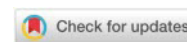


STUDY OF REVENUE CHANGE IN UNIVERSITY MULTIPROFILE HOSPITALS FOR ACTIVE TREATMENT IN BULGARIA

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Abstract: The success of a hospital medical care system needs to be measured by how efficiently and effectively it addresses the needs of the users of the services it provides.

The difficulties caused by the spread of COVID-19 did not prevent the University Multiprofile Hospitals for Active Treatment from continuing to perform their public service functions - they took over the treatment of the most significant part of patients with SARS-CoV-2 infection, while at the same time continued to provide the necessary conditions for conducting practical medical education for future medical specialists.

The aim of the study is to perform a comparative analysis of the change in revenue of the University Multiprofile Hospitals for Active Treatment for the period 2019 – 2021.

Methodology: The following methods were used for processing and analyzing the received information: Documentary method - the source of the information is the annual reports of the medical facilities for hospital care, which are received and processed annually at the National Center for Public Health and Analyzes at the Ministry of Health; System analysis method; Comparative-analytical method; Economical analysis; Financial and accounting analysis; Statistical methods, including: analysis of the dynamics of phenomena and graphic analysis - to visualize the obtained results.

Results: There is a trend of increasing the total revenues of UMHAT for the studied period by 32.6%. The first year since the onset of the COVID-19 pandemic (2020) has seen the strongest increase in revenue from the Ministry of Health, followed by revenue from donations. In 2021, the increase in revenues from voluntary health insurance companies was most pronounced, but there was a decrease in revenues from the Ministry of Health.

Discussion: In the Report on the health of citizens of the Minister of Health, it is stated that the growth of costs in 2020 compared to those reported in 2019 in the system of the Ministry of Health by more than 58% is due to the complicated epidemic background, in connection with which the ministry initiated a number of activities to ensure the treatment of those affected and limit the spread of the infection.

Conclusion: Based on the changes in the environment, as well as to the dynamically changing needs of hospital services, a more flexible adaptation to them is necessary for the modern university hospitals, in which teaching activities are carried out in addition to treatment.

Recommendations: An essential condition for University Hospitals to ensure the quality that patients and future medical specialists are looking for is the attraction of additional financial resources, both to improve their material base and as a means of conducting a successful personnel policy.

Keywords: revenues, University Multiprofile Hospitals for Active Treatment, COVID-19, Ministry of Health

Field: 3) Medical sciences and Health

1. INTRODUCTION

The success of a hospital medical care system needs to be measured by how efficiently and effectively it addresses the needs of the users of the services it provides. This is the reason why the management of financial resources in medical institutions, including University Hospitals, guarantees the achievement of high health outcomes that correspond to the achievement of the set goals. [2]

The main sources of income for the medical institutions in the Republic of Bulgaria, including the University Hospitals, are:

- The National Health Insurance Fund, which pays for the treatment of patients on clinical paths, outpatient procedures and clinical procedures;
- the state budget - through subsidies from the Ministry of Health;
- municipal budgets;
- voluntary health insurance, which, according to the amendments to the Health Insurance Act of 2012, is carried out on the basis of a medical insurance contract within the meaning of the Insurance

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Code. [2, 6, 7]

- from the activity of medical institutions according to the Law on Medical Institutions - sales of medical goods, services and others, other sales and other income, which may include interest on bank funds, as well as income from rented premises, etc.;
- income in the form of donations.

The National Center for Public Health and Analyzes (NCPHA) collects and summarizes on an annual basis the information on the main economic indicators of the activity of medical institutions for hospital care in the system of public health care in the Republic of Bulgaria.

According to the Law on Medical Institutions, Art. 90, para. 2 "The Ministerial Council, on the proposal of the Minister of Health, determines which of the medical institutions or their clinics or departments received approval from the Minister of Health for the activities: clinical training of students and doctoral students in medicine, dentistry and pharmacy; clinical training of students in specialties from the professional field of "Health care" and postgraduate training to acquire a specialty in the health care system, acquire the rights of university hospitals/clinics or departments for the duration of the approval. The proposal of the Minister of Health is made on the basis of a motivated request from the relevant rector of the higher education institution, agreed with the head of the medical institution. [1]

The spread of COVID-19, declared a pandemic by the World Health Organization, had a significant adverse impact on all spheres of public life. The University Hospitals were affected not only by the periodic restrictions on planned admissions, but also by the restructuring of clinics and wards in COVID structures.

