THE HEALTH INSURANCE REFORM IN BULGARIA –FINANCING MODELS AND STATUS EVALUATION

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Abstract: The article presents a research on the specific characteristics of the existing models for healthcare financing worldwide. It also presents a brief overview of the specific characteristics of Bulgaria's healthcare system and a survey on the need for healthcare reform in hospital care which identifies the bottlenecks in financing medical services for the population. The main problems resulting from the permanent shortage of financial resources and determined by financing methods that prioritize the quantity rather than the quality of the provided medical services are outlined. The degree of effectiveness of clinical pathways as a tool for hospital funding is assessed.

Keywords: healthcare, reform, financing models, survey.

This article shall be **cited** as follows: **Ivanova**, **A**. (2022). The Health Insurance Reform in Bulgaria –Financing Models and Status Evaluation. Economic Archive, (4), pp. 79-98.

URL: www2.uni-svishtov.bg/NSArhiv **JEL:** I11, I12, H51.

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Introduction

Healthcare financing is a set of tools - financial, managerial, social, political, etc. Inasmuch as the provision of healthcare services is vital to the development of a nation, financing issues occupy an important place in both theoretical discussions and practical development of healthcare systems around the world. The main factor that affects the choice of a financing model is the possibility for providing the necessary financial resources to cover the costs of the growing demand for medical services. In this aspect, financing models must ensure sufficient and stable revenues at all levels of the healthcare

system and thereby guarantee fair and efficient allocation of the scarce financial resources. Regardless of which financing model is implemented in a given country, securing the necessary economic resources for healthcare services is a complex problem the solution of which is usually sought within the framework of economic regulation.

Healthcare financing is a topic that is increasingly being discussed. The last two years proved to be a stress test for the healthcare systems not only in our country but all over the world as well. Although our healthcare system has been a hot topic for more than two decades, mainly in terms of its reformation, during the COVID-19 pandemic its major flaws - and especially its being underfunded - became very obvious. The high mortality rate compared to other countries, the marked deficit of medical personnel and a number of other problems caused a sharp controversy among financiers, medical specialists and managers about the need for a comprehensive healthcare reform. The healthcare system is essentially and structurally complex. The system needs political and financial support to reform at least to an extent that would be sufficient to ensure that it is functional. The system is seriously ill and needs treatment.

The *aim of this study* is to identify the specifics of the models for financing healthcare services used worldwide and to assess, based on expert opinion, the problems facing the organization and financing of the healthcare system in Bulgaria. The *object of research* are the models of healthcare financing, and the *subject* - the organization and financing of healthcare in Bulgaria.

The *main idea* of this paper is the understanding of financial management in the field of healthcare as a system for financing goods and services, redistribution of income, realization of financial assets, attraction of investments, stability and sustainability of healthcare institutions.

1. Existing models of healthcare financing

There are several types of healthcare financing systems in the world, three of which are implemented in most of the world in pure or mixed form and two others which are not preferred due to their specific features. The main practically applicable models are: "Beveridge", which provides healthcare for all citizens, regardless of their financial status; the "Bismarck" model, in which healthcare is financed from healthcare insurance funds, and the "Kennedy" model, in which healthcare is outsourced to the private sector (Иванова, 2019).

1.1. The William Beveridge model

The model was proposed in 1942 by William Beveridge, a British state official and social reformer (Reynolds, 2018). His idea laid the foundations of

the first fully tax-funded healthcare system – the National Health Service (NHS) (Beveridge, 1942), which still exists. Its aim is to provide healthcare in every corner of the country completely free at the point of use. Thus it established and implemented a healthcare model whereby every single patient visit to a healthcare facility is paid for by this National Health Service.

Beveridge's model was implemented by the healthcare systems of most economically developed countries, such as Great Britain, Spain, most of the Scandinavian countries, and New Zealand. Hong Kong has its own healthcare system, which is also based on the Beveridge principle, and Cuba implements this system in its purest and ultimate form – as a fully state-funded system. When a country adopts the tax-funded model of healthcare (UK), this means that effectively over 50% of its revenue comes from the tax system. Health services in such countries are available all citizens regardless of their individual contribution, i.e. access to medical care is everyone's right regardless of their health insurance status (Стайков & Георгиева, 2018). A healthy population supports the production of goods and resources in the country. Moreover, free access to healthcare ensures a higher standard of living and hence fewer hospitalizations, and sick leave days and better capacity for work of the entire population.

