

## STUDY ON THE ECONOMIC IMPACT OF THE COVID-19 PANDEMIC ON THE ACTIVITY OF A HOSPITAL INSTITUTION IN ROMANIA

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### Abstract

*The COVID-19 pandemic has exerted substantial pressure on health systems around the world, and the Romanian medical system, which in the last three decades has faced numerous challenges generated by several factors, such as corruption that has strongly highlighted the disaster generated by the epidemiological context.*

*This study aimed to investigate the impact of the COVID-19 pandemic on the activity of an emergency hospital in north-eastern Romania in a comparative way by analyzing the aspects of the pre-pandemic period compared to the pandemic period, analyzing the activity reports over a period of 6 months. The variables analyzed were the budget used for goods and services, for medicines and sanitary materials and for professional training. The authors examined the data of a total of 12 reports for the chosen period. The authors findings are around the fact that the COVID-19 pandemic has not significantly changed the budget allocated to personnel expenditures but has significantly changed the budget allocated to goods and services, the budget allocated for medicines and sanitary materials and the one for the professional training of medical staff. Several economic, financial and social analyses carried out in the next period will support these research hypotheses, anticipating that the effect of COVID-19 will have a long-term impact on the way in which medical services are provided in Romania.*

**Key words:** *COVID-19; vocational training; medical services; public health.*

**JEL Classification:** *I00, I10, I11, I12, I15*

### I. INTRODUCTION

On the date of writing this paper, it is already the 4th year since the pandemic has affected the entire globe while shifting the priorities, the realities, and without a doubt, the future. During the pandemic period, the natural course of activity of the global economic sectors has completely changed, one of the main areas deeply affected was of course that of health services. During this period, the medical assistance provided to consumers of health services has sometimes proved insufficient and even disproportionate in direct relation to the real needs of the entire population on the background, so it was noticed that besides the pre-existing deficiencies of the health system of each state separately, a significant increase in the demand for health services was added following the SARS-CoV-2 infection.

### III. LITERATURE REVIEW

The literature of recent years at international level, especially in the field of policies, strategies, management and performance of hospitals, could be considered extensive, health management has been much less approached and studied. Therefore, leadership in the context of the health industry is approached through research that deals with the complexity of hospital-type organizations. The classification of these trends of global approach to the leader and professional present in the health industry is done by emphasizing their motivations and leadership styles. So far, researchers have stressed the overwhelming importance of the human factor in this field, especially of doctors, with a direct impact on the quality of the services they provide, as well as on the effects of these services at the level of the end user (the patient). As Duran pointed out, regarding the characteristic features of a good doctor, they will not automatically make him a leader to match. Along with the individual, the totality of the elements and the style that ensures a good health leadership have evolved in recent years. Therefore, what seemed to be the guarantee of success in the past, may no longer work at the same level

now, precisely because medical organizations have evolved, and they can no longer be authoritatively run by the direct provider of medical services (Duran, 2018).

The creative process could be severely harmed under the current circumstances, when the entire world is under extreme pressure. According to a 2017 study by Montani et al., the instability and pressures that may arise at work could impede the innovation process because it calls for a commitment to committing time, attention, and energy. They emphasized the crucial function of the leader in easing pressure and bolstering resources in such circumstances. Yet, we contend that in the current COVID-19 scenario, the leaders' ability to alleviate the tensions is restricted to ensuring that the workplace is as secure as possible, while the employees deal with their own personal dramas such as family tension, losing loved ones, or breaking up.

