

Analysis of Financial Indicators Compared with Main Characteristics of Hospital Based Medical Care in Bulgaria

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Info Articles

Keywords:

Financial indicators, hospital based medical care, economic dependencies

Abstract

Purpose: The purpose of the study is to analyze whether there is a relationship between fundamental financial indicators of hospital based medical care (HBMC) depending on ownership, location, and type. The indicators are as follows: total revenue, short-term assets and liabilities, working capital, equity capital, and its components. A relationship was found between the control of hospitals and short-term liabilities, location, and income. Moreover, dependence troughs individual financial indicators was also investigated.

Methodology: The study examines 15 research units of hospital based medical care. The sample contains hospitals¹ with the highest revenues based on contracts with the National Health Insurance Fund of 2021. Each of the following districts: Sofia, Burgas, Varna, Plovdiv, and Stara Zagora is represented by three HBMC. Specific analyses (Variance, Regression, and Descriptive statistics) were conducted by Verified statistical software – SPSS version 22.

Results: Correlation between the hospital's location and the income value was found. Moreover, a statistically significant relationship between ownership and the amount of short-term assets was recognized. On the other hand, a strong correspondence between the size of the fixed capital and total revenue has been proven. A moderately strong, positive association determines the interaction between income and short-term liabilities. No significant results were found in the analysis of all other variables.

Conclusion: The results of the conducted study can be taken as bases for in-depth analyzes firstly in the field of financial stability, secondly on the importance of the distinguishing hospital's characteristics.

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¹ In the text, the words hospital and hospital based medical care (HBMC) are used synonymously.

INTRODUCTION

Several studies are researching the main sources of revenue for hospital based medical care. All of them are consolidated that the National Health Insurance Fund (NHIF) has an important role in the organization of health services provided around the country. The Ministry of Health is another immutable factor that provides additional payments regarding more specific health goods and services, classified as emergency medical care and significant illnesses, vaccinations, etc. The Municipal structures take care of their own hospitals and finance their activities according to the defined legal needs. In addition to these three sources, there are also payments from insurance companies, in connection with health insurance. Studies and reports regarding the government of the health sector in the country reach the general conclusion that a large share of its financing is due to direct payments by patients (Dimova et. al. 2019; Ministry of Finance 2005; IBRD 2015). This research examines the relationship between the incomes generated by HBMC from different sources, related to their allocation, ownership, and type. A correspondence between the created time lag of received revenues and coverage of expenses in the activity of private, government, and municipal health insurance companies is being researched. The different sources of income and the separate types of accrued liabilities, as well as the financial result as an indicator of the overall management of the HBMC, are taken into consideration. Relations between the listed indicators are more likely to be observed while analyzing their ownership. This fact is connected to the specific management in government, municipal and private hospitals.

The results of the conducted study aims to reveal correspondence between the current financial government of Bulgarian hospital based medical care and the management of the hospitals that provide it. Moreover, through this research, a competitive analysis diverted by regions regarding that kind of services as total for the segment. The principles used in controlling and financing the hospitals are well researched in order to show effectiveness in management, as well as taking into consideration their ownership.

