

UDC 614.2

DOI: 10.15587/2519-4798.2022.256908

RETROSPECTIVE ANALYSIS OF THE MAIN INDICATORS OF KOSIV CRH EFFICIENCY FOR THE PERIOD 2014-2018

Mykola Stovban, Alexandr Tolstanov, Oleksiy Kravchenko

This article presents a retrospective analysis relating to the main performance indicators of the Kosovo Central District Hospital (CDH).

The author's method of calculating the efficiency of the hospital on the components of medical, social and economic efficiency is proposed. The reason for the low level of efficiency of the Kosovo CDH is substantiated and ways to increase the efficiency are suggested.

The aim of this article is to conduct a retrospective analysis of the effectiveness of the Kosiv Central District Hospital to identify the main problems of local hospitals and to formulate scientifically sound proposals for improving the medical system in the newly formed united territorial communities.

Research methods. *In the article were used general scientific research methods:*

Analysis and synthesis, in the study of scientific literature and determining the effectiveness of the Kosiv CDH;

Economic and statistical analysis and comparison, when calculating indicators of medical, social and economic efficiency of the Kosiv CDH,

Generalization - when developing recommendations for improving the efficiency of the Kosiv CDH.

Results: *The author's method of calculating indicators for assessing the medical, social, and economic efficiency of the Kosiv CDH was developed.*

A retrospective analysis of the effectiveness of the Kosiv CDH was conducted, which allowed us to state the low level of efficiency, which was formed under the influence of factors independent of the hospital itself.

The necessity of introduction of paid medical services and their realization by the Kosiv CDH, development of public-private partnership and the mechanism of acquisition of the diagnostic car for realization of programs on complex diagnostics of health of the population of the Kosiv city united territorial community are substantiated.

Conclusions. *A retrospective analysis of the effectiveness of the Kosiv CDH in 2014-2018 allowed us to conclude that the level of such efficiency is quite low. However, the low level of efficiency of the Kosiv CDH is due to the existing principles of medical development in Ukraine, which is, "de jure" based on the concept of free medical care*

Keywords: *hospital efficiency, medical efficiency, social efficiency, economic efficiency, Kosiv CDH, health care*

How to cite:

Stovban, M., Tolstanov, A., Kravchenko, O. (2022). Retrospective analysis of the main indicators of Kosiv CRH efficiency for the period 2014–2018. *ScienceRise: Medical Science*, 2 (47), 51–58. doi: <http://doi.org/10.15587/2519-4798.2022.256908>

© The Author(s) 2022

This is an open access article under the Creative Commons CC BY license hydrate

1. Introduction

The activities of health care institutions in Ukraine and the entire medical system are, often, sharply criticised by patients and ordinary citizens for poor quality of medical services.

The quality of medical services, medical care and medical infrastructure certainly depends on the principles of building a medical system in Ukraine and the development of the national economy, because without a financial basis it is difficult to create an effective medical system and ensure efficient operation of all medical institutions.

The COVID-19 pandemic focused quite well on the main health problems in Ukraine, and especially on the problems of medical institutions in the former administrative districts of our region.

In particular, the main problems are the actual lack of medical infrastructure, medical equipment, quali-

fied personnel, decent wages and social protection of health workers.

Medical infrastructure, which includes not only hospitals, but also medical equipment and logistics of ambulances due to underfunding of the industry from state and local budgets in most of the central district hospital's is in poor condition, and most medical equipment was inherited from the former Soviet Union.

The lack of a health insurance system and a public-private partnership in the field of medicine has left volunteers, philanthropists, and patrons to solve the main problems of medical care in the treatment of coronavirus in Ukraine.

Therefore, the reforms of primary and secondary medicine had to consider the need to develop public-private partnerships in the medical sector of Ukraine, as well as approve paid medical services that could provide central district hospitals to ensure their quality and, most

importantly – for their own preservation, because district hospitals are on the verge of closure.

The issue of effective work of medical institutions is mostly raised at the household level, but in scientific terms this issue is given very little attention, in particular the study of central district hospitals, which have limited financial resources to provide effective medical care to residents of newly formed communities. Thus, domestic scientists [1, 2] devoted their work to the study of the effectiveness of health care facilities, taking into account all external and internal factors that could destabilize the work of the institution; it is also possible to single out such scientists as: [3–6], who studied the issues of financial support of health care facilities, the main problems of funding in the context of the reform and implementation of quality management systems in health care facilities. However, these scientists focus on macro-level research, i.e., on the efficiency of the entire health care system of Ukraine. medical institutions of many newly created united territorial communities.