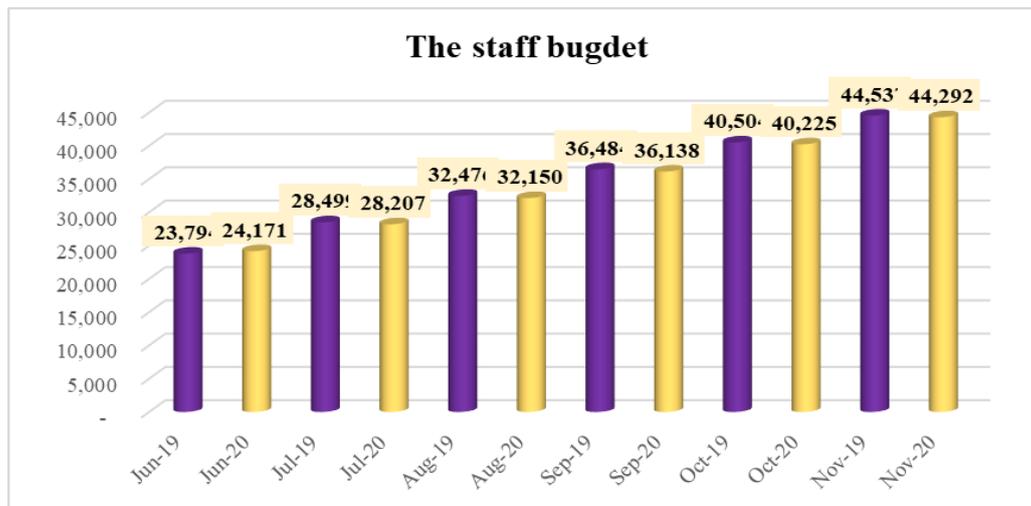
Additionally, specifically in the present situation, the focus has completely shifted from other activities that are either not possible or modified to finding new solutions, with even more resources engaged than in normal circumstances. This is because processes in many organizations have been disrupted or affected, which has caused processes to be affected or disrupted. This strategy is sound because, according to a study done in 2021 by Omar & Morales, innovation will be a crucial component of economic recovery post-Covid that will enable businesses to reinvent themselves or preserve their market position. It issues a warning that, among other existing factors like lack of money or knowledge, one reason small and medium-sized businesses have already failed and will continue to fail in the near future owing to the epidemic is the lack of investment in upgrades.

Finally, the basic requirement is a completely new and innovative approach, adapting to the current stage in which information, technological progress and autonomy are the key words that dominate this framework.

**IV. RESEARCH METHODOLOGY**

**Analysis of the budget used for personnel expenditure**

In the first figure, the amounts (in thousands of lei) used for personnel expenses for a period of 6 months (June – November) for 2019, and respectively for the mentioned period of 2020, are represented in comparison. The data was recorded from the monthly activity reports, 12 reports being studied, corresponding to each month of the mentioned period.



**Figure no. 1.** Comparative graphical representation of the budget used for personnel expenditure in June–November for 2019 and for 2020 in the studied health unit

*Source: Authors' research*

The budget used for personnel expenses was made up of transfers from the budget of the single national health insurance fund to the health units to cover the salary increases, payments from the current activity without transfers from FNUASS (which includes salary expenses in money, salary expenses in kind – meal vouchers, food norms, uniforms and compulsory equipment, other salary rights and contributions of which - the insurance contribution for work). As regards salary expenditure in cash, this category includes: basic salaries, merit salaries, bonuses for working conditions, overtime, fund related to hourly payment, delegation allowances, allowances paid to persons outside the unit, food allowance, other salary rights in cash.

From figure number 1 an upward trend of the amounts spent for both 2019 and 2020 is noted, so that from June 2019 to November 2019 the budget used for personnel expenses increased by 87.17%; and from June 2020 to November 2020 the budget used for personnel expenses increased by 83.24%.

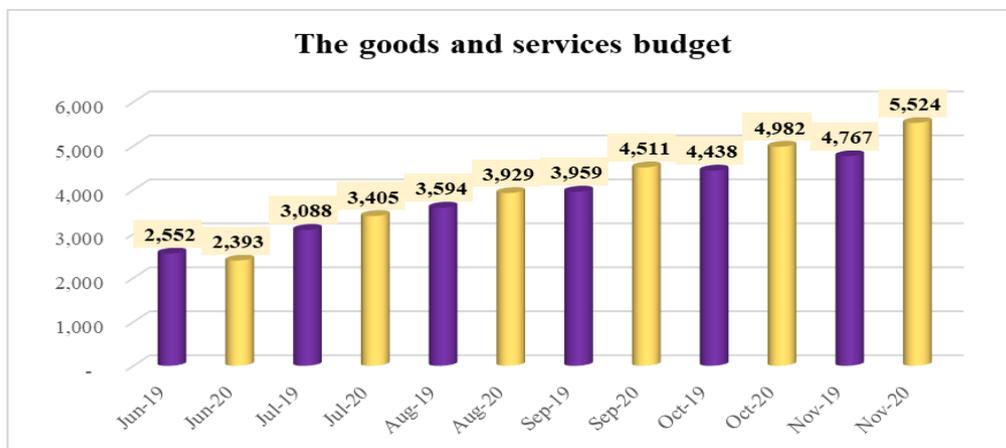
At the level of monthly reports in 2019, the increase in the budget allocated to personnel expenses had a monthly average of 13.40%, registering the steepest increase in July compared to June 2019 of 19.77%, and

