluster model at the level of a hospital district

**Table I.** Number of communities with distribution by regions

| Number of communities/ Region | City community | Urban villages community | Village community | Altogether |
|---|---|---|---|---|
| Odesa region | 19 | 25 | 47 | **91** |
| Dnipro region | 20 | 25 | 41 | **86** |
| Rivne region | 11 | 13 | 40 | **64** |
| Cherkasy region | 16 | 10 | 40 | **66** |
| Zaporizhzhia region | 14 | 17 | 36 | **67** |
| Uzhhorod region | 11 | 18 | 35 | **64** |
| Chernivtsi region | 11 | 7 | 34 | **52** |
| Zhytomyr region | 12 | 22 | 32 | **66** |
| Mykolaiv region | 9 | 14 | 29 | **52** |
| Lutsk region | 11 | 18 | 25 | **54** |
| Khmelnytskyi region | 13 | 22 | 25 | **60** |
| Ivano-Frankivsk region | 15 | 23 | 24 | **62** |
| Poltava region | 16 | 20 | 24 | **60** |
| Vinnytsia region | 18 | 22 | 23 | **63** |
| Kherson region | 9 | 17 | 23 | **49** |
| Kyiv region | 24 | 23 | 22 | **69** |
| Kropyvnytskyi region | 12 | 16 | 21 | **49** |
| Sumy region | 15 | 15 | 21 | **51** |
| Ternopil region | 18 | 16 | 21 | **55** |
| Lviv region | 39 | 16 | 18 | **73** |
| Chernihiv region | 16 | 24 | 17 | **57** |
| Kharkiv region | 17 | 26 | 13 | **56** |
| Donetsk region | 43 | 14 | 9 | **66** |
| Luhansk region | 20 | 12 | 5 | **37** |
| **IN TOTAL** | **409** | **435** | **625** | **1469** |