LITERATURE REVIEW

Studies are proving a large number of hospitals per 100,000 population. It has been proven that in Bulgaria their number is 50% more than the average for the EU-27 member states. According to some of the studies, the pointed fact can accrue as a problem that should be solved by the government leadership and as a result should stop the uncontrollable number increase of hospitals. Another problem that the author examines is the valuation of the funds paid for the treatment performed (Nikolova 2013). Analyzes show that in 10 years, from 308 hospitals, they reached 348 (12.9% growth), while the number of private hospitals doubled - from 47 to 111 (Delcheva 1994). Hospital care in Bulgaria is provided by public and private medical institutions. The number of private hospitals is growing significantly, and in 2016 they were nearly 1/3 of the total number in Bulgaria (Dimova et. al. 2019). The correlation between the financing methods and the results of the hospitals were investigated. In the scientific work on the sources of financing (Ivanova 2020), the conceptual features of healthcare financing in Bulgaria are clarified. The implemented health reform and the problems arising from it are evaluated, and the need to apply a scientific approach to the management of the financial resource in health institutions if justified. As a result of the scientific research, the main trends and deviations in the financing of healthcare in Bulgaria, a result of the applied financing model in Bulgaria, have been identified. In similar developments, the contributions of the well-organized and financially stable healthcare sector are considered, with the view that the stable health profile of the citizens helps the development of the other sectors, through the workforce, and from there the economy as a whole (Petrov 2015). The development is combined with the funding sources listed by the Ministry of Health, divided into public and private. Budget financing, expressed through taxes, is one of the main public financing methods, followed by social and health insurance, which is the third pillar of healthcare financing. Its idea is that the insured bears the incurred payments for health services, through the insurance contribution already paid into the system. Another source is private health insurance, which on a voluntary basis collects funds from the insured and again covers the incurred health payments for health services received. The last group of private sources is the personal funds of citizens or the so-called - private payments. A large share is formed by the costs of medicines (Georgieva et. al 2016). The ratio of public-private expenses in Bulgaria is extremely unfavorable, and in recent years the share of the latter has been between 41 and 48% (Rohova 2016). The donation, which can be implemented in several different forms – corporate, institutional, and individual (Ivanova 2018), is an additional considered source.

Most of the results involving the hospitals in the country reach similar conclusions regarding them and the general condition of the sector as a whole. One of the main problems of each individual department can be found in the big percentage of private payments. During the considered period of 2020, Bulgarians are burdened with more than 40% of the total healthcare costs (Gercheva 2020). An important aspect of this type of expenditure is that, in most cases, they are unregulated payments by households (Ministry of

Finance 2005). This leads to impoverishment of the population after they incur their health care costs (IBRD 2015). About 25% of households with the lowest incomes delay visiting a doctor for a health problem. The problems arising from the payment of health services by public funds and the transfer of the burden directly to households were examined (Rohova 2016). According to a 2010 study, informal payments were made by 13% of patients in pre-hospital care and 1/3 of patients in hospitals (Atanasova 2013).

Having easier access to the healthcare system is one of the main characteristics of HBMC and can be considered as much quicker way of getting help. It has been separately analyzed that 10% of hospital admissions could be avoided with better quality care "at the entrance" of the health system (Gercheva 2020), referring to outpatient care. According to an Analysis of the health system (Dimova et. al. 2019), there is a lack of a clear regulatory framework for the formation of prices for health services. Pricing is not based on actual costs, but rather on available resources in the NHIF budget. The lack of policies and tools for the efficient allocation of public resources has a negative impact on the market behavior of healthcare providers. On the other hand, it is determined by the financing methods that stimulate the number of services and goods provided, i.e. the utilization of financial resources.

The majority of published studies examine the health system as a whole, but not separately for each type of institution involved in the process of providing health services. The final results are analyzed, such as the number of private, municipal, and government hospital based medical care, but not their need and distribution by region in the country. Separately, their type is also information that is taken for granted, and the need for and dependence on different types of hospitals is not explored. On a global scale, there are studies examining the ownership of hospitals as a factor in ensuring the health of the population (Gabriel et. al. 2018). The main conclusion of the conducted study is that in the US, non-profit medical institutions are more likely to make efforts for the health of the population than public and private ones. There is a detailed analysis of the Greek public hospitals that have followed earnings management techniques to influence reported earnings and which accrual accounts are appropriate to explain discretionary accruals. Covering the period 2009–2019, the analysis reveals that Greek public hospitals are trying to report small surpluses. Accrual-based accounts and changes in their value between successive years provide evidence of relevance for earnings management (Malkogianni 2022). According to a study in England, there is no quality differences between hospitals specializing in planned treatments and other hospitals, nor between for-profit and not-for-profit private hospitals. However, a distinction has been made in that private hospitals in the country accept for treatment milder cases, as well as patients in need of specialized health care. Private hospitals treat patients with fewer comorbidities and past hospitalizations. Controlling for observed patient characteristics and treatment type, private hospitals have fewer emergency readmissions (Moscelli 2018). In Norway, studies show similar results. The association between quality of care and hospital ownership is mixed since private nonprofit hospitals both offer shorter waiting times and shorter lengths of stay (Bjorvatn 2018).