The mentioned difficulties did not prevent the University Hospitals from continuing to fulfill their public functions - they took over the treatment of the most significant part of patients with SARS-CoV-2 infection, while at the same time they continued to provide the necessary conditions for conducting practical medical education of future medical professionals. [8]

The aim of the study is to perform a comparative analysis of the revenue change of the University Multiprofile Hospitals for Active Treatment for the period 2019 – 2021.

Table 1. Number of medical facilities included in the study

A group of medical facilities for hospital care	Abbreviation used	2019	2020	2021
University and National Multiprofile Hospitals for Active Treatment	UNMHAT	18	19	19

Source: NCPHA, Bulletin 22

Hospitals in the public health care system in the Republic of Bulgaria are included in the analysis.

2. MATERIAL AND METHODS

The study used the following methods for processing and analyzing the information received: Documentary method - the source of the information is the annual reports of the medical institutions for hospital care, which are received and processed annually at the National Center for Public Health and Analyzes at the Ministry of Health; System analysis method; Comparative-analytical method; Economical analysis; Financial and accounting analysis; Statistical methods, including: analysis of the dynamics of phenomena and graphic analysis - to visualize the obtained results.

3. RESULTS

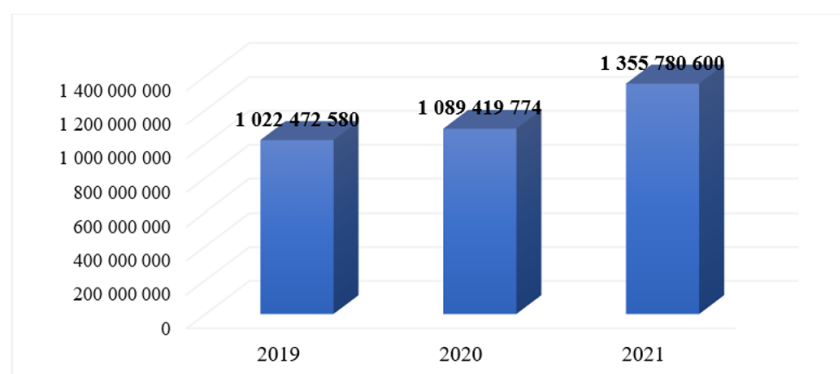


Figure 1. Total revenues by sources of UNMBAL in BGN

For the considered period 2019-2021, all revenues by sources of the University Multiprofile Hospitals for Active Treatment increased by 32.6%.

Figure 2 presents the dynamics of changes in income by source.

In the first year of the outbreak of the COVID-19 pandemic (2020), the strongest increase in revenues from the Ministry of Health was observed - by 95.62%.

Revenues from donations increased by 30.86 percent, revenues from the National Health Insurance Fund increased by only 2.69% and those from municipalities by 1.87%.

In the case of the other sources of income, there is a decrease, which is most pronounced in the income from the voluntary health insurance companies (VHIC), by as much as 90.87%. Revenue from user fees decreased by 14.66 percent, other revenues by 9.83 percent and revenues from sales of goods, services, etc. by 7.08 percent.