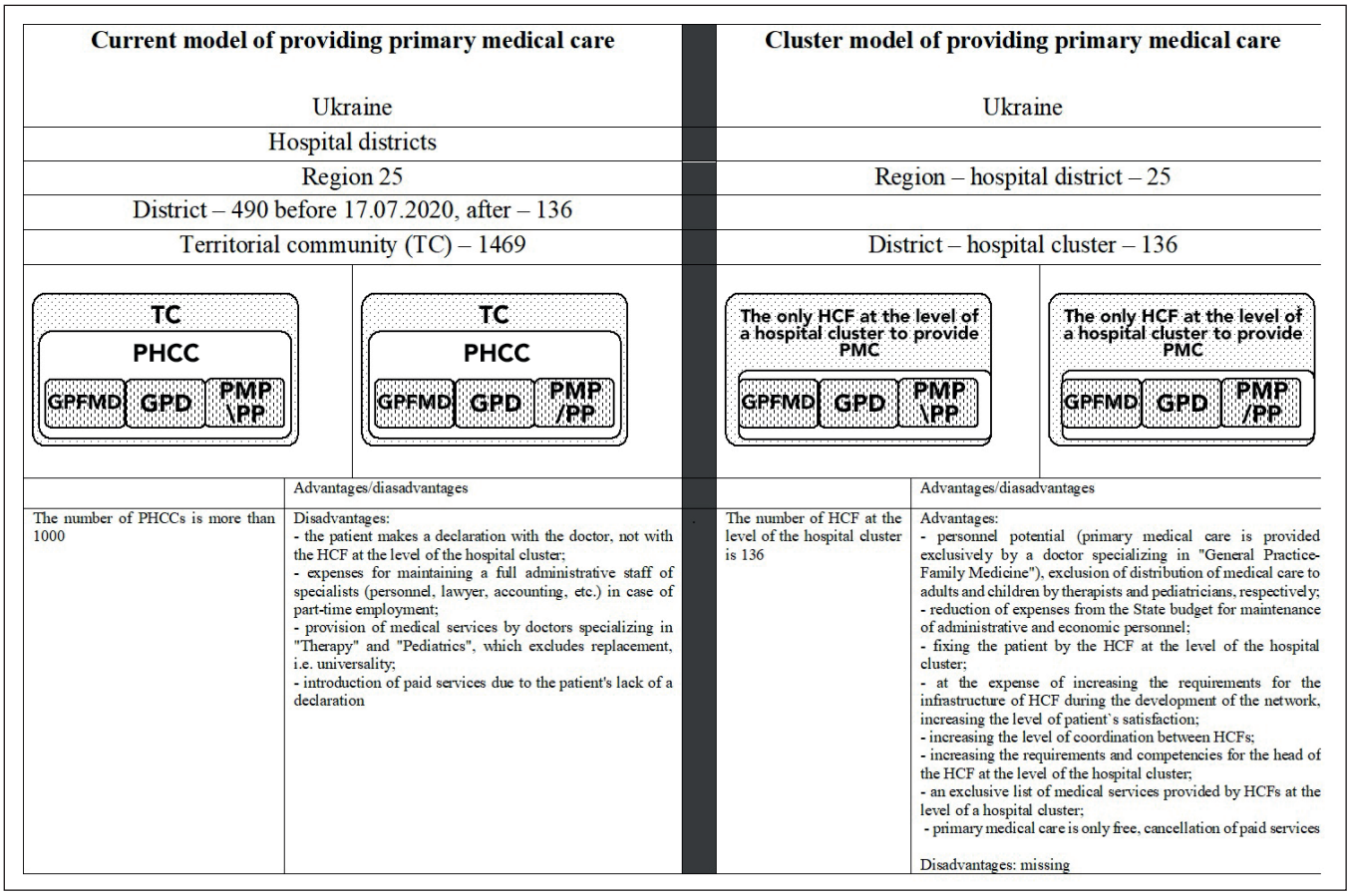


**Fig. 2.** Comparison of the current model of providing primary medical care and the proposed cluster model of providing primary medical care

The development of a cluster model of providing primary medical care can be cost-effective under the condition of creating a single health care facility at the level of a hospital cluster in the form of a state non-profit enterprise.

Today in Ukraine there are 1,469 united territorial communities [34] (table I), 136 districts [33], so more than one thousand primary health care centers (further written as PHCCs) have been created against [35], a possible 136.

A comparative analysis indicates the economic validity and possibility of such changes - the creation of a single health care facility at the level of a hospital cluster to provide primary medical care. For example, the Bucha district of the Kyiv region [36] consists of twelve territorial communities, and 11 primary health care centers (PHCCs), the latter have separate subdivisions under their control in the form of: general practice-family medicine dispensary (GPFMD), group practice dispensary (GPD), paramedic and midwifery points (PMP), paramedic points (PP). The creation of a single health care facility at the level of a hospital cluster, i.e. the consolidation of facilities, will reduce the burden not only on the state budget under the medical guarantee program, but also on the budget of the PHCCs due to the combination of personnel and legal services, will eliminate the duplication of functions of administrative and economic personnel, and will naturally increase the requirements for the head of the health care facility as a manager of the district scale in the field of health care, and not within the community (Fig. 2).

## DISCUSSION

The cluster model of providing primary medical care in the form of the creation of a single health care facility at the level of a hospital cluster, implies a change in the approach to the organization and provision of primary medical care. Thus, today the order of the Ministry of Health of Ukraine No. 504 adopted on 19.03.2018 "On approval of the Procedure for providing primary medical care" (hereinafter the order of the Ministry of Health No. 504) [37] establishes that the patient chooses a doctor with whom he makes a declaration, that is, the doctor forms the practice of primary medical care, however, in our opinion, it is expedient to establish that the patient makes the declaration not with the PMC doctor, but with the health care facility (HCF). The advantages are obvious, firstly, the dismissal of a doctor from HCF will in no way affect the availability and timeliness of

medical assistance; secondly, the new doctor will not waste time on concluding a new declaration; thirdly, the patient can receive a medical service within a single health care facility at the level of a hospital cluster; fourthly, the institution will not lose funds due to staff turnover.