The degree of indebtedness of medical institutions is of essential importance for the health services they provide. According to an analysis conducted to investigate whether financial leverage moderates the relationship between working capital and profitability for publicly listed European hospitals. The results reveal that increasing the length of the cash conversion cycle for hospitals with high financial leverage reduces profitability. On the contrary, increasing the length of the cash conversion cycle for those with low leverage increases profitability. The findings of this study suggest that leverage influences the relationship between the cash conversion cycle and profitability. The results were derived through regression analysis (Danci 2018).

Development of hypotheses and research methods

Based on the reviewed literature there is a lack of evidence regarding the problems that are been put in the next two hypotheses:

Hypothesis 1: The ownership, location, and specialization of the hospitals lead directly to their overall financial stability. The investigated financial indicators - total revenue, revenue from NHIF, revenue from private services, working capital, financial result, accumulated profit/loss, equity, and fixed capital are related to the three main characteristics.

Hypothesis 2: Revenue can be taken as the main indicator of the volume of activity and its interactions with the rest of the investigated financial indicators. The direction of the relationship with the short-term liabilities is been looked into. This finance indicator shows the management of working capital and the invested fixed capital.

The statistical analysis aims to detect a correlation between HBMC performing the same basic activity, but distinguished by different characteristics such as location, ownership, and type, according to Law². The

² Law on Medical Institutions, Art. 9, Paragraph 2

described characteristics of the hospitals are prerequisites for the formation of relationships between the individual species, and a statistical approach will be used to check whether they are dependent and indicate an influence or insignificant. The data for the subsequent analysis were collected by the Ministry of Health (for government-owned hospital based medical care) and the Commercial Register at the Registration Agency (for municipal and private hospitals). The sample was made by collecting information from the National Health Insurance Fund about the amounts paid to HBMC who performed hospital care services. Based on the data for 2021 hospitals are ranked according to income from the NHIF. Through the published data from the last census by the National Statistical Institute (NSI) as of 2021, the 5 regional centers with the largest number of inhabitants were taken. This approach was chosen because these areas would have the most residents who would need hospital care and thus the values in the reports of the HBMC covering these locations would be the most significant. According to NSI data, these are the districts: Sofia-city, Burgas, Plovdiv, Varna, and Stara Zagora. Based on the information published by the NSI and the NHIF, the 3 HBMC with the most payments from the NHIF for each of the 5 regions have been selected, given the importance of providing the health needs of the most populated regions with hospital medical care. The following elements were investigated taken into consideration their type (see Table 1).

Number of monitored district	5
Number of hospitals from each district	3 pieces
Number of total monitored hospital based medical care 1*2	15 pieces
Observation period 2019-2021	3 years
Total sample size 3*4	45 pieces
Qualitative variables	4 pieces
Quantitative variables (additional)	10 pieces

The study aims to draw general conclusions about the type, ownership and the importance of the location of hospital based medical care in Bulgaria. At the beginning of the analysis, descriptive statistics were used, through which a general view was shown based on the statistical sample.

Descriptive statistics aims to draw a generalized picture of the movement of the considered indicators and the possible dependencies between them. First, the distribution by ownership of the emitted units is examined (see Table 2).

CODE_SOB				
	Frequency	PercentValid	Percent	Cumulative Percent
ValidGovernment _ property	6	40.0	40.0	40.0
Municipal _ property	2	13.3	13.3	53.3
Private property	7	46.7	46.7	100.0
Total	15	100.0	100.0	

From the descriptive part, it can be seen that the private hospitals included in the sample are a larger percentage than the government and municipal ones.

