

## 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

Kolomoyets, Andriy V.<sup>1</sup>; Hbur, Zoriana V.<sup>1</sup>; Koshova, Svitlana P.<sup>1</sup>; Krylova, Iryna I.<sup>2</sup>;  
Goydyk, Viktor S.<sup>3</sup>; Badiuk, Nataliia S.<sup>4\*</sup>

<sup>1</sup>Shupyk National Healthcare University of Ukraine, Kyiv, Ukraine

<sup>2</sup>Poltava University of Economics and Trade, Poltava, Ukraine

<sup>3</sup>Odesa International Medical University, Odesa, Ukraine

<sup>4</sup>International European University, Kyiv, Ukraine

\* [badiuk\\_ns@ukr.net](mailto:badiuk_ns@ukr.net)

### Abstract

The article analyzes the financial condition and efficiency of financial logistics MNPE «Gerbachevsky Regional Clinical Hospital» Zhytomyr Regional Council.

The main indicators that reflect the financial condition of the regional hospital based on its status as a municipal non-profit enterprise are outlined.

The main problems of the low level of financial condition are substantiated by the “Gerbachevsky Regional Clinical Hospital”.

The **purpose** of the article is to study the financial condition of MNPE «Gerbachevsky Regional Clinical Hospital» Zhytomyr Regional Council and its financial logistics for the purpose of revealing of the basic problems of financial maintenance of activity of regional municipal medical institutions.

**Research methods.** The article uses general scientific research methods, in particular. synthesis analysis. In the study of scientific literature and analysis of the financial condition of MNPE «Gerbachevsky Regional Clinical Hospital» Zhytomyr Regional Council» economic and statistical analysis and comparison, when calculating the financial condition of the hospital, generalization, in the development of recommendations for improving the efficiency of financial logistics and financial support of MNPE «Gerbachevsky Regional Clinical Hospital» Zhytomyr Regional Council.

**Results:** the financial condition and efficiency of financial logistics of the state of MNPE “Gerbachevsky Regional Clinical Hospital” Zhytomyr Regional Council. An unsatisfactory level of financial support for the state of the MNPE “Gerbachevsky Regional Clinical Hospital” Zhytomyr Regional Council, due to the lack of opportunities to attract large amounts of private capital for the development of the hospital and the limited local and state budgets. The expediency of introduction of paid medical services, financing of medical projects on the basis of crowdfunding, development of elements of medical insurance, attraction of the international financial help and grants, optimization of budgetary programs of financing of medical branch, etc. is substantiated.

**Keywords:** *financial condition of the communal hospital, financial logistics of the communal hospital, efficiency, financial activity of the hospital, health care, MNPE “Gerbachevsky Regional Clinical Hospital” Zhytomyr Regional Council*

## Introduction

Trends in the development of medicine in Ukraine provoke discussions in various spheres of public life, which relate not only to the quality of medical services, but also the development of medical infrastructure, individual medical institutions, dispensaries and more. The medical reform that began in Ukraine in 2014-2015 and the COVID-19 pandemic to raise the issue of the effectiveness of regional public hospitals. One of the regional hospitals, to which, remarks were made by the Ministry of Health of Ukraine on the proper provision of treatment of coronavirus infection is MNPE "Gerbachevsky Regional Clinical Hospital" Zhytomyr Regional Council. This state of affairs necessitates the analysis of the financial condition of the hospital and the development of its financial logistics in order to find reasons for reducing the quality of medical services in the Coronavirus.

**Analysis of recent research and publications.** The issue of quality of medical services is a common area of research, and questions about the main trends in this area are considered in the works of such scientists as: Govorko O. [1], Karamishev D., Udovychenko N. [2], Martyniuk O. [3] Mokrytska A. [4], Chemenko Z., Nadтока O., Serdyuk K. [8] and others.