After all, having received Central District Hospitals, United Territorial Communities (UTC) using internal financial resources, subventions from the state budget and innovations in the field of public-private partnership can significantly increase the efficiency of central district hospitals.

Therefore, **the aim** of this article is to conduct a retrospective analysis of the effectiveness of the Kosiv Central District Hospital to identify the main problems of local hospitals and the formation of scientifically sound proposals for improving the medical system in the newly formed United Territorial Communities.

2. Materials and methods

During the work with all sources for the article, a number of both general and special methods of scientific knowledge were used: the logical-semantic method was used to clarify the essence and significance of institutional and economic aspects in the implementation of reforms in the field of health care in Ukraine; the method of structural analysis was used in the study of hospital districts and their powers and responsibilities as subjects of public administration in the field of health care; the analytical method provided an opportunity to summarize the experience of institutional and economic aspects of health care reforms in Ukraine.

3. Result

Assessing the effectiveness of the central district hospital or any other health care facility is impossible without defining the essential features of the concept of hospital efficiency, because unlike real sector enterprises, regardless of ownership, the effectiveness of health care facilities has a much broader implication.

There is no, un-ambiguous approach in the scientific literature to the essence of hospital efficiency, but most scientists are inclined to believe that the essence of the concept of hospital efficiency includes a triad of components such as medical efficiency, social efficiency and economic efficiency.

Therefore, in particular, [7], identifies the following components of the effectiveness of the health care institution medical efficiency. For example, it is the abil-

ity to meet the needs of consumers by providing a full range of high-quality medical services. Administrative efficiency as financial, personnel, information, communication management in management of establishment, its divisions, resources; cost-effectiveness to provide health care in a way that maximises resource use and avoids waste.

Analysing the proposed components of the effectiveness of the health care institution [7], note that such proposals are appropriate, but they are difficult to evaluate in practice and draw a conclusion about the effectiveness of the hospital. Yes, it is not clear how to determine the maximum satisfaction of consumer needs for quality medical services. There are no such indicators in the official statistics of Ukraine, region or district. However, as a proposal, we will offer annual surveys of patients in central district hospitals and other medical institutions for satisfaction with medical services.

Regarding administrative efficiency, the proposal is also valid, but given that the central district hospitals are communally owned and non-profit organisations, the effectiveness of management depends on the procedure for appointing the hospital management by local governments.

The economic efficiency of the hospital, in our opinion, has a slightly broader concept than proposed by [7], because being a non-profit organisation and working in the medical system based on free medical care, the hospital does not receive income from medical services.

That is, central hospitals in Ukraine operate, in fact, outside the medical market, where the cost of services is determined administratively and paid from state and local budgets at the expense of taxpayers, regardless of the level of quality of medical services.

Ukrainian researcher [1], among the elements of the effectiveness of health care institutions, also identifies the element of medical efficiency, which means the degree of achievement of clinical effect. At the level of health care institutions and the industry, medical efficiency is measured by many specific indicators: the proportion of cured patients, reducing the incidence of chronic disease, reducing the incidence of the population [1]. According to [1] social efficiency, in turn, is the degree of achievement of social results. For example, increasing life expectancy, reducing mortality and disability, satisfaction of society as a whole with the system of medical care. In addition, the author understands economic efficiency as the ratio of results obtained to costs incurred. The calculation of economic efficiency is associated with the search for the most economical use of available resources [1].

After analyzing the existing approaches to determining the essence of the effectiveness of hospitals and other health care institutions [1, 2, 5, 7] note that theoretically we could identify a large number of indicators of hospital efficiency, but to obtain scientific results and results for local governments, in our opinion, performance indicators should be determined by the principles of measurability, predictability and significance.

In our opinion, performance indicators should be determined by the principles of measurability, predictability and significance.

The essence of the principle of measurability is that the proposed performance of the hospital should be measurable, i.e., have a specific quantitative value in absolute or relative terms.

In addition, digital data to calculate the value of this indicator should be available to the researcher.

The principle of predictability provides the ability to predict the future dynamics of an indicator, as one of the main requirements for the management of a process is its predictability.

The principle of significance involves considering only those indicators that are relevant to a particular object of study and allows identification of the main problems or trends in the development of the object of study, in our case, Kosiv Central District Hospital.