By region, they are distributed equally in number, due to the methodology of sample selection. Regarding the type of hospitals, according to the classification of the Law on Medical Institutions, the distribution is as follows (see Table 3).

Table 3: It can be seen that the multi-profile hospitals for active treatment - MPHAT prevail, and there are two specialized hospitals for active treatment (SBAL).

The distribution according to the form of management (see Table 3) under which the hospitals operate shows the main form - EOOD - 6 units, followed by OOD - 4 units. Government hospitals mostly operate under the legal form of a joint-stock company (AD or EAD). Private and municipal HBMC prefer OOD and EOOD.

Table 3
legal_form

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	OOD	2	13 , 3	13 , 3	13 , 3
	EOOD	6	40.0	40.0	53.3
	AD	3	20.0	20.0	73.3
	EAD	4	26.7	26.7	100.0
	Total	15	100.0	100.0	

In addition to the distribution of these 3 qualitative characteristics, it was checked how the main quantitative characteristics of the sample units were distributed. The first is the value of working capital: It is calculated according to the formula

$$\text{Working Capital} = \text{Current Liabilities} - \text{Current Assets (Raikov 2013)}$$

The results show that 33.3% of the surveyed HBMC operate with negative working capital, of which slightly over 60% are public and the rest are private. This may speak of financing fixed assets with short-term liabilities.

When reviewing the revenues generated by the hospitals, they are grouped into four groups. The first represents the HBMC with annual revenues of less than BGN 50,000K, which have the largest share - 57.8% of them, 42.3% are private, and 34.6% are government-owned, the remaining 23.1% are municipal. The distribution by regions shows that in Sofia-city there are mainly HBMC with an income between 50,000K and 150,000K BGN. Hospitals with more than 150,000K BGN total revenues are government and are in the regions of Varna and Plovdiv. According to their purpose, specialized hospitals are classified in the first group - below BGN 50,000K annual turnovers.

The second indicator examined is the National Health Insurance Fund payments as part of the hospital's revenues. Private hospitals have the highest percentage of hospitals receiving income from the NHIF up to BGN 100,000K. Government hospitals have an average percentage of up to this amount and represent with the most incomes from NHIF- over BGN 100,000K. The distribution by regions shows that Sofia-city has mostly high revenue - over BGN 50,000K, in Burgas and Stara Zagora up to BGN 50,000K, Varna has representatives in all groups up to BGN 150,000K, Plovdiv hospitals receive most -often revenues from the cash register between 50,000K and 100,000K BGN per year. Analogous to the revenues, given that the receipts from the NHIF are a part of them, the specialized hospitals are ranked in the group up to BGN 50,000K.

The health services provided, directly to patients, i.e. paid by households or from voluntary health insurance funds, mostly go to private hospitals and are distributed relatively evenly across regions. The highest percentage is observed in Sofia-city. Over 37% of HBMC with income between BGN 5,000K and 15,000K are located in this area.

The indicators of financial result, accumulated loss/profit, equity, and fixed capital will be analyzed in parallel, due to their connection. Mainly public hospitals realize a negative financial result - a loss. With private ones, this is rather an exception. Mainly, medical institutions report up to BGN 10,000K in profit, this is 71.1% of the surveyed hospitals (up to BGN 5,000 K - 48.9%). They operate at a loss mostly in Burgas and Varna, and the most stable in their results are those in Plovdiv. Worst case scenario specialized medical institutions are ranked with a loss of around BGN 5,000K, on the other hand, the ones that have profit are around BGN 5,000K. Private medical institutions most often operate a fixed capital of less than 100K BGN and own capital up to BGN 50,000K. Even among them, there are those with negative own capital and they are a larger percentage than government medical institutions. Also, over 70% of them have an accumulated loss of up to BGN 5,000K, and 11.1% even greater. Public hospitals mainly operate with fixed capital of up to BGN 20,000K. At government hospitals, also observed representatives in the range from BGN 40,000 K to BGN 60,000K - 27.78%. and are mainly in Sofia-city and Varna. Negative equity with them is more of a rarity than a trend. Regarding the financial result, however, 22% of government hospitals and 66% of municipal in the group of negative values (up to BGN 5,000 K). 72.2% of government-owned HBMC have a positive result of up to BGN 10,000K. However, the accumulated losses are significant - 88.9% of the government hospitals have values up to BGN 150,000K. The municipal ones have mixed results, there are losses and profits of up to BGN 5,000K. The equity capital of the presented public hospitals is mainly within BGN 25,000K.