1.2. The Bismarck model

Its creator was the Prussian Chancellor Otto von Bismarck and was based on the idea of a welfare state resulting from the unification of Germany in the 19th century. The Bismarck model is based on health funds, relatively numerous and operating in competition with each other. They are financed by joint contributions of employees and employers. Despite its European origin, this system is implemented in the USA as well. Unlike the American model, however, Bismarck's system aims to cover all healthcare services. Currently, this model of health care financing is used in Belgium, Germany, France, Japan, Switzerland and in some Latin American countries. It is socially-oriented and managed by the public finance system (Health care systems - four basic models).

The Bismarck model "blurs" the flow of financial resources and creates competition among the sickness funds but preserves the principle of selfmanagement. In order to have a good, working model, the state must have a tight and adequate policy regarding the financing of the healthcare sector.

1.3. The Kennedy model (aka Out-of-Pocket Model)

This model is appropriate and could be established only in about 40 (i.e. the most developed) industrialized countries of the world's 200 countries (Health care systems - four basic models). The system is based on private

medical contributions that only the rich can afford, and the poor have no access to health care at all. In Africa, India, China, and South America, there are remote rural and poor regions where people never use the services of a doctor. In these poor regions, patients do not have the means to pay a doctor and have to pay in kind. There are also parts of the population that do not receive any health care at all. (Health care systems - four basic models)

This is the worst model in terms of social relevance. Notwithstanding the imperfections of previous models, it does not provide access of patients with low or no income to health care whatsoever.

1.4. The Semashko model

The Semashko model is named after Prof. Nikolay Semashko, one of the organizers of the health system in the Union of Soviet Socialist Republics (USSR). It is based largely on UK's Beveridge healthcare system, but it absolutely excludes any possibility for private providers of healthcare goods and services (Веков, Салчев, Велева, Джамбазов, & Стефанова, 2020). Unlike all other healthcare systems, it is the only model which does not provide for multiple sources of funding. Under this system, the state has an absolute monopoly in the healthcare sector, as it is financed by general taxes, the payment is made from the public finances, and the medical specialists are civil servants. Medical treatment is absolutely free but also of characteristically low quality.

1.5. Singapore's healthcare system

Singapore's healthcare system stands out mainly for its uniqueness. This is a very successful model that combines state regulation and free-market competition principles. The system is financed by private healthcare contributions, but the prices and structure are directly controlled by the state. It is based on individual contributions and support for the socially weak citizens (Веков, Салчев, Велева, Джамбазов, & Стефанова, 2020).

1.6. The modified National Health Insurance (NHI) model

This model of healthcare combines elements of both Beveridge and Bismarck models. Its advantages are that payments come from the insurance programs run by the government and healthcare is provided by the private sector. With this form of healthcare organization there is no need for marketing and therefore no financial motivation to deny claims, which makes the insurance programs universal, cheaper and administratively simpler.

A typical example of this type of healthcare is Canada, where the government negotiates prices with private providers in the lowest price range, which makes drugs much cheaper than those sold in the US and thus many US patients buy them from Canadian pharmacies. Healthcare in Canada is governed by a governmental department called Health Canada. The healthcare program is called Medicare. The system is financed from many sources, such as rents, interest, dividends, fees, services and tax revenues. (Драгнева, 2014). Under this system, medical services are controlled and limited, and patients quite often have to wait for a long time for certain medical tests.

2. Specific characteristics of Bulgaria' healthcare system

In Bulgaria, organized healthcare was established after the liberation of the country from the Ottoman Empire (Драгански, 2005).