Accordingly, from these positions, we will also highlight the medical efficiency of the hospital, but in contrast to existing approaches that focus on the quality of medical services.

We propose to focus on indicators such as the incidence rate in the region; and mortality rate, achieving the effectiveness of diagnosis and treatment of diseases.

We have chosen such indicators from the standpoint of their measurability and significance, for the

activities of the Kosiv CDH, as this medical institution after the formation of the Kosiv City Territorial Community became the main medical institution for fourteen settlements, and therefore considering the main health care institution in the region.

Therefore, given the mentality of Ukrainians and the low level of trust in health care facilities, 90 % of citizens do not visit medical institutions to diagnose their own health, and therefore mandatory diagnosis of the population for morbidity and healthy lifestyles is a guarantee of longevity in the community [8].

Thus, the dynamics of morbidity and mortality in the region can be the indicators that reflect the effectiveness of the Kosiv CDH in the timely detection and prevention of diseases among the community.

Also, note that the required indicators are calculated by the statistical office of the region and are available to researchers.

However, note that achieving the effectiveness of diagnosis and treatment of diseases in the community, as well as public satisfaction with the quality of medical services.

Our proposed indicators for assessing the effectiveness of the hospital are, explained, in Fig. 1.

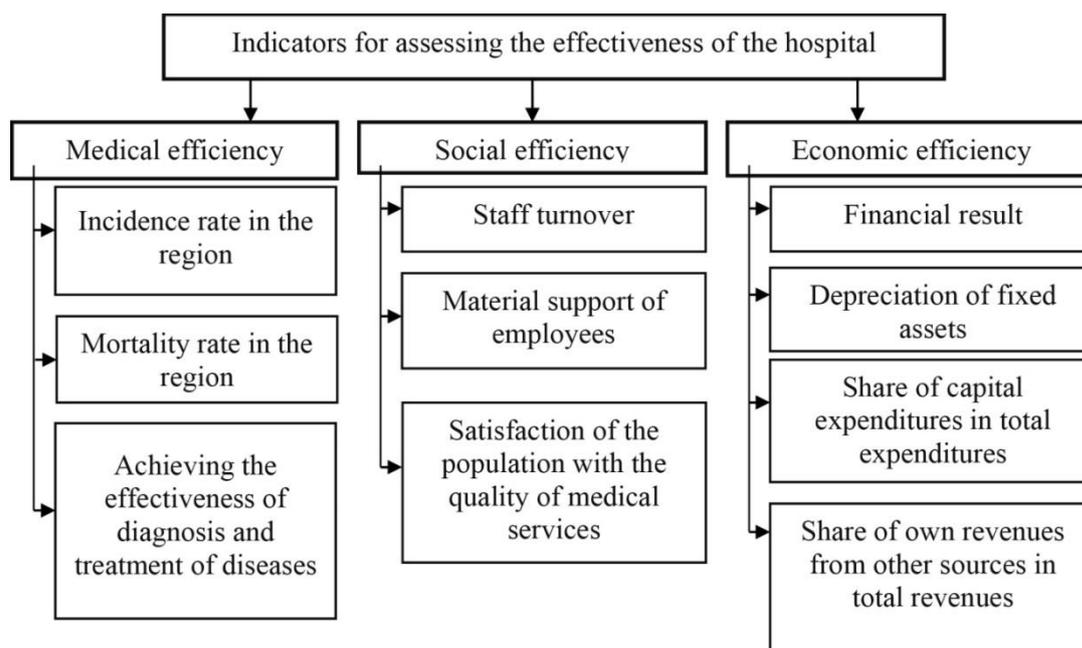


Fig. 1. Indicators for assessing the effectiveness of the hospital *

* Author's own development

In our opinion, the social efficiency of the hospital is a slightly broader concept than what is justified in the works [1, 2, 5, 7], because the social effect of the hospital is aimed not only at patients but also at employees.

Therefore, the main indicators that will reflect the social efficiency of the hospital will be as follows:

- Staff turnover
- Material support of employees
- Satisfaction of the population with the quality of medical services.

The first two indicators are present in official statistics. Regarding the level of public satisfaction with the quality of medical services, it is advisable to organise an annual statistical survey at the level of the Kosiv City United Territorial Community.