The distribution by regions shows that the HBMC with the worst financial results are in Varna and the best in Sofia-city. In terms of accumulated losses and profits, however, Sofia-city is one of the leading regions, together with Stara Zagora and Burgas.

For a more comprehensive view of the relationships between the quantitative and qualitative traits, an analysis of variance was performed.

3.1 Analysis of variance

The presence of a relationship between total income and ownership is investigated. The null hypothesis (H_0) states that there is no relationship between total revenue and hospital ownership. The alternative hypothesis (H_1) confirms the presence of dependence.

As shown in the ANOVA table the Significance value is 0.066, while the risk of error α is 0.05 (Table 4). Therefore, the null hypothesis (H_0) can be accepted. The conclusion of the results is as follows: there is no statistically significant relationship between the value of total revenues from hospital medical care and their ownership.

Table 4
ANOVA
Total Revenue (Binned)

	Sum of Squares	df	Mean Square	F	Sig .
Between Groups	14,300	2	7,150	2,898	,066
Within Groups	103,611	42	2,467		
Total	117,911	44			

The income from the NHIF is similarly not significantly related to the ownership of the hospitals. Such a conclusion is logically laid out following the statement that the mentioned income is part of total revenue.

After proving the missing connection regarding the ownership, it is examined how total income and the area in which the hospital is located are related. The null hypothesis (H_0) rejects the existence of a relationship between total income and location. The alternative hypothesis (H_1) confirms such a correlation between the two variables.

The following results are obtained:

Table 5
ANOVA
Total revenue

	Sum of Squares	df	Mean Square	F	Sig .
Between Groups	46501979046,110	4	11625494761.527	7,631	,000
Within Groups	60940740234,727	40	1523518505,868		
Total	107442719280.837	44			

Table 6
Descriptives
Total revenue

	N	Mean	Std . Deviation	Std . Error	95% Confidence Interval for Mean		Minimum	Maximum
					Lower	Upper		
					Bound	Bound		
Burgas	9	35617.72	17591.696	5863.899	22095.54	49139.89	17870	75798
Varna	9	70547.22	52963.979	17654.660	29835.50	111258.94	29987	160769
Plovdiv	9	100680.06	63368,398	21122.799	51970.80	149389.33	32718	211392
Sofia city	9	109158.67	20574.086	6858.029	93344.03	124973.31	75740	144525
Stara Zagora	9	31122.89	8005,926	2668,642	24968.99	37276.79	22915	48415
Total	45	69425.31	49415.382	7366,410	54579.29	84271.34	17870	211392

From the ANOVA table (Table 5), a value of Sig. is observed <0.05 (the risk of error). This means that the null hypothesis (H_0) is rejected and the alternative (H_1) is accepted. There is a statistically significant relationship between the value of total revenues and the district in which the HBMC is located.

Values were checked for normality of distribution by the Kolmogorov-Smirnov test. As a result, the level of Sig. <0.05 , which means that income is not normally distributed. If this condition is not met, non-parametric Kruskal-Wallis analysis should be applied. It is clear from it that the alternative hypothesis should be accepted. Namely that there is a statistically significant relationship between the area and the revenue of the HBMC.