At the same time, the financial aspect of ensuring the effective operation of regional public hospitals as the main medical institutions in the region has escaped the attention of scientists. The quality of medical services in regional public hospitals directly depends on the level of their funding, because it affects the motivation of doctors to continuous professional development and quality patient care, and the state of medical equipment and medical infrastructure in general.

Therefore, the **purpose** of our article is to study the financial condition of MNPE «Gerbachevsky Regional Clinical Hospital» Zhytomyr Regional Council and its financial logistics, for the purpose of, revealing the basic problems of financial maintenance of activity of regional municipal medical institutions.

## Methods

The article uses general scientific research methods, in particular. synthesis analysis. In the

study of scientific literature and analysis of the financial condition of MNPE «Gerbachevsky Regional Clinical Hospital» Zhytomyr Regional Council» economic and statistical analysis and comparison, when calculating the financial condition of the hospital, generalization, in the development of recommendations for improving the efficiency of financial logistics and financial support of MNPE «Gerbachevsky Regional Clinical Hospital» Zhytomyr Regional Council.

## Results

MNPE «Gerbachevsky Regional Clinical Hospital» Zhytomyr Regional Council as the main medical institution of Zhytomyr Region has a long history (125 years), during which it has accumulated significant fixed assets and human resources, which allows it to, effectively, provide medical care to the population of the region.

Thus, today the number of full-time employees of the hospital is about 2250 employees, including 480 doctors. As for the hospital's funds, the hospital has 38 departments and units that allow the hospital to provide a full range of medical services [6].

A large number of employees, departments and units of the MNPE «Gerbachevsky Regional Clinical Hospital» Zhytomyr Regional Council requires proper financial condition and efficient financial logistics.

The issues of analysis of the financial condition of the MNPE «Gerbachevsky Regional Clinical Hospital» Zhytomyr Regional Council the consequences of the COVID-19 pandemic, which revealed the main problems of regional hospitals in Ukraine in general and in Zhytomyr in particular.

In our opinion, the main problem of the entire medical sector of Ukraine is that according to the legislation, medicine is free, and all regional medical institutions are non-profit institutions and are on the balance of the state or local governments. All this in the economic crisis and due to the slow pace of economic growth in Ukraine does not increase the funding of medical institutions, and especially negatively affects the dynamics of capital expenditures, which are aimed at material and infrastructural support of the medical sector.

MNPE «Gerbachevsky Regional Clinical Hospital» Zhytomyr Regional Council is decisive in the sphere of financial support of activity of medical institution.

Using the available data of the financial statements of the «Gerbachevsky Zhytomyr Regional Clinical Hospital» will analyze its financial condition and the level of financial logistics.

The aggravation of the situation related to the COVID-19 pandemic has led to the need to increase funding for the medical sector of Ukraine as a whole and the «Gerbachevsky Zhytomyr Regional Clinical Hospital» in particular.

As a result of an increase in expenditures from the state and regional budgets for the maintenance of medical institutions in the Zhytomyr region, the hospital's budget increased from UAH 21 million. following the results of 2019 to 56 million UAH. in 2020 (Figure 1).

According to Figure 1. The estimate of the «Gerbachevsky Regional Clinical Hospital» has almost doubled, which in our opinion is a significant increase in hospital funding during the COVID-19 pandemic.

However, the quantitative increase in funding for the hospital is not a basis for ensuring the efficiency of its work, which requires a detailed analysis of the budget for the share of major items in hospital expenditures (Table 1).

Based on the analysis of the data given in table 1. We can conclude about the low level of financial efficiency of the MNPE «Gerbachevsky Regional Clinical Hospital» Zhytomyr Regional Council because more than 90% of hospital expenditures, are directed to the payment of wages, while items, materials, equipment and inventory are directed only 0.74% of the total expenditures in 2019, and in 2020 - 0.43%. On the negative side, the share of expenditures on materials, equipment and inventory decreased during the COVID-19 pandemic. This however, was due to the need to increase surcharges and compensation to doctors who participated in the treatment of patients with coronavirus.