Assessing the economic efficiency of Kosiv Central District Hospital also has its peculiarities, as the district hospital is a municipal non-profit enterprise, so it is necessary to use slightly different approaches to assessing economic efficiency in contrast to real sector enterprises.

Accordingly, one of the main indicators of economic efficiency is the financial result but the evaluation of the financial result should not be in terms of market aspects, which determine the cost of medical services and income, but in terms of excess hospital revenues over costs.

This indicator shows the need to find sources for co-financing the hospital in case of a negative financial result, or in the case of a positive financial result – a surplus of funds.

An important indicator of the economic efficiency of the hospital is the depreciation rate of fixed assets, which reflects the trend of updating the logistics of the hospital, and hence its ability to provide qualified medical services and provide quality medical care.

The share of capital expenditures in the total expenditures of the hospital is an important indicator in terms of assessing the capacity of the hospital in the field of renovation of logistics, modernization of premises and more.

Share of own revenues from other sources in total revenues, as an indicator of the economic efficiency of the hospital indicates the level of attraction of funds from non-budgetary sources in the form of contributions from philanthropists and patrons.

In addition, this indicator reflects the potential of the hospital in the direction of public/private partnership and the transition to partial implementation of paid medical services. Substantiating the indicators for assessing the effectiveness of the hospital, we analyse the effective-

ness of the Kosiv Central District Hospital for the period 2014–2018.

As for medical efficiency, the data on the assessment of the morbidity of the population of Kosiv district is not enough for a thorough assessment, but from the public reports of the head of Kosiv district state administration it could be concluded, that the dynamics of morbidity in 2016–2017 is deteriorating. So, with the incidence of the population of Kosiv district per 10,000 population increased from 523.7 in 2016 to 554.3 in 2017, and the morbidity rate increased from 1528.1 to 1541.2, respectively [9].

Such results may indicate an insufficient level of diagnosis and prevention of morbidity among the population by the staff of the Koseiv CDH. Due to the direction of the main number of expenditures from the state and local budgets to pay wages (85 %), pay for energy (5.5 %), pay for medicines and food (4.5 %) [9], there is a lack of funds for a comprehensive diagnosis of the health of the population of Kosiv district, and now Kosiv city united territorial community. Kosiv CDH does not have its own resources for comprehensive diagnostics of public health, as it does not provide paid medical services due to the peculiarities of medical development in Ukraine.

Therefore, for these reasons, the medical effectiveness of the Kosiv CDH should be recognized as unsatisfactory. The results of medical efficiency reflected in the dynamics of mortality of the population of Kosiv district, is high, compared to the birth rate (Fig. 2).

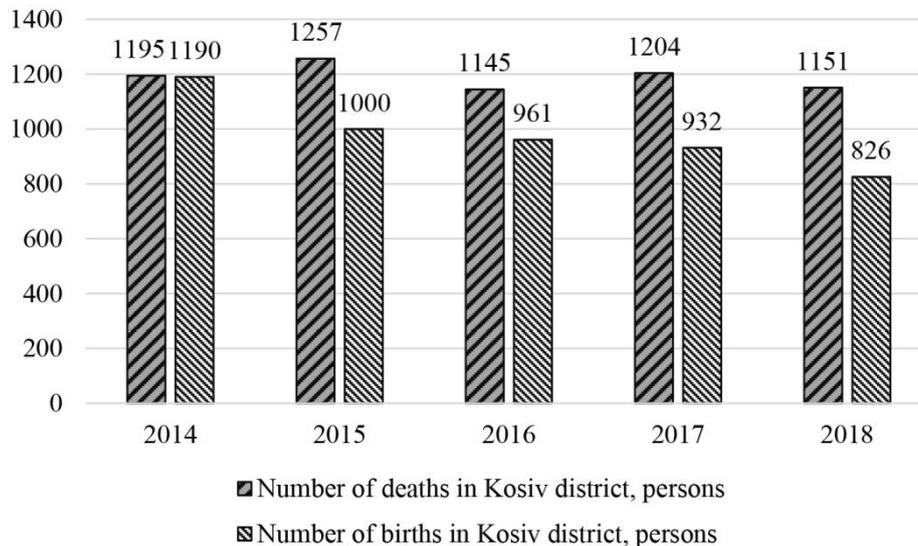


Fig. 2. Demographic situation in Kosiv district of Ivano-Frankivsk region in 2014–2018 *

*Calculated by the author according to the Department of Statistics of the Kosiv District State Administration [8]

According to Fig. 2, the dynamics of mortality in Kosiv district of Ivano-Frankivsk region has a negative trend, which in addition to various social factors is a consequence of poor health care in terms of comprehensive diagnosis of public health and timely detection of disease.