respectively the most discreet increase in expenses in November compared to October 2019 of 9.95%. At the level of monthly reports in 2020, the increase in the budget allocated to personnel expenses had a monthly average of 12.89%, registering the steepest increase in July compared to June 2020 of 16.69%, and respectively the most discreet increase in expenses in November compared to October 2020 of 10.11%.

When comparing the monthly evolution of the budget allocated to personnel expenditures of the period chosen for 2019 with the same period in 2020, there is a consistency in the increase in the amounts spent, with the most significant increase in July compared to the previous month; respectively, with the most discreet increase recorded in November compared to October. In addition, every month of 2020, apart from June 2020, from the selected period the amounts spent on staff were discreetly lower compared to the counterpart months of 2019. All these data suggest that the COVID-19 pandemic has not significantly changed the budget allocated to personnel expenditures, this being explained after several economic, financial and social analyses carried out in the next period.

**Analysis of the budget used for goods and services**

In figure number 2 the amounts (in thousands of lei) spent on goods and services for a period of 6 months (June – November) for 2019, and for the mentioned period of 2020, respectively, are represented in comparison. The data was recorded from the monthly activity reports, 12 reports being studied, corresponding to each month of the mentioned period.



**Figure no. 2.** Comparative graphic representation of the budget used for goods and services between June and November for 2019 and 2020 in the studied health unit

*Source: Authors' research*

The budget used for the goods and services consisted of office supplies, cleaning materials, lighting, heating and driving force, water, sewerage and sanitation, fuels and lubricants, spare parts, transport, mail, telecommunications, radio, TV, internet, materials and services of a functional nature and other goods and services for maintenance and operation. It is important to underline that this category does not include: current repairs, food (for humans and animals), medicines and sanitary materials (these being researched below), goods such as inventory items, travels, postings, transfers, laboratory materials, the budget allocated to research and development, books, publications and documentary materials, consultancy and expertise, professional training (this being investigated below), labor protection and gift vouchers.

From figure number 2 an upward trend of the amounts spent on goods and services for both 2019 and 2020 is noted, so that from June 2019 to November 2019 the used budget increased by 86.79%; and from June 2020 to November 2020 the used budget increased by 130.83%.

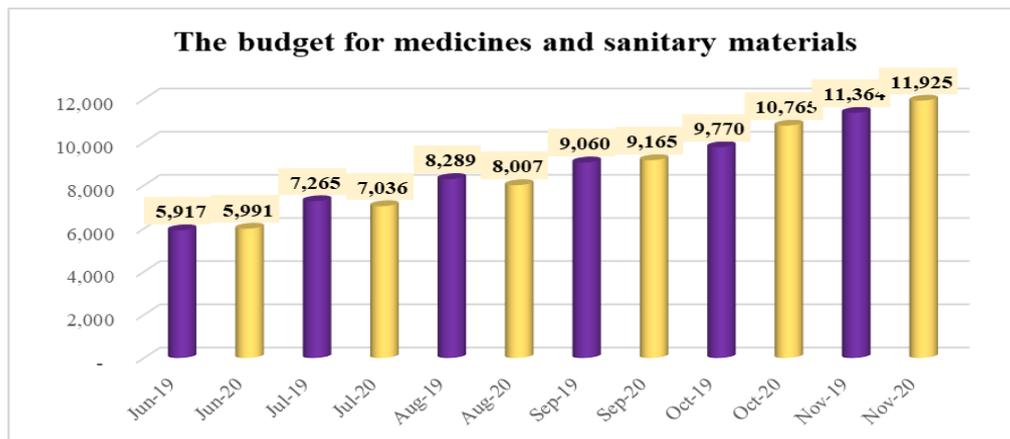
At the level of monthly reports in 2019, the increase in the budget allocated to goods and services had a monthly average of 13.40%, registering the steepest increase in July compared to June 2019 of 21.00%, and respectively the most discreet increase in expenses in November compared to October 2019 of 7.41%. At the level of monthly reports in 2020, the increase in the budget allocated to goods and services had a monthly average of 18.75%, registering the steepest increase in July compared to June 2020 of 42.29%, and respectively the most discreet increase in expenses in October compared to September 2020 of 10.44%.