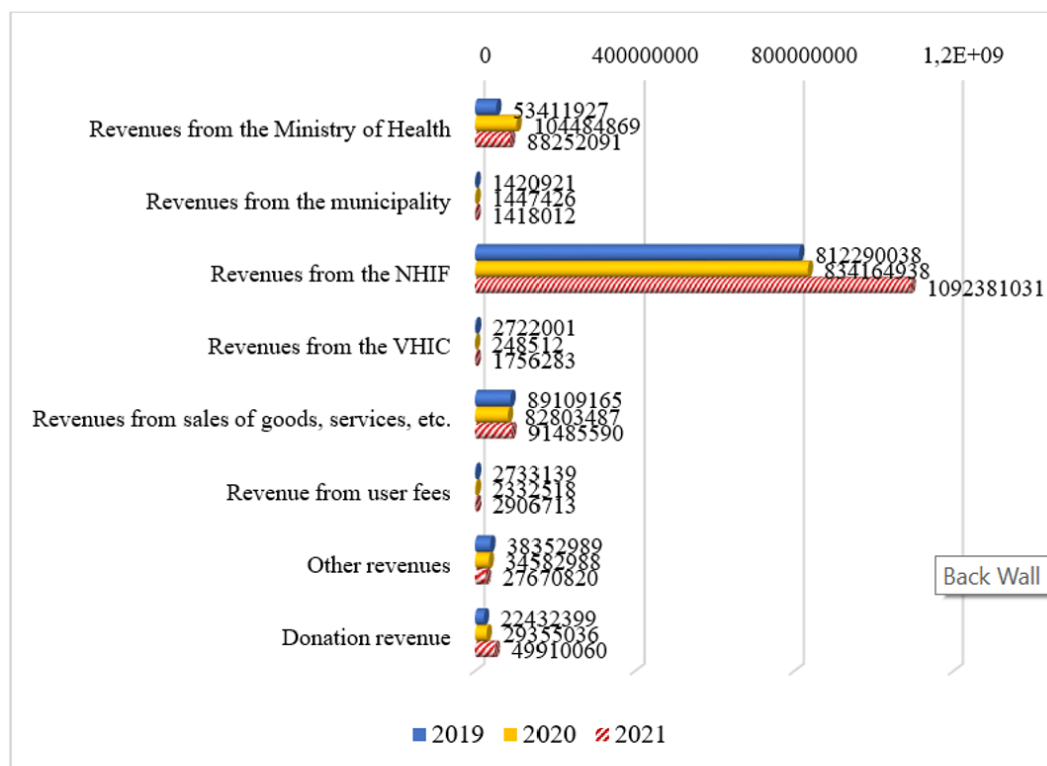


Figure 2. Revenues by sources in UNMBAL in BGN

As can be seen from fig. 2, in the second year of the pandemic - 2021, compared to 2020, the dynamics of the change in the income of University and National Multiprofile Hospitals for Active Treatment is as follows:

A strong impression is made by the significant increase of 606.72% in revenues from voluntary health insurance companies. We also observe an increase of 70.02 percent in the income from donations, with 30.96% in those from the main source of income in the health care system - NHIF. Revenues from user fees increased by 1/4, and revenues from sales of goods, services, etc. by 10.49 percent.

There is a decrease of 1/5 in other revenues, by 15.54 percent in revenues from the Ministry of Health and by 2.07% in revenues from municipalities.

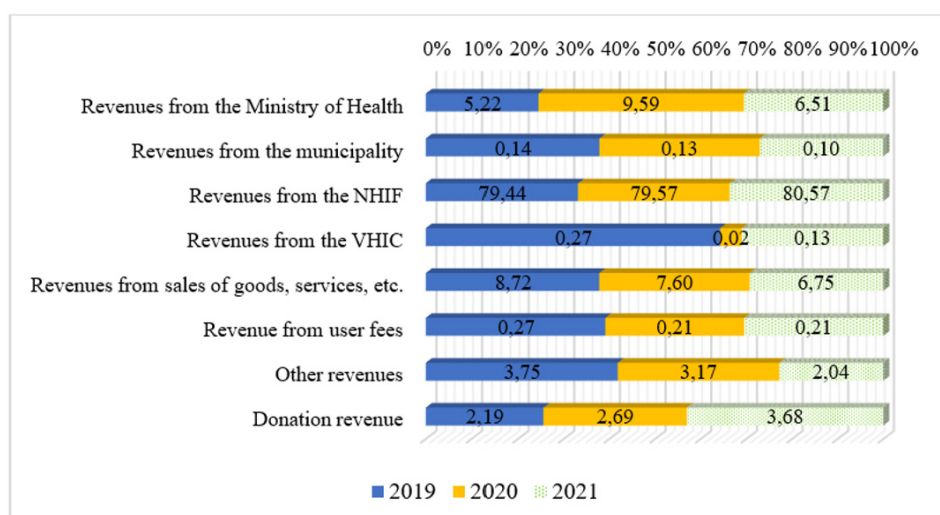


Figure 3. Revenues by sources in UNMBAL in %

In fig. 3 the relative share of different sources of income is shown. 80 percent is the share of revenues from the National Health Insurance Fund. In second place are the revenues from sales of goods, services, etc., where we observe a downward trend for the three-year period - from 8.7 to 6.7 percent, and in the first pandemic year, the second place is occupied by revenues from the Ministry of Health - 9.6 %. In third place are other incomes, where we again observe a continuous downward trend and therefore at the end of the period they are displaced by the income from donations. There is a slight decline in revenues from user fees. The relative share of income from voluntary health insurance is low, especially with the drastic decline in 2020. The share of revenues from municipalities is the lowest.