According to the Kosiv District State Administration (as of 2017) in the structure of mortality of residents in the district, first place is occupied by diseases of the

circulatory system 74.1 %; second place is cancer 10.8 %; third place is occupied by diseases of the digestive system – 3.9 % [9].

Therefore, it is the diagnosis of these diseases that the Kosiv CDH should pay closer attention to in the future.

Regarding social efficiency, the trends in this area are also negative, as the number of employees of the Kosovo CDH during 2014–2018 is gradually decreasing (Table 1), and staff turnover is quite high.

The data in Table 1 shows a significant decrease in the number of employees of the Kosiv CDH in 2018, as the number of employees decreased by 252 people,

which indicates the results of medical reform in Ukraine, because before that period, the annual decrease in hospital staff was 10–20 people.

Table 1

Some indicators of staff turnover of the Kosovo CDH in 2014–2018*

Criterion	2014	2015	2016	2017	2018
Employees, persons are accepted	94	77	64	11	16
Workers and people left	68	87	78	9	31
Accounting number of full-time employees at the end of the reporting period, persons	1152	1142	1128	1112	860
Staff turnover rate, %	5.9	7.6	6.9	0.8	3.6

*Calculated by the author according to the Department of Statistics of the Kosiv District State Administration

The reduction in the number of employees of the Kosiv CDH certainly has a negative impact on their quality, the level of patient care on the overall corporate stability of the hospital. The staff turnover ratio in 2014–2016 was also relatively high.

Such trends are not least due to the low level of material security of hospital staff, whose average salary is lower than the average salary in the whole Kosiv district by 20–30 %.

At the same time, the Kosiv CDH is not able to increase the salaries of employees through allowances and bonuses, as it does not receive enough of its own revenues from extra-budgetary sources of funding.

Particular attention must be paid to the indicators of economic efficiency of the Kosiv CDH (Fig. 3).

According to Fig. 3, the financial result of the Kosiv CDH has a negative trend, which shows that the needs of the hospital were underfunded in 2014 by 355 thousand UAH, in 2016 by 918 thousand UAH, and in 2017 by 2 million 143 thousand UAH.

These trends are because the Kosovo CDH is a municipal non-profit enterprise, which is not able to expand self-financing through, the commercialization of certain parts of its activities.

Quite negative trends in terms of economic efficiency of the Kosiv CDH, are reflected in the depreciation rate of fixed assets (Fig. 4).

According to the data in Fig. 4, the depreciation rate of fixed assets in the Kosiv CDH reflects, in fact, the catastrophic situation with the development of medical infrastructure, because as of 2018, 64 % of the hospital's fixed assets are worn out. Such tendencies, not our opinion, significantly limit the possibilities of the Kosiv CDH to realise its functions in the field of providing quality medical services, because the deterioration of medical equipment and its obsolescence does not allow them to do so.

The share of own revenues from other sources in the revenues of the Kosiv CDH also indicates negative trends in economic efficiency, because in 2018 the hospital did not receive such revenues (Fig. 5).



Fig. 3 Dynamics of the financial result of the Kosovo CDH in 2014–2018 *

*Calculated by the author according to the Department of Statistics of the Kosiv District State Administration