Expenditures on medicines and dressings increased from 1.33% in 2019 to 2.49% in 2020, due to an increase in the number of patients due to the COVID-19 pandemic.

Regarding other articles of the budget of MNPE «Gerbachevsky Regional Clinical Hospital» Zhytomyr Regional Council, it is important to pay attention to the share of capital expenditures in total expenditures, which is about 1.5%. Such a meager

amount of funding for capital expenditures indicates that the hospital actually does not have the resources and opportunities for the development of medical infrastructure, because the article "capital expenditures" finances the overhaul of premises, construction of new units, purchase of doctors» offices and equipment.

Insignificant financing of capital expenditures has a negative impact on the condition of fixed assets, the initial cost of which (as of 2020) is UAH 273.3 Million and depreciation - UAH 115.4 Million, equating to 42.2% [7].

The high level of depreciation of fixed assets with minimal capital investment requires the hospital management to review its activities in terms of the implementation of paid medical services, and the leadership of the region and the Zhytomyr territorial community of the relevant administrative decisions.

Paid medical services provided by the hospital today under contracts with institutions and organizations bring very little profit, which, in our opinion, is not enough for the effective modernization of fixed assets and the purchase of modern medical equipment.

Therefore, according to the financial statements for the hospital for 2020 goods, were sold, works performed and services were provided to the amount of UAH 303.2 Million, while their cost amounted to UAH 268.0 Million, which is only 11.2%. Whereas, for example, in the private segment of dentistry, the profitability of services is from 30 to 40%, which indicates the prospects for the development of paid medical services in non-profit utilities, regional hospitals.

Given the low level of profitability of services provided by MNPE «Gerbachevsky Regional Clinical Hospital» Zhytomyr Regional Council net profit of the hospital in 2020 amounted to UAH 3.3 Million, which given the current expenditures (excluding utilities) to the amount of UAH 39.5 Million. Is a small amount.

Analyzing the financial condition of MNPE «Gerbachevsky Regional Clinical Hospital» Zhytomyr Regional Council, we must understand that the regional hospital is a municipal institution funded by the local and state budgets, and therefore strategic and tactical planning by analogy with commercial enterprises is virtually impossible.

The chief physician, who acts as the general manager of the hospital, currently does not have the ability to organize effective financial activities of the hospital. This is because, the main revenues, of the hospital, are regulated by budget programs of local and state budgets.

However, using the available data of financial statements, we analyze several indicators that characterize the financial condition of MNPE «Gerbachevsky Regional Clinical Hospital» Zhytomyr Regional Council (tab. 2). One of such indicators is the rate of return, which reflects the amount of products or services provided from the use of one hryvnia fixed assets. In MNPE «Gerbachevsky Regional Clinical Hospital» Zhytomyr Regional Council, this figure is very low, because from one hryvnia of fixed assets, the hospital produces services for only 2 cents, which indicates the inefficient use of fixed assets.

In our opinion, this situation has arisen owing to the fact that «the lion's share» of the fixed assets of the hospital are buildings, in which units and departments of the hospital are located.

The equipment on the hospital's balance sheet is physically «worn out» and obsolete, which affects its valuation.

The asset sustainability ratio is not too low, but its value indicates a difficult asset structure and the need to increase investment in assets, including equipment and medical infrastructure, which will improve the quality of health services and their profitability.

The coefficient of financial independence indicates a high level of financial independence, but it should be understood that in the MNPE «Gerbachevsky Regional Clinical Hospital» Zhytomyr Regional Council the lion's share of equity is not shares but non-current assets. For example buildings and structures, this indicates a distortion of perception of the value of this indicator, because the share of retained earnings in equity is only 5.2%, in this case

The hospital's dependence on external funding is extremely strong, so its development is not controlled by market pricing mechanisms for medical services, but by administrative decisions of local authorities.

Profitability ratios of assets and capital also show the low level of financial condition of MNPE «Gerbachevsky Regional Clinical Hospital» Zhytomyr Regional Council in 2020, which follows from the status of the hospital.