When a comparison is made between the monthly evolution of the budget allocated to goods and services of the period chosen for 2019 with the same period in 2020, there is a consistency in the increase in the amounts spent, with the most significant increase in July compared to the previous month. Regarding the most discreet increase recorded in 2019 was in November compared to October, keeping the consistency of the change in the budget allocated to personnel expenses, which is not found during the pandemic, namely the most discreet increase recorded in 2020 was in October compared to September. In addition, every month of 2020, apart from

June 2020, from the selected period the amounts spent on staff were discreetly higher than the counterpart months of 2019. All these data suggest that the COVID-19 pandemic has significantly changed the budget allocated to goods and services, this being explained by the increase in the number of patients and requests for medical services from the population amid SARS-CoV-2 infection. Several economic, financial and social analyses carried out in the next period will support this research hypothesis.

**Analysis of the budget used for medicines and sanitary materials**

In figure number 3 the amounts (in thousands of lei) spent on medicines and sanitary materials for a period of 6 months (June – November) for 2019, and respectively the mentioned interval for 2020, are represented in comparison. The data were recorded from the monthly activity reports, being studied 12 reports, corresponding to each month of the mentioned period.



**Figure no. 3.** Comparative graphical representation of the budget used for medicines and sanitary materials in June-November for 2019 and for 2020 in the studied health unit  
*Source: Authors' research*

The budget used for medicines and sanitary materials was made up of medicines, sanitary materials, reagents and disinfectants. As for the budget spent on medicines and sanitary materials, this category does not include goods of the nature of inventory items (uniforms and equipment, bed linen and accessories and other inventory items).

From figure number 3 there is an upward trend in the amounts spent on medicines and sanitary materials for both 2019 and 2020, so that from June 2019 to November 2019 the used budget increased by 92.05%; and from June 2020 to November 2020 the used budget increased by 99.04%.

At the level of monthly reports in 2019, the increase in the budget allocated for medicines and sanitary materials had a monthly average of 14.06%, registering the steepest increase in July compared to June 2019 of 22.78%, and respectively the most discreet increase in expenses in October compared to September 2019 of 7.83%. At the level of monthly reports in 2020, the increase in the budget allocated to medicines and sanitary materials had a monthly average of 14.78%, registering the most significant increase in October compared to September 2020 of 17.45%, and respectively the most discreet increase in expenses in November compared to October 2020 of 10.77%.

When comparing the monthly evolution of the budget allocated to goods and services of the period chosen for 2019 with the same period in 2020, there is a consistency in the increase in the amounts spent, with the most significant increase in July compared to the previous month, of 22.78%. Regarding the most discreet increase recorded in 2019 was in October compared to September (7.83%), keeping the consistency of the change in the budget allocated to personnel expenditures and that of the change in the budget used for goods and services before the pandemic, which is not found during the pandemic, namely the most discreet increase recorded in 2020 was in November compared to October (10.77%) and the most significant increase recorded in 2020 of the was in October compared to September (17.45%). All these data suggest that the COVID-19 pandemic has significantly changed the budget allocated for medicines and sanitary materials, this being explained by the increase in the number of patients and requests for medical services from the population amid SARS-CoV-2 infection. Several economic, financial and social analyses carried out in the next period will support this research hypothesis.

**Analysis of the budget used for vocational training**

In figure number 4 the amounts (in thousands of lei) spent on the professional training of the medical staff for an interval of 6 months (June – November) for 2019, and respectively the mentioned interval for 2020, are

represented in comparison. The data were recorded from the monthly activity reports, 12 reports being studied, corresponding to each month of the mentioned period.



**Figure no. 4.** Comparative graphic representation of the budget used for professional training between June and November 2019 and 2020 in the studied health unit

*Source: Authors' research*

Currently, data from health facilities in Romania show that performance and success are achieved where the medical staff is highly qualified and the medical activity of high quality (Coculescu, 2016). In order to obtain such results, it is important for a manager of a medical institution to create practical conditions for carrying out the medical act, to create an optimal climate for the employees and last but not least to offer to the beneficiaries, such as patients, quality medical services and a highly qualified medical staff, high-performance equipment and state-of-the-art treatments. Starting from this desideratum, the authors analyzed comparatively the budget used for the professional training of medical staff within the health unit studied between June and November for 2019 (the pre-pandemic period) and for 2020 (the period of the COVID-19 pandemic).