The healthcare reform in our country began in 1998 with a vision and idea of comprehensive reformation at all levels and all sectors (Vekov, 2009). The first healthcare law in Bulgaria was adopted only after 1900. After 1948, private hospitals were nationalized and became directly run and financed by the state. Until 1990, Bulgaria used the Semashko healthcare model. Shortly thereafter, government spending on healthcare was reduced and the first steps toward a health insurance system were made. In 1999, the National Health Fund was established, which initially worked with 88 private and 312 state-owned and municipal medical institutions, in 28 regional health insurance funds (RHIF). The National Health Insurance Fund (NHIF) collects contributions mainly from the private sector concludes contracts with medical institutions to pay for their activities. Additional sources of revenue are transfers from the state and municipal budgets. Municipalities finance directly all their healthcare institutions that do not have contracts with NHIF. Patients of private healthcare institutions that have not signed contracts with NHIF have to pay for their treatment themselves (Георгиева, 2007).

Slowly and gradually, the municipalities and the government will reduce the amount of healthcare spending. By law, healthcare institutions are registered as companies and since they carry out commercial activities, they cannot dispose of public funds. The Law on Public Health regulated relationships in healthcare until the end of 2004. The reform in the sector was imposed by the newly adopted Health Act (10 Aug. 2004, enforced on 01 Jan. 2005) which regulates the relationships in the health sector and establishes the legal framework for all medical practice issues that had arisen since the beginning of the reform. The law on medical institutions regulates their structure and activity. However, this law also contains rules that affect the relationship between the medical institutions themselves and the National Health Insurance Fund (Φ UHAHCUTE, 2005). Between 1990 and 2022, several minor and partial reforms and two major ones were implemented (one regarding pre-hospital care organization, and the other - the transformation of medical institutions into commercial companies.) Of course, in addition to NHIF fund there are other professional organizations - in this case the Bulgarian Medical Association (BLA) – that mediate the relations between the insurance fund and patients. Until now the reforms concern mainly medical treatment and its cost while nothing has been done for those patients who cannot actually afford any treatment (patients without health insurance coverage.). Besides the organization of the medical services and the cost of clinical pathways, there is an urgent need for specialists in healthcare economics who can completely reform the cash flows in the health sector. The result of the governments' intentions and the unreformed healthcare system are completely to the detriment of patients as well as medical staff. It is becoming more and more difficult to manage the medical institutions, which are accumulating liabilities and are heavily understaffed.

3. A survey conducted among hospital managers regarding the need for a healthcare reform of hospital care

3.1. Scope and structure of the questionnaire

The questionnaire was sent to managers of all types of hospitals in order to achieve as clear a view as possible of the current situation in our healthcare sector.

The results of the **qualitative and quantitative** analyses conducted on two stages are based on their expert opinion expressed as responses to the survey questions. The questionnaire comprised 17 questions and answered anonymously by 19 managers of hospitals of all types (state-owned, private and municipal). The questions aim to determine the opinion of hospital managers on all aspects of hospital activity (*the survey was conducted online via the google forms platform*).

The first questions (questions 1 to 6) of the survey are general and aim to gather information about the type of settlement (large, medium, small), the type of hospital (private, municipal, state-owned), as well as the number of medical and non-medical staff employed. These indicators give a clearer idea of whether there are extreme discrepancies between the opinions of respondents from different types and sizes of medical institutions.

Questions seven through fourteen concerns the type of funding and volume of services provided on the clinical pathways contracted by each medical institution.

The last three questions (15, 16 and 17) aim to summarize managers' opinion regarding the need for a radical reform in hospital care.

3.2. Expert opinions of hospital managers regarding the need for health reform in hospital care

The distribution of respondents according to the settlement where the medical institution is located is as follows: 58.8% are in small settlements with a population of up to 50 000 citizens; 1.8% are in settlements with population of up to 100 000 citizens; 11.8% – in settlements with population of up to 250 000 citizens and 17.6% – in settlements with population of more than 250 000 citizens (see Figure 1).

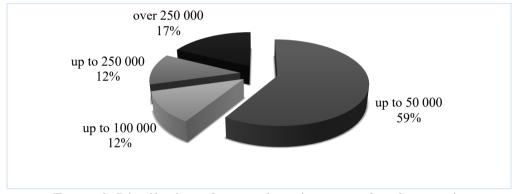


Figure 1. Distribution of respondents in terms of settlement size

According to this indicator, most of the respondents are managers of hospitals in small and medium-sized settlements and only about 20% manage hospitals in the largest Bulgarian cities.