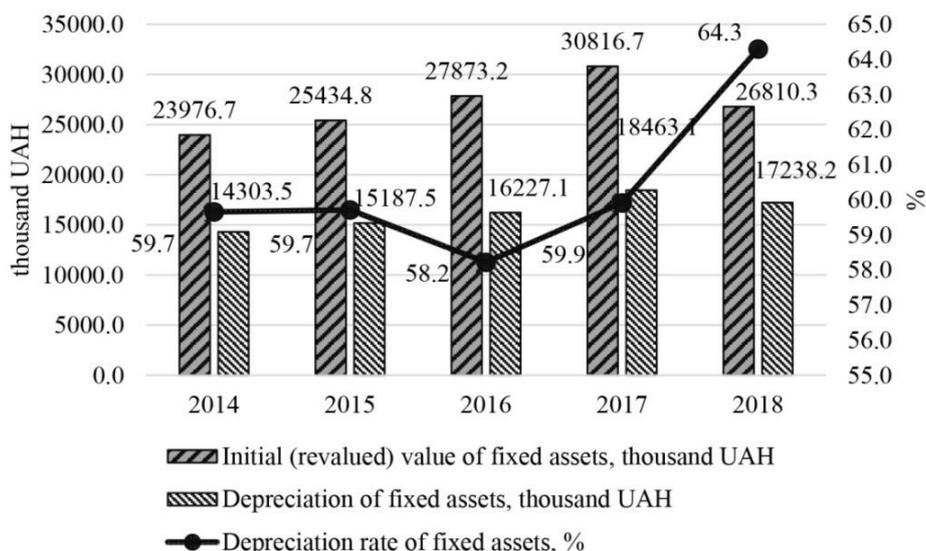


Fig. 4. Dynamics of depreciation indicators of fixed assets of the Kosiv CDH in 2014–2018
 *Calculated by the author according to the Department of Statistics of the Kosiv District State Administration

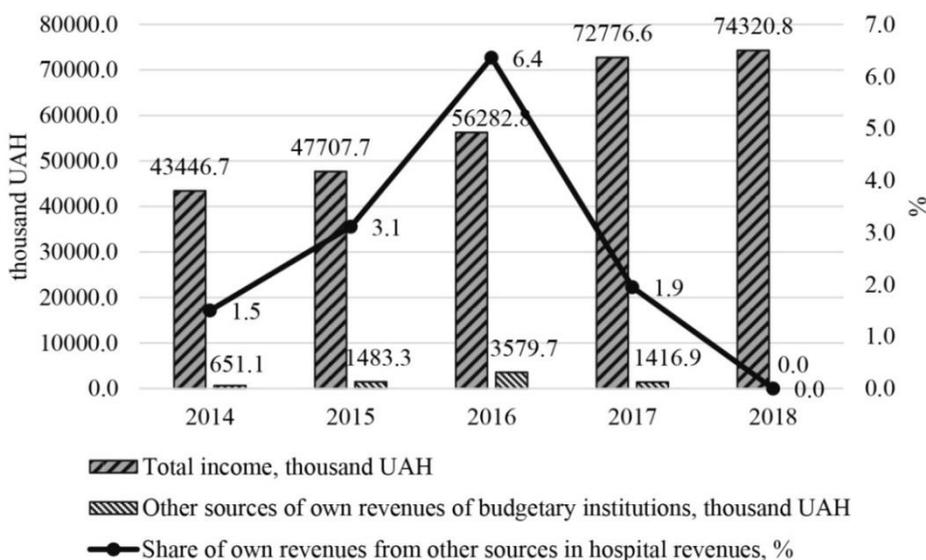


Fig. 5. Dynamics of the share of own revenues from other sources in the revenues of the Kosiv CDH in 2014–2018
 *Calculated by the author according to the Department of Statistics of the Kosiv District State Administration

The decrease in the share of non-budget revenues of the Kosiv CDH from philanthropists and patrons indicates a decrease in the possibilities of such transfers against the background of the economic crisis.

Despite the unsatisfactory results of the analysis of the performance indicators of the Kosiv CDH in 2014–2018, in our opinion, the activities of the hospital within the newly created Kosiv City United Territorial Community open wide prospects for improving its efficiency [10].

Given the opportunities for decentralisation of power and financial opportunities, we will offer several ways to increase the efficiency of the Kosiv CDH.

First, approval of the list of paid medical services for the population of the Kosiv City United Territorial Community.

Admittedly, there is no free medicine in Ukraine. The current situation only slows down the development of the domestic medical industry. Therefore, at the level of UTC, it is advisable to officially approve the list of paid medical services and place them on the official website of the hospital, as well as on the relevant information stands in the premises of the Kosiv CDH. In this case, the patient will know how much money he needs to raise for a particular operation or treatment. Formal payment for medical services through the public-private partnership mechanism will allow patients to control the quality of services, have appropriate protection in court in case of poor medical care, and hospitals – to accumulate funds to upgrade fixed assets, purchase new medical equipment and official surcharges, which will increase their social protection and material security [10].

Of course, paid services should not apply to the elderly and children under a certain age (here are the place for the discretion of the community).

The introduction of paid services, in our opinion, will allow the Kosiv CDH to quickly upgrade fixed assets and become an effective medical institution in the community.

Secondly, solving the problems of comprehensive diagnostics of the health of the population of the Kosiv city united the territorial community.