The proven connection between these two indicators is logical, since the distribution of residents, respectively those in need of hospital care, depends on the population of the district. From the descriptive table (Table 6), through the value of the average values, it can be seen that Sofia-city is in first place with

BGN 109,158K, followed by Plovdiv with BGN 100,680K. Stara Zagora district is ranked last with BGN 31,122K. The values are arranged logically about the population data.

The next two indicators tested for the presence of a relationship are short-term assets and hospital ownership.

Table 7

ANOVA

Short-term liabilities

	Sum of Squares	df	Mean Square	F	Sig .
Between Groups	1186719904,343	2	593359952,172	3,260	,048
Within Groups	7644710758,558	42	182016922,823		
Total	8831430662,902	44			

Table 8

Descriptives

Short-term liabilities

	N	Mean	Std . Deviation	Std . Error	95% Confidence Interval for Mean		Minimum	Maximum
					Lower Bound	Upper Bound		
Government property	18	21234.61	13562.944	3196,817	14489.92	27979.31	7065	51016
Municipal property	6	4995.50	2587,701	1056,424	2279.87	7711.13	2210	8629
Private property	21	17227.05	14973.345	3267,452	10411.26	24042.83	1660	52665
Total	45	17199.20	14167.369	2111,947	12942.85	21455.55	1660	52665

ANOVA table (Table 7.1), shows a value of Sig. < 0.05, from which the alternative hypothesis (H_1) should be accepted, i.e. that there is a statistically significant relationship between short-term liabilities and the ownership of hospital based medical care. From the conducted One-Sample Test, it can be seen that a normal distribution is not present, therefore a non-parametric Kruskal-Wallis analysis was applied. It confirms the acceptance of the alternative hypothesis - a statistically significant relationship exists between ownership and short-term liabilities of hospitals. From the descriptive characteristics (Table 7.2) when applying the dispersion analysis, it can be seen that the government hospitals have the highest share, on average BGN 21,234.61K, followed by the private ones with BGN 17,199.20K.

3.2 Regression analysis

Through regression analysis, two main variables have been analyzed - whether the income affects the value of short-term liabilities and on the other hand whether the value of the invested fixed capital indicates a significant change in the generated income.

Researching the first two variables, the following hypotheses were defined:

H_0 : There is no relationship between total revenues and short-term liabilities in hospital based medical care.

H_1 : There is a relationship between total revenue and short-term liabilities.

Risk of error: $\alpha = 0.05$

The results indicate (Tables 8.1 and 8.2) that there is a relationship between the two factors taking in mind that the value of Sig. is less than the risk of error α . The model explains only 34.3% of the relation between the two variables. The strength of the positive association expressed by the correlation coefficient R is moderately strong.

Constructed model can be presented as: $Y = 34\,303.42 + 2.042 X$ (Table 8.3)

It can be concluded that: If total revenues change by 2.042, short-term liabilities will change by 1.

Table 9

Model Summary

R	R Square	Adjusted R Square	Std . Error of the Estimate
,585	,343	,327	40524,291

The independent variable is Short-term liabilities.

Table 10
ANOVA

	Sum of Squares	df	Mean Square	F	Sig .
Regression	36827339278,694	1	36827339278,694	22,425	,000
Residual	70615380002,143	43	1642218139,585		
Total	107442719280.837	44			

The independent variable is Short-term liabilities.
Coefficients

	Unstandardized Coefficients		Standardized Coefficients	t	Sig .
	B	Std . Error	Beta		
Short-term liabilities	2,042	,431	,585	4,736	,000
(Constant)	34303,422	9565.591		3,586	,001

Researching the second pair of variables – total revenues and fixed capital, the following hypotheses were defined:

H₀: There is no statistically significant relationship between total revenues and the value of the fixed capital of hospital based medical care.

H₁: There is a relationship between total revenue and fixed capital.

Risk of error: $\alpha = 0.05$

From the obtained results it is clear (Tables 9 and 10) that there is a relationship between the two indicators, since $Sig. < \alpha$. The coefficient of determination shows that 39.8% of the elements can be explained with this model. The strength of the positive association is strong 0.706 shown by the correlation coefficient.