2. The second question establishes the number of beds in the hospitals they run. This is one of the main indicators of the structure of hospital facilities. The answers are as follows: 47.1% of all hospitals are small (up to 100 beds); 47.1% are large (over 500 beds); 5.9% are medium-sized (with 100 to 500 beds) (see Figure 2).

The answers provide information about the size of the hospitals run by the respondents and show that all sizes of hospitals (from the smallest with up to 100 beds to the largest with over 500 beds) in the country are represented. Here we must clarify that there are small municipal hospitals with 50 to 60 beds as well as large regional hospitals with over 1500 beds.

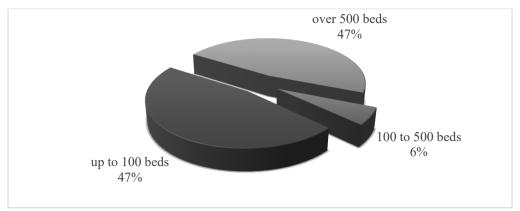


Figure 2. Number of beds

3. The third question provides information about the type of ownership of the hospitals. The responses show that 64.7% of the hospitals are municipal; 17.3% are private; 11.8% are owned jointly by municipals and the government, and 5.9% are government/province-owned (see Figure 3);

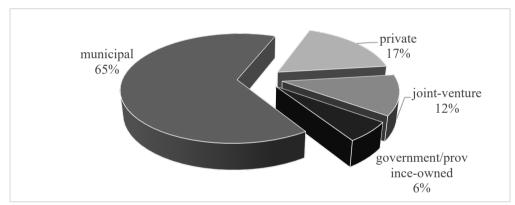


Figure 3. Type of ownership of the hospital

4. The fourth question provides information about the type of health institution in terms of its registration license with the Ministry of Health (MOH). The majority of the survey respondents are the managers of Multi-profile Hospitals for Active Treatment (MHAT), which are healthcare institutions that have at least three wards or clinics with different specialtzation.) MHATs are accredited by the Ministry of Health for a certain volume of hospital care services specified in the license. (M3, HAPEДБА № 18 OT 20 ЮНИ 2005 Г.) Of all responses, 5.9% are University Hospitals (Accredited hospital institutions having a contract with a Medical University for training of students and interns.) (M3, Наредба 8 от 13 ноември 2019 Γ) and 94.1% are MHATs.

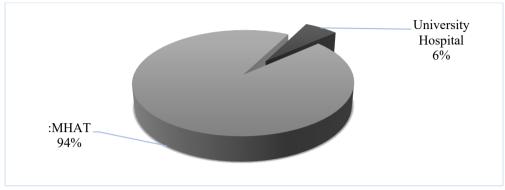


Figure 4. Type of healthcare institution by type of registration

5. The structure of the medical institution is indicative of the volume of medical services provided by a hospital. The number of different specialties in individual clinics/wards and the number of clinical pathways is an indicator of low or high revenue of the respective medical institution.

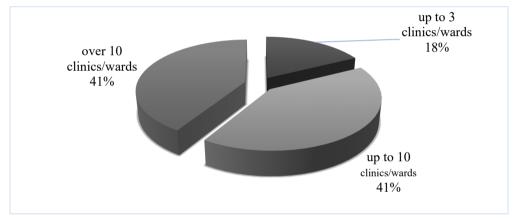


Figure 5. Structure of the medical institution

6. Employed staff is one of the most important and fundamental factors for the functioning of the medical institutions. Medical institutions are required to have a certain number of specialists on their payroll to sign a framework agreement with NHIF. According to respondents, 56.3% of the hospitals have a staff of up to 150 employees (both medical and non-medical); 37.5% have a staff of over 500 employees and 6.3% have over 1000 employees (see Figure 6).

Such a representative sample provides a very clear picture of the differences between these, some of which have only 50 while others have 1500 employees. The number of employees is one of the main factors for their operation, structure, volume of activity, and number of clinical pathways.