4. DISCUSSION

In the Report on the health of citizens of the Minister of Health, it is noted that the growth in costs in 2020, compared to the reported 2019 in the system of the Ministry of Health, is over 57.8%, which is a consequence of the complicated epidemic situation related to the spread of coronavirus infection on the territory of the Republic of Bulgaria. The Ministry of Health initiated a number of actions, including regulatory changes, in order to create an organization to ensure the treatment of those affected and limit the spread of the infection. Given the danger to the health of the nation, it was necessary to take a number of quick and targeted measures to restructure the health system, especially the medical facilities for hospital care. [3]

The decrease in financial resources by BGN 137,932.2 in 2021, compared to 2020, is due to the expenses incurred at the end of 2020 in connection with the provision of vaccines, medicinal products, subsidies for maintaining readiness to provide medical care and other costs necessary for the health system to meet the challenge of the next stages of the high spread of COVID-19. [4]

5. CONCLUSIONS

As a result of the research conducted and the results obtained, we reach the following conclusions:

- There is a trend of growth of the total revenues of UNMBAL for the researched period by 32.6%.
- During the year of the outbreak of the COVID-19 pandemic, the highest growth values - by 96 percent, we observe in the revenues from the Ministry of Health, and the revenues from donations increase by 30%. Voluntary health insurance revenues decrease very strongly - by 91 percent.
- For 2021, compared to 2020, there is a drastic increase (by 606%) of the income from Voluntary Health Insurance companies, followed by the income from donations - by 70 percent. Revenues from the National Health Insurance Fund increased by 1/3. Revenues from the Ministry of Health decreased by 15%.
- Based on the changes in the surrounding environment, as well as to the dynamically changing needs of hospital services, a more flexible adaptation to them is necessary for the modern university

hospitals, in which, in addition to the treatment, there is also teaching activity.

- Emergency situations require a stable and competent leadership that has a clear vision in terms of planning and optimal use of available resources and is able to organize and control the activities of medical facilities.

6. RECOMMENDATIONS

Public health systems around the world function to a greater or lesser extent under conditions of scarcity of financial resources. This fact is valid for the entire system of public health care in Bulgaria and especially for the activity of the medical facilities for hospital care.

An essential condition for University Hospitals to ensure the quality that patients and future medical specialists are looking for is the attraction of additional financial resources, both to improve their material base and as a means of conducting a successful personnel policy.

Additional sources of income according to the existing regulations are the income from voluntary health insurance companies, or own income from offering medical services paid outside the NHIF, for which consumers are willing to pay.

REFERENCES

- Law on Medical Institutions (Promulgation, SG No. 62 of 07.9.1999, ..., amended and supplemented, No. 8 of 01.25.2023)
- Zlatanova T., Tsv. Petrova - Gotova, N. Popov, D. Shtereva - Tzuni, R. Yaneva. (2017). *Health Economics*. ed. Gorex Press; 78, 234
- Ministry of Health, (2021). Annual report on the state of citizens' health and the implementation of the national health strategy for 2020; 48
- Ministry of Health, (2022). Annual report on the state of citizens' health and the implementation of the national health strategy for 2021; 51-52
- Ministry of Health. National Center for Public Health and Analysis. (2022). Economic analysis of the activity of medical facilities for hospital care in the public health care system in the Republic of Bulgaria for the period 2010-2022, Bulletin 22; 8
- Yaneva R., A. Kehaiov. (2021). Analysis of income and expenses in the monocrinology departments of the University and District multidisciplinary hospitals for active treatment. *Academic Journal Management and Education, Univ. "Prof. Dr. Asen Zlatarov"*, Burgas, Volume 17 (1) 2021, ISSN 13126121; 51-59
- Popov N. The voluntary health insurance market in Bulgaria after the changes (2015). *Economy & Business*, Volume 9, 2015; 648-653, <http://www.scientific-publications.net/get/1000012/1440160660843536.pdf>
<https://aub.bg/>