Given the limited cash flow, the hospital's financial logistics is in its infancy, as the main financial flows are budget transfers and subventions, which, «are used» to pay salaries, pay for utilities, purchase medicines and food.

However, the communal and non-commercial status of the MNPE «Gerbachevsky Regional Clinical Hospital» Zhytomyr Regional Council in 2020 still provides opportunities for the organization of effective financial logistics and the creation of conditions for the development of the hospital's medical infrastructure.

One of the opportunities to increase non-budget revenues of MNPE «Gerbachevsky Regional Clinical Hospital» Zhytomyr Regional Council in 2020 is the conclusion of agreements with third parties for the lease of premises and territories owned by the hospital.

In addition, charitable contributions are important cash flows that the hospital can use to purchase modern equipment. However, in order to increase the transparency of the use of charitable contributions and to accumulate the necessary amount of funds for the renewal of fixed assets or the purchase of modern medical equipment, the hospital management should resort to the use of crowdfunding. Crowdfunding means public funding based on the voluntary pooling of funds of stakeholders. Technically, crowdfunding begins with the presentation of a project idea on special online platforms. In Ukraine, a well-known crowdfunding platform is the common idea platform "Big Idea", which allows you to implement projects in almost all spheres of society. Crowdfunding allows you to raise funds from ordinary citizens, volunteers and business people to finance the project, and the implementation of fundraising through an online platform ensures the transparency of the fundraising process. Through crowdfunding, hospitals can raise money for equipment, medicines, software development, and more.

Attracting charitable contributions and developing crowdfunding funding for medical projects is a lengthy process, and the ability to raise

large sums to upgrade the hospital's fixed assets is quite limited, as the economic situation in the country also negatively affects the financial capacity of philanthropists.

In our opinion, a radical change in the financial logistics of MNPE «Gerbachevsky Regional Clinical Hospital» Zhytomyr Regional Council and other regional hospitals of Ukraine, can be achieved, in the case of the introduction of paid medical services. Of course, this proposal is debatable, but the qualitative development of hospitals in Ukraine is not possible when 90% of budget expenditure «is directed» to payment of doctor salaries.

Accumulation of funds for capital renovation, purchase of modern medicines and modern medical equipment is not possible without the commercialization of certain areas of the regional hospital.

The first steps in the implementation of the concept of paid medical services in Zhytomyr were implemented by the «Zhytomyr Regional Children's Clinical Hospital» of the Zhytomyr Regional Council, which introduced 108 types of paid services [5].

Analyzing the price offer of Zhytomyr Regional Children's Clinical Hospital and comparing it with private clinics in Zhytomyr, we note that prices in the municipal hospital are lower than in the private sector of the medical market, which indicates the ability of the children's hospital to adapt to market pricing for medical services actively using budget support.

Regarding MNPE «Gerbachevsky Regional Clinical Hospital» Zhytomyr Regional Council, the hospital has provided an agreement "On the provision of medical services", but the list of paid services has not yet been approved, which, in our opinion, slows down the development of financial logistics of the hospital.

Since the chief physician, as the manager of MNPE «Gerbachevsky Regional Clinical Hospital» Zhytomyr Regional Council is not able to organize the process of providing paid medical services, the strategic planning of cash flows, which is the basis of financial logistics, also cannot. After all, the traditions of local and state budgets in Ukraine indicate the predominance of the principle of residual funding of medicine, education, youth and sports, as well as other social aspects of society, and therefore, financial logistics, today, depends on the

time of budgets and implementation of major budget transfers.

Therefore, the development of elements of strategic planning, the formation of long-term development plans, the formation of independent budgets of hospitals, today, in Ukraine is unrealistic. However, the slow economic recovery, pandemic risks, declining welfare of the population will, sooner or later, lead to the optimization of the principles of management of regional hospitals, in particular in the implementation of paid medical services.