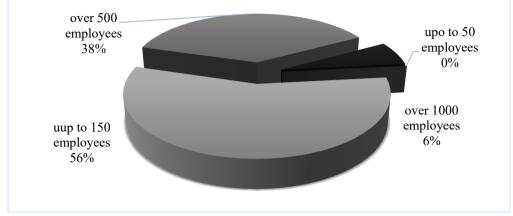


Figure 6. Number of employees

7. The number of clinical pathways included in the agreement between the hospitals and NHIF are essential for their income. The hospitals that contracted more than 50 clinical pathways represent the largest share (58.85%) (10)), followed by those with up to 20 clinical pathways (23.5% (4)) and those with up to 50 CPs (17.6% (3)). The total number of clinical pathways for which a hospital can sign a Framework Agreement with the NHIF (and receive the required license for providing the type and volume of medical services from the Ministry of Health) is over 400 (МЗ, Приложение 9, брой Клинични пътеки). A clinical pathway (CP) is a treatment algorithm, with categorical determination of the steps in the treatment of the patient, successive actions, monitoring and evaluation of the results, description of specific methods and medicinal products for the treatment (conservative, diagnostic, operative and surgical) of a specific type of disease. Each CP has a designated number and a predetermined cost to be covered by the NHIF. A clinical pathway does not take into account deviations in the treatment process, the necessary additional costs incurred for the treatment of the patient in each individual case, as well as coexistent diseases. Most CPs are severely underfunded, which creates difficulties for both the treatment of patients and the financial performance of the healthcare institution.

58.8% of the hospitals covered by the survey have signed agreements for more than 50 clinical pathways with the NHIF. This means a higher volume of activity, more specialized wards as well as larger volume of first-level competence. 17.6% of the hospitals have contracted up to 50 CPs, and 23.5% up to 20 CPs. The relatively large number of medical facilities that provide services within the least allowable number of CPs is impressive. Such hospitals meet only the minimal license requirements for 3 wards and first level of competence. Since these hospitals depend entirely on NHIF reimbursements, this minimal number of CP treatments they can provide creates significant financial difficulties for them and they have been unable to cover their costs for years, which keeps them permanently on the brink of bankruptcy. At the same time, the limited number of treatments they can provide makes them less efficient as they do not have the necessary number of specialists, equipment, etc. and they cannot treat moderate and severe cases and sometimes even the ones. Such hospitals survive mainly because they pay low wages to their staff in order to cover the cost of consumables such as electricity, water, coal, and medical supplies. At the same time, when they treat patients under the CPs they have contracted with the NHIF, they can do so only until the patients develop subsequent complications, in which case the patients are transferred to hospitals with a higher level of competence following another CP, i.e. a patient admitted for a treatment of one condition can be treated following two different CPs. Such hospitals are usually municipal, but since they are registered as commercial companies, the municipalities do not allocate absolutely any funds to them and do not support them in any way. On the other hand, the hospitals of this type are usually located in small towns where people have a very low standard of living (and even where most people live below the social minimum) and therefore such medical institutions are vital for them. The way they operate and are financed must be changed radically.

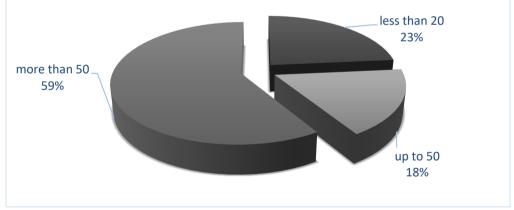
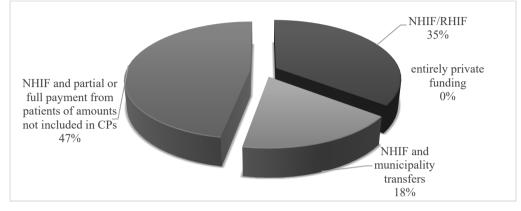


Figure 7. Number of CPs contracted with the NHIF

8. Regarding the sources of hospital financing, the largest group (47.1%) of the respondents refer to NHIF reimbursement and partial or full co-payment by patients of amounts not included in the clinical pathways. 35.3% replied that their hospital is funded solely by clinical pathways (see Figure 8). The remaining 17.6% rely on reimbursements from the NHIF and the municipality.