In addition, in our opinion, the state should continue the vector of development of family medicine and limit the transitional stage (up to 5 years), when primary medical care can be provided by doctors of other specialties than the specialty "General Practice-Family Medicine". Thus, Clause 4 of Section II (List of PMC services and organization of their provision) of the Procedure for providing primary medical care, approved by order of the Ministry of Health No. 504, stipulates that the optimal volume of PMD practice is: 1,800 people per general practitioner - family doctor; 2,000 people per therapist; 900 people for one pediatrician" [37]. Also, the order of the Ministry of Health No. 504 stipulates that the scope of practice may differ from the optimal one depending on socio-demographic, infrastructural and other features of the territory within which the persons belonging to the relevant practice live" [37]. The provision of primary medical care by doctors of various specialties requires additional costs, both from the HCF budget (for example, arranging the workplace, medical equipment), and from the state budget (training a larger number of specialists of various specialties at higher educational institutions), and most importantly, there is a risk of not providing medical assistance to the patient due to the absence of a doctor of the relevant specialty (illness, vacation and other reasons).

An equally important element of this model is the requirement for the material and technical base of each structural unit, as a provider of primary medical care. Yes, we believe that the GPFMD and/or the GPD, depending on the category of the settlement: city - settlement - village, should have in their staff at least 12 - 8 - 2 doctors exclusively in the specialty "General practice-family medicine". That is, for full and timely provision of primary medical care, structural units must be formed according to the principles of universality and interchangeability (personnel potential); accessibility (in the sense of location in the settlement) is also a priority, but of the second level. Taking into account such changes, the state standards/requirements regarding the premises in which primary medical care will be provided are also subject to revision.

The key figure of this model is the patient, because we believe that primary medical care should consist of an exclusive list of medical services, and be completely free of charge for the patient, and the introduction of such paid services of primary health care centers by territorial communities does not comply with the principle of accessibility.

At the same time, such a concept of building a cluster model of primary medical care will contribute to the introduction of health insurance. After all, it will partly be its adaptation and unification of standards and indicators of the quality of medical care in a single health care institution at the level of a hospital cluster for the provision of primary medical care, which in the future will ensure the full performance of the functions of insurance medicine at the state level and the transition to the model insurance medicine.

## CONCLUSIONS

The implementation of a cluster model of providing primary medical care in the form of the creation of a single health care facility at the level of a hospital cluster has a number of advantages in the short term. For the patient, the availability and timeliness of medical care, at least at the level of the district, not the community; cancellation of paid medical services during the provision of primary medical care regardless of the place of its provision. For the governing body (the state) it leads to cost reduction in the provision of medical services.

## REFERENCES

1. Constitution of Ukraine. Adopted at the fifth session of the Verkhovna Rada of Ukraine on June 28, 1996 № 254к/96-ВР (with modifications). https://zakon.rada.gov.ua/laws/show/254%D0%BA/96-%D0%B2%D1%80#Text [date access 15.01.2023]
2. Fundamentals of the legislation of Ukraine on mandatory state social insurance. Law of Ukraine dated January 14, 1998 No. 16/98- ВР. https://zakon.rada.gov.ua/laws/show/16/98-%D0%B2%D1%80#Text [date access 15.01.2023]
3. On approval of the list of paid services provided in state and communal health care institutions and higher medical educational institutions. Resolution of the Cabinet of Ministers of Ukraine dated September 17, 1996 No. 1138. https://zakon.rada.gov.ua/laws/show/1138-96-%D0%BF#Text [date access 15.01.2023]
4. The decision of the Constitutional Court of Ukraine in the case based on the constitutional submission of 53 People's Deputies of Ukraine regarding the official interpretation of the provisions of the third part of Article 49 of the Constitution of Ukraine „in state and communal health care institutions, medical care is provided free of charge" (the case about free medical care). From May 29, 2002 No. 10-рп/2002. Case No. 1-13/2002. https://zakon.rada.gov.ua/laws/show/v010p710-02#Text [date access 15.01.2023]