Analysis of the financial condition and expenditures of MNPE «Gerbachevsky Regional Clinical Hospital» Zhytomyr regional council showed that the budget form of maintenance of communal hospitals has exhausted itself, however, it does not mean that in Ukraine it is necessary to introduce paid medicine as a whole. In our opinion, in this context, it is advisable to develop the practice of public-private partnership by establishing mechanisms for co-financing of medical institutions. For example, the salary formula of doctors may be promising, when the salary, which is determined in accordance with the tariff grid» will be paid from the budget, and allowances in accordance with the number and cost of paid services provided by doctors.

The same mechanism can be applied to the payment of transaction costs by defining a list of transactions that are fully financed by the «budget», and which at the expense of individuals or legal entities. Legislative and regulatory consolidation of the lists of paid medical services will significantly reduce the level of corruption in medicine and ensure a decent salary for doctors and patients with quality medical care.

One of the elements of non-budget funding for the activities of MNPE «Gerbachevsky Regional Clinical Hospital» Zhytomyr regional council there are payments from the Hospital fund of the Zhytomyr region.

The health insurance fund introduced in the mid-1990s as a specific option for health insurance for low-income citizens. In such funds, the basis of the principle of joint and several liability, participants receive guaranteed access to medicines and a certain list of medical services for very symbolic and voluntary contributions. In the Zhytomyr region,

where this practice has become the most widespread due to the active position of the authorities and has covered about 15% of the population, monthly contributions amount to UAH 30-60. However, the amount of payments from such a fund is insignificant, amounting to less than 1% of all expenditures of the regional budget for medicine [8]. However, the example of the organization of the Health Insurance Fund of Zhytomyr region shows the prospects for the development of health insurance. By analogy with the health insurance fund and with active participation of MNPE «Gerbachevsky Regional Clinical Hospital» Zhytomyr Regional Council in Zhytomyr, it is possible to organize health insurance for civil servants and employees of local governments as a pilot project of health insurance in Ukraine. At present, insurance companies in Ukraine offer health insurance services, which, subject to the approval and implementation of the list of paid medical services, creates good preconditions for the development of health insurance and, thus, attracting official insurance payments by the hospital.

In order to improve the financial condition of the hospital and attract investment resources for the development of material and technical hospital, management should intensify work to find opportunities to attract international financial assistance and grants aimed at improving the work of the medical institution.

This practice in Ukraine is a good example, as in 2015 Ukraine received an unprecedented \$ 214.7 Million loan from the World Bank under the Improving Public Health Service, which aimed to improve the quality of health services. In selected regions (Vinnytsia, Volyn, Dnipropetrovsk, Zakarpattia, Zaporizhia, Lviv, Poltava and Rivne), special attention was paid to primary and secondary prevention of cardiovascular and oncological diseases, and improving the efficiency of the health care system [8]. As you can see, among the selected areas there was no place for Zhytomyr, which indicates the lack of persistence of the leadership of the MNPE «Gerbachevsky Regional Clinical Hospital» Zhytomyr Regional Council, as well as the Regional Department of Health in the field of attracting international financial assistance.

## Conclusions

The analysis of the financial condition and financial logistics of MNPE «Gerbachevsky Regional Clinical Hospital» Zhytomyr Regional Council concluded, that the communal ownership of the hospital and its budget funding has a negative impact on the financial condition of the hospital. The management, represented by the chief physician, his deputies and other authorized persons do not have the ability and tools for effective strategic planning development of a medical institution, attraction of investments or development of fixed assets.

After all, the budget of a municipal hospital depends on the capabilities of the local budget, which are «effected» by macroeconomic factors.

At the same time, medicine, as a socially important branch of the national economy, does not actually stop its development in the conditions of recession or recession in the economy, because medical services are always in demand. Therefore, the development of public-private partnership in medicine is, in our opinion, an effective measure to ensure the effective operation of regional hospitals.