As the Kosiv CDH is the main medical institution of the community, it needs to address the issue of providing a comprehensive diagnosis of public health by going directly to the settlements for a mandatory medical examination. To do this, we offer to purchase a mobile diagnostic center.

Such a centre could be imported at zero rate or purchased in Ukraine, they are equipped with us. Complete sets of such centres are different, based on a mini-bus, bus and even on the basis of a large truck where a surgical center could be equipped that allows you to perform several operations a day.

This diagnostic car allows you to make a complete diagnosis of human health, because it has an X-ray room, a viewing table-transformer, oxygen and vacuum mask, all the necessary tools, power generator and more. The question is where to get money? Of course, the car is not cheap – it costs about 6–6.5 million hryvnia or 240 thousand US dollars. At first glance, an unaffordable amount for the hospital.

Therefore, to solve this problem, we propose to register a project for the purchase of a mobile diagnostic center based on the bus on the site “Big idea – joint price”. This site allows you to raise funds for projects, in this case for the car. That is, if everyone replenishes the account of such a project for 100 UAH, it will take 65 thousand people, and in the case of patrons, philanthropists, volunteers and diaspora, the number of project participants could be reduced and in 50–60 days get the necessary amount to purchase mobile diagnostic centre [11].

The purchase of such a car will allow formation of a schedule of mandatory diagnostics of the health of the entire community and timely treatment of patients, which will certainly affect the effectiveness of the Kosiv CDH, as it will allow preventive measures to maintain public health, rather than post factum treatment, after citizens go to the hospital, which is often too late.

Such diagnostics could be a paid service, the cost of which calculated from the standpoint of the time spent by citizens on a trip to the hospital, the complexity of the diagnosis and so on.

Thus, our proposed measures could be one of the options to increase the efficiency of the Kosiv CDH, improve its logistics and improve the quality of medical services.

4. Discussion of research results

The publication of the World Health Organization's 2000 Report, “The Health Care System: Improving Performance”, encouraged policymakers to take another look at building their national health systems. Advances in science, technology and pharmacology have dramatically increased the health sector's ability to improve

public health [5]. Unfortunately, in many countries this potential remains unrealized. Health systems are often unable to provide effective treatment and do not meet public expectations [12].

The health care institution plays a central role in the provision of health care and must adapt to changes in the composition of the population, technical progress and new societal expectations. To do this, there is a need to establish interconnections between different parts of the health care system within the framework of structural interaction based on the cooperation of health care institutions.

The advantages of our study are that despite some developments on this topic, the question of forming the model of interaction of health care institutions within one hospital district remains open. subordination. For further research, the question of the formation of the legal mechanism, medical and social organizational and functional model of interaction of health care institutions within one hospital district remains open.

Study limitations. It is also worth noting that the construction of an organizational and functional model is possible if we analyze and study not only one CDH (Central District Hospital), but health care facilities of different levels of subordination within one hospital district.

Prospects for further research. Considering the stated restrictions, the issues of medical and social work of other health care institutions of Ivano-Frankivsk Hospital District remain open for research. Also important for the study is the formation of an effective model of interaction between health care facilities of different subordination within one hospital district.

6. Conclusions

A retrospective analysis of the effectiveness of the Kosiv CDH in 2014–2018 allowed us to conclude that the level of such efficiency is quite low. However, the low level of efficiency of the Kosiv CDH is due to the existing principles of medical development in Ukraine, which is, “de jure” based on the concept of free medical care. Permanent political and economic crises do not allow state and local budgets to sufficiently finance the activities of medical institutions, which leads to significant depreciation of fixed assets, which in turn affects the quality of medical services.

Therefore, gaining opportunities to develop the medical sphere in the conditions of decentralisation, local governments should use mechanisms for non-budgetary increase of financial resources of hospitals through the introduction of paid medical services. In addition, it is necessary to purchase mobile diagnostic centres to implement programs for comprehensive diagnostics of public health and the implementation of preventive medical care.

The implementation of public-private partnership programs should also be one of the measures to develop field medicine and improve the material and technical condition of the Kosiv CDH.

Simultaneously, further research requires solving the problems of auditing the quality of medical services provided by central district hospitals, conducting sociological research among the population, which will develop health care policies and modernise hospitals in the newly formed united territorial communities.

Conflict of interests

The authors declare there is no conflict of interest.

Financing

The study was performed without financial support.