5. Budget Code of Ukraine. Law of Ukraine dated June 21, 2001 No. 2542-III. https://zakon.rada.gov.ua/laws/show/2542-14/ed20150920#Text [date access 15.01.2023]
6. About the concept of development of health care of the population of Ukraine. Decree of the President of Ukraine dated December 7, 2000 No. 1313/2000. https://zakon.rada.gov.ua/laws/show/1313/2000#Text [date access 15.01.2023]
7. On the approval of measures for the implementation of the Concept of the development of health care of the population of Ukraine. Resolution of the Cabinet of Ministers of Ukraine dated August 9, 2001 No. 960. https://zakon.rada.gov.ua/laws/show/960-2001-%D0%BF#Text. [date access 15.01.2023]
8. On the approval of the Program for the provision of state-guaranteed free medical care to citizens. Resolution of the Cabinet of Ministers of Ukraine dated July 11, 2002 N 955https://zakon.rada.gov.ua/laws/show/955-2002-п#Text. [date access 15.01.2023]
9. On urgent measures to reform the public health care system. Decree of the President of Ukraine dated December 6, 2005 No. 1694/2005. https://zakon.rada.gov.ua/laws/show/1694/2005#Text. [date access 15.01.2023]
10. Some issues of improving the health care system. Resolution of the Cabinet of Ministers of Ukraine dated February 17, 2010 No. 208. https://zakon.rada.gov.ua/laws/show/208-2010-п#Text. [date access 15.01.2023]
11. Program of economic reforms for 2010-2014 years «Prosperous society, competitive economy, efficient state». Committee on Economic Reforms under the President of Ukraine on June 2, 2010. https://zakon.rada.gov.ua/laws/show/n0004100-10. [date access 15.01.2023]
12. About the National Action Plan for 2011 regarding the implementation of the Program of Economic Reforms for 2010-2014 «Prosperous Society, Competitive Economy, Efficient State». Decree of the President of Ukraine dated April 27, 2011 No. 504/2011. https://zakon.rada.gov.ua/laws/show/504/2011#Text. [date access 15.01.2023]
13. About the National Action Plan for 2012 regarding the implementation of the Program of Economic Reforms for 2010-2014 «Prosperous Society, Competitive Economy, Effective State». Decree of the President of Ukraine dated March 12, 2012 No. 187/2012. https://zakon.rada.gov.ua/laws/show/187/2012#Text. [date access 15.01.2023]
14. About the National Action Plan for 2013 regarding the implementation of the Program of Economic Reforms for 2010-2014 «Prosperous Society, Competitive Economy, Effective State». Decree of the President of Ukraine dated March 12, 2013 No. 128/2013. https://zakon.rada.gov.ua/laws/show/128/2013#Text. [date access 15.01.2023]
15. About the procedure for reforming the health care system in Vinnytsia, Dnipropetrovsk, Donetsk regions and the city of Kyiv. Law of Ukraine dated July 7, 2011 No. 3612-VI. https://zakon.rada.gov.ua/laws/show/3612-17#Text. [date access 15.01.2023]
16. About the introduction of a moratorium on the liquidation and reorganization of health care institutions. Law of Ukraine dated February 23, 2014 No. 772-VII. https://zakon.rada.gov.ua/laws/show/772-18#Text [date access 15.01.2023]
17. About the organization of the work of the strategic advisory group on reforming the health care system of Ukraine. Order of the Ministry of Health of Ukraine dated July 24, 2014 No. 522. https://zakon.rada.gov.ua/rada/show/v0522282-14#Text. [date access 15.01.2023]
18. National strategy for reforming the healthcare system in Ukraine for the period 2015-2020. November 27, 2014. https://healthsag.org.ua/wp-content/uploads/2014/11/Strategiya_UKR.pdf. [date access 15.01.2023]
19. On the approval of the Concept of reform of financing of the healthcare system. Resolution of the Cabinet of Ministers of Ukraine dated November 30, 2016 No. 1013. https://zakon.rada.gov.ua/laws/show/1013-2016-p#Text. [date access 15.01.2023]
20. On the approval of the Concept of the development of the public health system. Resolution of the Cabinet of Ministers of Ukraine dated November 30, 2016 No. 1002. https://zakon.rada.gov.ua/laws/show/1002-2016-p#Text. [date access 15.01.2023]
21. On the repeal of the order of the Ministry of Health of Ukraine dated February 23, 2000 No. 33. Order of the Ministry of Health of Ukraine dated September 2, 2016 No. 928. https://zakon.rada.gov.ua/rada/show/v0928282-16#Text. [date access 15.01.2023]
22. On amendments to some legislative acts of Ukraine regarding the improvement of legislation on the activities of health care institutions. Law of Ukraine dated April 6, 2017 No. 2002-VIII. https://zakon.rada.gov.ua/laws/show/2002-19#Text. [date access 15.01.2023]
23. About state financial guarantees of medical care for the population. Law of Ukraine dated October 19, 2017 No. 2168-VIII. https://zakon.rada.gov.ua/laws/show/2168-19#Text. [date access 15.01.2023]
24. On amendments to some legislative acts of Ukraine regarding the improvement of the provision of medical care. Law of Ukraine dated July 1, 2022 No. 2347-IX. https://zakon.rada.gov.ua/laws/show/2347-20#Text. [date access 15.01.2023]
25. On the approval of the Procedure for the establishment of hospital districts in Vinnytsia, Dnipropetrovsk, Donetsk regions and the city of Kyiv. Resolution of the Cabinet of Ministers of Ukraine dated October 24, 2012 No. 1113. https://zakon.rada.gov.ua/rada/show/1113-2012-п#Text. [date access 15.01.2023]
26. On the approval of the Procedure for the establishment of hospital districts. Resolution of the Cabinet of Ministers of Ukraine dated November 30, 2016 No. 932. https://zakon.rada.gov.ua/rada/show/932-2016-п#n14. [date access 15.01.2023]
27. On the approval of the Model Regulation on the hospital district. Order of the Ministry of Health of Ukraine dated February 20, 2017 No. 165. https://zakon.rada.gov.ua/rada/show/v0165282-17#Text%20. [date access 15.01.2023]
28. On making changes to some legislative acts of Ukraine regarding emergency measures in the field of health care. Law of Ukraine dated December 20, 2019 No. 421-IX. https://zakon.rada.gov.ua/rada/show/421-20#n16. [date access 15.01.2023]