The introduction of paid medical services will increase the cash flows of the hospital, which do not depend on the state of local and state budgets, and this in turn will expand the hospital management's ability to make capital investments and purchase modern equipment.

Within the existing status of MNPE «Gerbachevsky Regional Clinical Hospital» Zhytomyr Regional Council, the concept of free medicine and financial logistics of the «Hospital» should be, closely linked with the budget process of Zhytomyr region and Zhytomyr territorial community. It is during the formation of regional and territorial budgets that decisions are formulated, on financing the hospital and capital transfers from the development budget.

Therefore, the role of hospital management in this context is great, because the level of validity of budget requests depends on the amount of financial flows from the budgets of all levels to the hospital.

The lack of opportunities to attract private funding for the development of the hospital and the low activity of management in increasing budget expenditures for the development of the hospital are among the reasons for the low level of readiness to fight the coronavirus. After all, this level of

depreciation of fixed assets and the lack of necessary equipment is the result, of primarily, public funding of medicine on a residual basis, as well as the concept of free medicine.

Prospects for further research in this area is the analysis of the effectiveness of the implementation of ward medical services in MNPE «Gerbachevsky Regional Clinical Hospital» of the Zhytomyr regional council.

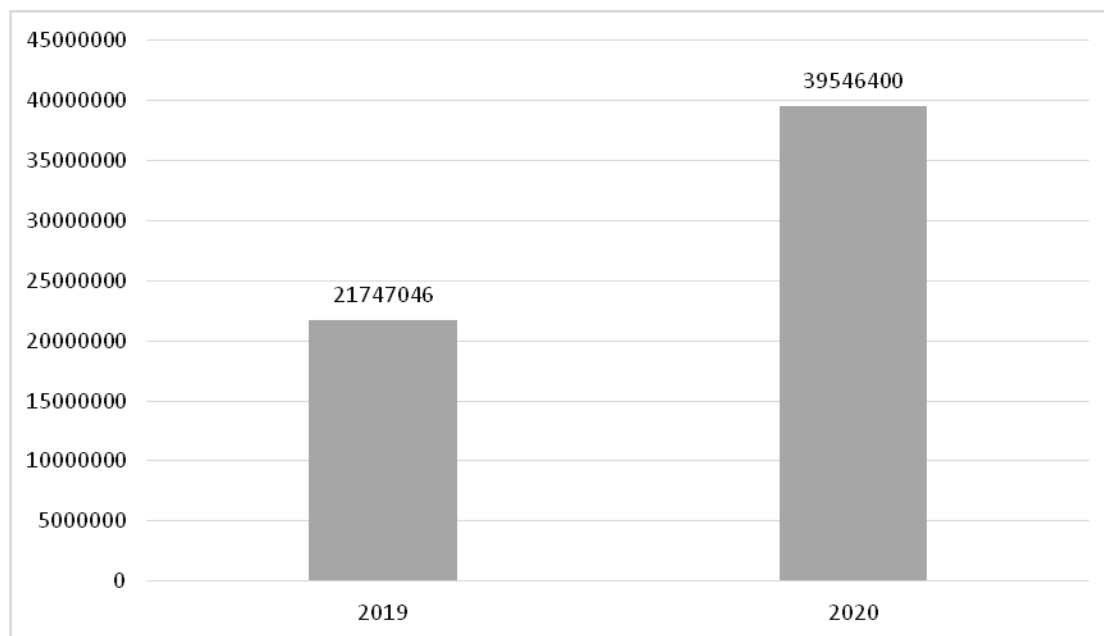
### Acknowledgments

The authors declare that there are no conflicts of interest.