Acknowledgments

We are grateful to Svitlana Koshova, candidate of state administration, associate professor for help in translating the article into English. We also express our gratitude for the help and advice of individuals questions about research to professors Zoryana Hbur and Vasyl Mykhalchuk.

References

1. Hovorko, O. V. (2017). The evaluation of the effectiveness of the healthcare system in Ukraine. *Intelekt XXI*, 2, 92–97.
2. Karamyshev, D. V., Udovychenko, N. M. (2008). Essence management efficiency public health system in modern conditions. *Derzhavne budivnytstvo*, 1. Available at: http://nbuv.gov.ua/UJRN/DeBu_2008_1_26
3. Martyniuk, O. A. (2016). Vprovadzhennia systemy upravlinnia yakistiu v medychnykh zakladakh. *Prychornomorski ekonomichni studii*, 6, 75–79.
4. Mokrytska, A. B. (2014). Finansove zabezpechennia okhorony zdorov'ia Ukrainy: teoretychna kontseptualizatsiia ta problemy orhanizatsii. *Nauka y ekonomika*, 4 (36), 177–179.
5. Panchyshyn, N. Ya., Smirnova, V. L. (2012). Otsinka efektyvnosti upravlinnia v systemi okhorony zdorov'ia. *Visnyk sotsialnoi hihiieny ta orhanizatsii okhorony zdorovia Ukrainy*, 3, 57–59.
6. Shveda, Yu. I. (2018). Influence of the competition on the efficiency of the healthcare system in Ukraine. *Efektivnist derzhavnoho upravlinnia*, 3, 169–180.
7. Nazarko, S. (2020). Effective management of the medical institution in conditions of reforming the health system. *Efektivna Ekonomika*, 1. doi: <http://doi.org/10.32702/2307-2105-2020.1.55>
8. Viddil statystyky Kosivskoi raionnoi derzhavnoi administratsii. Available at: <https://kosivvda.gov.ua/statystyka.html?start=300>
9. Publichnyi zvit holovy Kosivskoi raionnoi derzhavnoi administratsii. Available at: <http://www.old.if.gov.ua/files/uploads/Звіт%202021%20Косівська%20РДА.pdf>
10. Zvitni dani nadani kerivnytstvom Kosivskoi TsRL, v mezhakh spriannia naukovomu doslidzhenni shchodo pidvyshchennia efektyvnosti orhanizatsii ta diialnosti hospitalnykh okruhiv v Ukraini.
11. Kolomoyets, A. V., Hbur, Z. V., Koshova, S. P., Mykhalchuk, V. M., Savychuk, N. O. (2021). Financial and economic effect for the healthcare institution from the introduction of logistics management methods. *Wiadomości Lekarskie*, 74 (6), 1499–1504. doi: <http://doi.org/10.36740/wlek202106139>
12. Kolomoyets, A. V., Hbur, Z. V., Koshova, S. P., Krylova, I. I., Goydyk, V. S., Badiuk, N. S. (2021). Analysis of the financial condition and evaluation of the efficiency of financial logistics of the municipal non-commercial enterprise “Gerbachevsky Regional Clinical Hospital” Zhytomyr Regional Council. *Pharmacology OnLine*, 2, 843–851. Available at: https://pharmacologyonline.silae.it/front/archives_2021_2

Received date 04.04.2022

Accepted date 17.05.2022

Published date 31.05.2022

Mykola Stovban*, PhD, Associate Professor, General Director, Department of Tuberculosis and Pulmonology with a Course of Occupational Diseases, General Director, Communal Non-Profit Enterprise "Ivano-Frankivsk regional clinical Infectious Diseases Hospital of Ivano-Frankivsk Regional Council", Hetmana Sahaidachnoho str, 66, Ivano-Frankivsk, Ukraine, 76007

Alexandr Tolstanov, Doctor of Medical Sciences, Professor, Corresponding Member of National Academy of Medical Sciences of Ukraine, Department of Healthcare Management and Public Administration, Shupyk National Healthcare University of Ukraine, Dorohozhytska str., 9, Kyiv, Ukraine, 04112

Oleksiy Kravchenko, PhD, Associate Professor, Department of Healthcare Management and Public Administration, Shupyk National Healthcare University of Ukraine, Dorohozhytska str., 9, Kyiv, Ukraine, 04112

**Corresponding author: Mykola Stovban, e-mail: nstovban@gmail.com*