Table 11. Model Summary

R	R Square	Adjusted R Square	Std . Error of the Estimate
,706	,498	,487	35399.140

Table 12. The independent variable is Fixed capital
ANOVA

	Sum of Squares	df	Mean Square	F	Sig .
Regression	53559458196.039	1	53559458196.039	42,742	,000
Residual	53883261084.798	43	1253099094.995		
Total	107442719280.837	44			

Table 13. The independent variable is Fixed capital
Coefficients

	Unstandardized Coefficients		Standardized Coefficients	t	Sig .
	B	Std . Error	Beta		
Fixed capital	1,602	,245	,706	6,538	,000
(Constant)	45684.207	6405,763		7,132	,000

From the performed regression analysis, it is clear that there is a relationship between the total revenues and the fixed capital used in HBMC. The proven hypothesis can serve as a basis for analyzing the financial indicators of the hospitals in question. Almost 40% of the revenue increase is explained by the increase in fixed capital.

Constructed model can be presented as: $Y = 45684.2 + 1.602 X$ (Table 9.3)

It can be concluded that: When fixed capital changes by 1, total revenues increase by 1.602.

The rest of the relationships between the investigated qualitative and quantitative indicators do not lead to significant conclusions and will not be described in detail.

4CONTRIBUTES AND FUTURE STUDIES

The study contributes by giving a general idea of how the main financial indicators of HBMC interact one by another and on the other hand can be taken as bases for subsequent in-depth analyses. The main qualitative characteristics of the studied hospitals were examined - ownership, location, type, and legal

form. Preferred legal forms under which HBMC operate have been established, depending on their ownership. The information that is generated based on the legal form of the hospitals does not entail significant dependencies. The specialization of the hospitals mainly determines the size of the financial indicators. Considering that in the sample the municipal hospitals are the only representatives of other than multi-specialty hospitals. That's the reason why significant conclusions cannot be taken into consideration. Concerning ownership, through the analyzes carried out, a conclusion can be made that there is no statistical correlation between a quality feature and the generated revenues of the HBMC, deduced through the applied dispersion analysis. Through the presented descriptive analysis, it is shown that public healthcare hospitals (government and municipal) are characterized by worse financial indicators than private ones, or in other words, private healthcare hospitals are in a more stable financial condition. The regional centers that are the subject of development generate higher revenues, based on the larger number of the population in them.

After the variables have been deduced, using dispersion analysis, the districts were arranged analogously to the published data from the NSI for the number of the population in 2021. The studied dependence property - short-term liabilities was chosen due to the high percentage of hospitals with negative working capital. A statistically significant relationship was found between the two indicators – total revenue and short-term liabilities. Moreover, after an analysis of the reviewed financial statements, it was concluded that due to the main source of income for public medical institutions - the NHIF (about 82% of the total income). The delay of cash flow appears as one of the main factors that lead to transferring of the payments to short-term liabilities. On the other hand, short-term trade payables have the largest share. As a summary, it can be concluded that HBMC uses direct payments for pay rows and tax obligations. While all other duties generate high values of short-term liabilities, due to delayed revenues from the main source - NHIF. Another explanation for that reason can be the financing of fixed assets by hospitals at the expense of "cheap" trade credit from suppliers.

Through regression analysis, two variables were derived, namely, the increase in short-term liabilities by one unit was provoked by the increase in the HBMC's income by 2.042. This leads to the current financial management status of the hospitals. The increase of the performed activities and the generation of more income inevitably brings indebtedness, and low values of the working capital (while maintaining the studied trends). The second dependence draws the possibilities to generate certain incomes, given the invested fixed capital. It was concluded that the increase in capital by units will generate prerequisites for the increase in income by 1.602.

In conclusion of all the investigated indicators and variables, although similar in their activities, HBMC has its peculiarities. To reach firm conclusions about financial management and opportunities for improvement, all of the hospitals should be examined.

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