None of the hospitals relies entirely on private funding, i.e. there are no hospitals run entirely on patient payments.

Figure 8. Sources of hospital financing

9. The managers' assessment of the costing of clinical pathways is as follows: 41.2% of the respondents indicated that the income from the NHIF is not sufficient to cover the cost of treatment (see Figure 9. The same percentage (41.2%) expressed the opinion that the cost of clinical pathways is not estimated realistically and is insufficient for the related treatment. 17.6% are of the opinion that the real cost of treatment is much higher than the cost of the clinical pathway. None of the respondents indicated as an answer that the CP costs are realistic, properly estimated and sufficient.

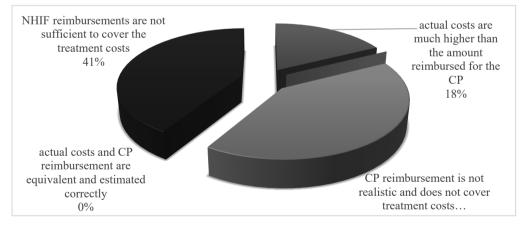


Figure 9. Clinical pathway cost estimation

10. The tenth question concerns the monthly income of hospitals from all possible sources, including NHIF. 47.1% answered that the monthly income of their hospital is over half a million BGN, 29.4% answered that their total monthly income is up to BGN 150 000 and 23.5% answered that they have an income of up to BGN 500 000 per month.

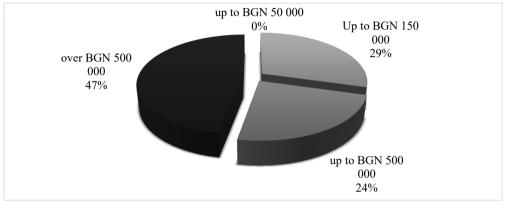


Figure 10. Monthly income

11. Managers who answered that the expenses of the medical institutions they run amount to more than half a million BGN are 47.1% of all respondents (see Figure 11). A large part (35.3%) report expenses of less than half a million BGN per month, and 17.6% spend up to BGN 150 000 per month. These are probably municipal hospitals with very limited financial resources in both the revenue and the expenditure parts of their budgets.

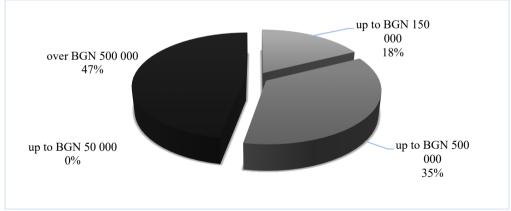


Figure 11. Monthly expenditures

12. When asked whether the staff turnover for the last 5 years was due to financial or other reasons, the respondents answered that medical staff looks for employment in other hospitals for reasons that are not financial.

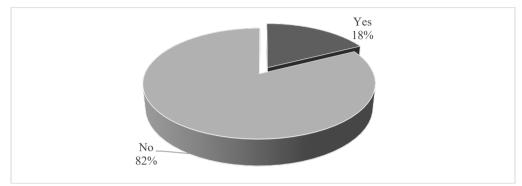


Figure 12. Staff turnover due to financial reasons

Despite all demands for better payment in healthcare by all professional organizations as well as from healthcare workers themselves, the responses to this survey give a clear idea that besides the low salaries there are more serious problems in our healthcare.

13. This question aims to provide a little more clarity regarding the obligations of healthcare organizations while question 14 determines to what type of companies the surveyed hospitals have obligations.

To the question whether they have obligations (i.e. outstanding payables), more than half (64.7%) of the managers answered positively and a small part (35.3%) answered negatively (see Figure 13).