29. Some issues of creating hospital districts. Resolution of the Cabinet of Ministers of Ukraine dated November 27, 2019 No. 1074. https://zakon.rada.gov.ua/rada/show/1074-2019-n#n10. [date access 15.01.2023]
30. Fundamentals of Ukrainian legislation on health care: Law of Ukraine dated November 19, 1992 No. 2801-XII (as amended). https://zakon.rada.gov.ua/laws/show/2801-12#n247. [date access 15.01.2023]
30. Tax Code of Ukraine. Law of Ukraine dated December 2, 2010 No. 2755-VI. https://zakon.rada.gov.ua/laws/show/2755-17#Text. [date access 15.01.2023] (in Ukrainian).
32. Proposals of the President to the Tax Code of Ukraine dated September 21, 2010 No. 7101-1. http://w1.c1.rada.gov.ua/pls/zweb2/webproc4_2?pf3516=7101-1&skl=7. [date access 15.01.2023]
33. About the formation and liquidation of districts. Resolution of the Verkhovna Rada of Ukraine of July 17, 2020 No. 807-IX. https://zakon.rada.gov.ua/laws/show/807-20#Text. [date access 15.01.2023]
34. Territorial communities. Decentralization in Ukraine, 2022. https://decentralization.gov.ua/newgromada. [date access 15.01.2023]
35. Ukraine: review of the health care financing reform 2016–2019. Joint report of WHO and the World Bank. https://www.euro.who.int/___data/assets/pdf_file/0018/425340/WHO-WB-Joint-Report_UKR_Full-report_Web.pdf. [date access 15.01.2023]
36. Communities of Kyiv region. Decentralization in Ukraine, 2022. https://decentralization.gov.ua/newrayons?area_id=11&sort_by_otg_count=&sort_by_villages_count=&sort_by_square=&sort_by_population=. [date access 15.01.2023]
37. On the approval of the Procedure for providing primary medical aid. Order of the Ministry of Health of Ukraine dated March 19, 2018 No. 504. https://zakon.rada.gov.ua/laws/show/z0348-18#Text. [date access 15.01.2023]

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