From figure number 4, an upward trend of the amounts spent on the professional training of medical staff for both 2019 and 2020 is noted, so that from June 2019 to November 2019 the budget used increased by 124.39%; and from June 2020 to November 2020 the budget used increased by 432.85%, representing the segment with the most spectacular increase of a budget spent from the total expenditure according to the ratios of activity.

At the level of monthly reports in 2019, the increase in the budget allocated for the professional training of medical staff had a monthly average of 18.50%, registering the most significant increase in September compared to August 2019 of 40.33%, and respectively a capping of the increase in expenses in July compared to June 2019 when the allocated budget was the same. At the level of monthly reports in 2020, the increase of the budget allocated to professional training had a monthly average of 78.43%, registering the most pronounced increase in July compared to June 2020 of 381.80%; this leads to a ceiling of the budget in the following month of the expenses for the professional training of medical staff in August compared to July 2020, the allocated budget being the same. When a comparison is made between the monthly evolution of the budget allocated to the professional training of medical staff for the period chosen for 2019 with the same period in 2020, there is a consistency of the increase in the amounts spent, with the most significant increase in September compared to the previous month, of 40.33%. Regarding the most discreet increase recorded in 2019 was represented by the capping of the budget in July similar to that of June, the general slow upward trend for the 6 months analyzed in the pre-pandemic period keeping the consistency of the variation of the budget allocated to personnel expenses, that of the variation of the budget used for goods and services, as well as that of the variation of the budget used for medicines and sanitary materials. This development is not found during the pandemic, namely the most discreet increase recorded in 2020 was represented by the budget cap in August similar to that of July and the most significant increase recorded in 2020 was in July compared to June (381.80%). All these data suggest that the COVID-19 pandemic has significantly changed the budget allocated for the professional training of medical staff, this being explained by the awareness of continuing medical education and the vital role it carries amid SARS-CoV-2 infection and the effort to overcome the current epidemiological context. Several economic, financial and social analyses carried out in the next period will support this research hypothesis.

## V. CONCLUSIONS

The study makes a comparative analysis between two time intervals with a duration of 6 months (June-November) of 2019, respectively 2020, in terms of the budget for personnel expenses, the budget allocated to goods and services, the budget for medicines and sanitary materials and the budget spent on the professional training of medical staff at the level of a public hospital in Romania to identify the impact of the COVID-19 pandemic on the work of the researched health facility and to provide insight into the economic efficiency of care.

While the COVID-19 pandemic has not significantly changed the budget allocated to personnel expenditures in the period before the pandemic versus the corresponding period during the pandemic, the epidemiological context has statistically significantly changed all the other budgets analyzed. From the present study it appears that the COVID-19 pandemic has significantly changed the budget allocated to goods and services, but also the budget allocated for medicines and sanitary materials. These results can be explained by the increase in the number of patients and by requests for medical services from the population against the background of SARS-CoV-2 infection. In addition, the COVID-19 pandemic has significantly changed the budget allocated for the professional training of medical staff, this being explained by the awareness of continuing medical education and the vital role that medical assistance plays amid SARS-CoV-2 infection and the joint effort made to overcome the epidemiological situation.

Therefore, the study illustrates the increase in the number of patients and the demand for medical services as a direct consequence of the viral infection with SARS-CoV-2, focusing on the perspective on economic efficiency that proves to be important for the proper functioning of the health facilities. The measures imposed by the pandemic have had a visible impact on patients hospitalized with various pathologies. In recent years, the decrease in the economic efficiency related to the medical assistance offered has created vulnerability at the medical and economic level for the care of patients in the case of hospitals in Romania, a crucial weak point that has been accentuated by the pandemic. In general, this can lead to a situation of pressure care for health care providers during the COVID-19 pandemic at the medical-economic level. The field of health policies must use the lessons learned from the challenges of the Romanian medical system and use them as a basis to build resilience, not only for the public hospital on which the study was conducted, but also for the entire health system.

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