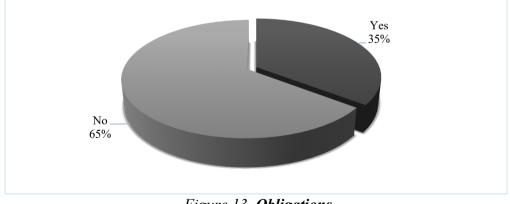


Figure 13. Obligations

To the question regarding the predominant type of companies to which they owe money, the majority (66.7%) of the respondents pointed to

pharmaceutical companies and/or companies for equipment and medical consumables, which means that most hospitals accumulate obligations to providers of the most directly related to the healing process materials. 33.3% stated that they have obligations to municipal, private and state-owned, i.e. they have outstanding debts accumulated from electricity, water, and heating bills, tax payables, etc. (see Figure 14) as they have difficulties in covering any of these costs. An interesting finding in this part of the survey is that not a single hospital, regardless of its type, has outstanding payables for staff salaries. This means that the managers of the medical institutions pay the salaries first and then everything else. Given the shortage of medical personnel in our country, such a behaviour is logical.

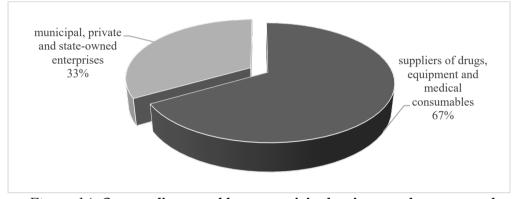


Figure 14. Outstanding payables to municipal, private and state-owned enterprises

15. The respondents answered the question about their opinion on clinical pathway costs estimation and their reimbursement by the NHIF as follows: almost half 47.1% answered that CP costs are neither sufficient nor correctly estimated to cover the costs incurred for the related treatment (see Figure 15). Approximately one-third (35.3%) answered that an absolutely new method of payment for medical treatment without the use of any CPs whatsoever is needed. 17.6% answered that CPs do not allow reimbursement of additional costs and do not correspond to the actual value of the incurred costs for each specific treatment. None (0%) of the respondents selected the first answer choice to this question viz. that CPs reflect the treatments with a correct algorithm and are quite sufficient to reimburse the treatment costs. The general opinion from the four responses can be summarized as follows: CPs are incorrectly valued, follow incorrect algorithms, do not allow the inclusion of additional costs and are incorrect as a method for reimbursing medical treatment costs.

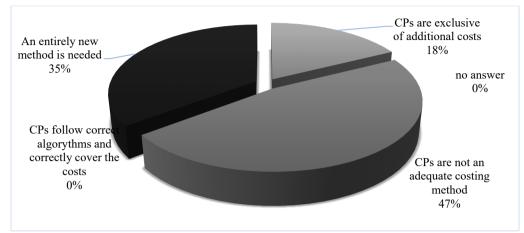


Figure 15. CPs

16. The answers showing respondents' opinion regarding the financing model of healthcare in Bulgaria are quite indicative: 94.1% think that a reform in healthcare and a new method for reimbursement of hospital treatment is needed, the remaining 0.6% express the opinion that the financing is satisfactory and none answered that the it is adequate and sufficient (see Figure 16). These responses the utter conviction of both managers and doctors that the CP model is inadequate both as a way of reporting and as a way of reimbursing healthcare services.

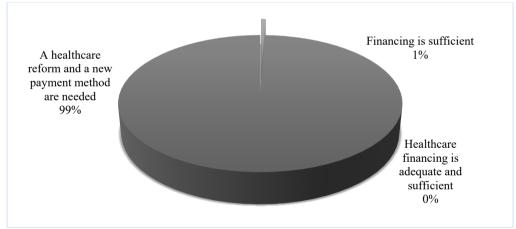
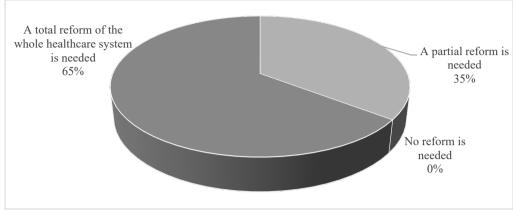


Figure 16. CP financing

The last question shows respondents' opinion regarding the need for a reform of the healthcare system. The majority are of the opinion (64.7%) that a total reform of the whole healthcare system is needed, 35.3% think that a partial



one is needed and none of them believe that a reform is not needed (see Figure 17).