This study was conducted within scientific and research (initiative-search) work of Shupyk National Medical Academy of Postgraduate Education entitled

### References

1. Govorko O. V. (2017) "The effectiveness of the health care system of the population of Ukraine". *Intelligence XXI*, no 2. pp. 92-97.
2. Karamyshev D. V. Udovychenko N. M. "The essence of understanding the effectiveness of health care management in modern conditions". *State building*. 2008, no 1. URL: [http://nbuv.gov.ua/UJRN/DeBu\\_2008\\_1\\_26](http://nbuv.gov.ua/UJRN/DeBu_2008_1_26).
3. Martyniuk, O.A. (2016), "Implementation of quality management system in medical institutions", *Black Sea Economic Studies*, no. 6, pp. 75-79.
4. Mokrycja, A.B. (2014), "Financial support of Ukrainian health care: theoretical conceptualization and organization problems", *Nauka j ekonomika*, vol. 4 (36), pp. 177-179.
5. Official site of Zhytomyr Regional Children's Clinical Hospital of Zhytomyr Regional Council. URL: <http://zhodkl.zt.gov.ua>.
6. Official site of KNP «Regional Clinical Hospital named after O.F. Gerbachevsky» of the Zhytomyr regional council. URL: <https://zhokl.com.ua/likarnyana-kasa-zhitomirskoyi-oblasti/>
7. Financial statements for 2020. KNP «Regional Clinical Hospital named after O.F. Gerbachevsky» of the Zhytomyr regional council. URL: [https://clarity-project.info/edr/01991406/finances?current\\_year=2020](https://clarity-project.info/edr/01991406/finances?current_year=2020).
8. Chemenko Z, Nadтока O., Serdyuk K. «How to increase the efficiency of state and municipal health care institutions?» URL: <https://parlament.org.ua/wp-content/uploads/2017/08/12.pdf>



**Figure 1.** Dynamics of the estimate of the MNPE. MNPE «Gerbachevsky Regional Clinical Hospital» Zhytomyr Regional Council

\* Built by the author according to [6]

**Table 1.** The structure of the estimate of MNPE «Gerbachevsky Regional Clinical Hospital» Zhytomyr Regional Council in 2019-2020

Estimate articles	2019	2020
Remuneration and payroll	92,38	90,50
Items, materials, equipment and inventory	0,74	0,46
Medicines and dressings	1,33	2,49
Food	2,76	3,92
Payment for services (except utilities)	0,38	0,56
Travel expenses	0,15	0,09
Research and development, some measures for the implementation of state (regional) programs	0,03	0,03
Social welfare	0,82	0,42
Capital expenditures	1,41	1,50
Total	100,0	100,0

\* Calculated by the author according to the data [Errore. L'origine riferimento non è stata trovata.]



**Table 2.** Some coefficients of the financial condition of MNPE «Gerbachevsky Regional Clinical Hospital» Zhytomyr Regional Council in 2020 \*

The name of the coefficient	Calculation	The result of the hospital	
Return on investment (Ri)	$\frac{\text{net profit}}{\text{initial cost of fixed assets}}$	0,02	Displays the amount of output obtained from the use of one hryvnia fixed assets.
Asset consistency ratio (AC)	$\frac{\text{non - current assets}}{\text{total assets}} \times 100\%$	56,7%	If this figure is too low, it indicates low production potential and the need for additional capital investment. If $Ac > 40\%$ - heavy asset structureb
Coefficient of financial dependence (Cfd)	$\frac{\text{total sources of funds}}{\text{equity}} \times 100\%$	0,34	The optimal value of this ratio is less than 2. An increase in this indicator in the dynamics means an increase in the share of borrowed funds in the financing of the enterprise, and, consequently, indicates a loss of financial independence of the enterprise. If Cfd is approaching 1, it means that the owners are fully financing their business.
Return on assets (ROA)	$\frac{\text{net profit}}{\text{asset value}} \times 100\%$	1,13%	characterizes how effectively the company uses its assets to make a profit
Return on capital (ROE)	$\frac{\text{net profit}}{\text{cost of equity}} \times 100\%$	1,99%	characterizes how effectively the company uses its own capital

\*Calculated by the author according to the data [ **Errore. L'origine riferimento non è stata trovata.**, 7]