Figure 17. The need for a healthcare reform

The results from the survey lead to the following conclusions:

First, the opinion that a healthcare reform (mainly in terms of financing healthcare services) is absolutely necessary.

Second, regarding the scope of such a healthcare reform the respondents' opinion is that a completely new system of healthcare organization regarding hospital activity is needed.

Third, both the providers and the users of healthcare services are not satisfied – the former from the insufficient reimbursement of their services and the latter – from the fact that they have to cover the additional costs associated with the treatment.

Fourth, the expert opinion of the respondents regarding the estimation of costs and payment of treatment by the NHIF is that it is in many cases insufficient and does not guarantee the provision of quality health services to the population.

Fifth, the general opinion regarding the organization and financing of healthcare in our country is negative and varies from mildly satisfied to strongly dissatisfied.

Conclusion

Based on the conducted survey and the expert opinion expressed by the respondents, we can summarize that the main shortcomings of the current

healthcare system in Bulgaria are: ineffective system for financing the healthcare institutions, non-transparent allocation of financial resources and lack of effective control by the NHIF.

The current reform, which has been implemented for almost 30 years, concerns mainly the partial restructuring of individual small sectors, updating the NHIF budget mainly in terms of the range of treatments or increasing the value of a certain clinical pathway. In this sense, the healthcare system is increasingly lagging behind in its modernization. There are structures that have not been upgraded and renovated at all since the beginning of the reform. There are activities where an acute financial shortage is felt.

A serious problem in terms of the efficiency of financing the healthcare system in Bulgaria is the established monopoly of the NHIF. On the one hand, hospitals are on the market as commercial companies and as such cannot use public finances and on the other hand the budget of the NHIF is too large to rely on attracting private investors and attracting competitive alternative health funds. Moreover, the control of NHIF is predominantly on a documentary basis. NHIF does not participate in the actual treatment of patients and the extent to which treatment costs it reimburses are sufficient and efficiently allocated is not among its priorities.

The primary use of clinical pathways as a means of payment and funding of healthcare institutions is ineffective and detrimental to all healthcare stakeholders. We need a system in which patients can track the transfers of their health insurance contributions and how they are spent. Control over the transfer of funds from the patient to the NHIF and back through the hospital to the patient is difficult to establish and this is another reason for a major reform in this sector. The practice in other countries worldwide shows that high results are achieved when the funds collected from personal health insurance contributions are spent transparently. The clinical pathway algorithm was created for medical purposes and does not sufficiently cover the costs for every unique treatment. When patients are treated in a hospital, the amount of the additional costs incurred can sometimes increase the overall price of the treatment several times. This cost is ultimately paid by the patient. The NHIF as a monopolist unilaterally estimates the service cost it will cover, which contradicts economic logic.

The main factor for improving the effectiveness of patients' treatment is the transparency of allocation and use of the funds they pay as health insurance contributions.

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ECONOMIC ARCHIVE

YEAR LXXV, BOOK 4 – 2022

CONTENTS

Meriem Chafik, Mohammed Nabil El Mabrouki

Opportunities and Challenges of Cross-Border Banking: Focus on Pan-African Banks /3

Kalina L. Durova

The Impact of Absorbed European Funds on the Economic Growth of Bulgaria and New Member States /17

Desislava Koleva-Stefanova

The Dynamic Transformations on the Labour Market in Bulgaria in Conditions of Digital Technologies and Pandemic /37

Rayna Stoyanova Petrova

The Competence-Based Approach Through the Prism of Academic Training in Management Accounting /58

Ana Borisova Ivanova

The Health Insurance Reform in Bulgaria – Financing Models and Status Evaluation /79

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In 2022, the journal will be printed using a financial grant from the Scientific Research Fund – Agreement N KP-06-NPZ-69 from Bulgarska Nauchna Periodika – 2022 competition.

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ISSN 0323-9004 Economic Archive Svishtov, Year LXXV, Issue 4 - 2022

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