

**FaR 2021****International Forum “Freedom and responsibility in pivotal times”****EFFICIENCY EVALUATION OF THE GENERAL STAFF  
PAYROLL BUDGET IN PUBLIC HEALTH INSTITUTIONS**

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**Abstract**

Recently, many reforms have been carried out in the field of health, and one of the areas of great attention is the payroll budget. The problem is quite relevant, so the President of the Russian Federation ordered the Government of the Russian Federation to submit proposals for improving the sectoral system of remuneration for medical workers. The main regulations of these proposals should be to legislate the share of guaranteed salary payments in the salary structure (at least 55%) taking into account not a decrease in the total achieved average salary level, as well as to establish a list of compensation and incentive payments. Currently, this list is established by the institution independently taking into account the recommendations of federal and regional sectoral executive bodies. The analysis holds the important role in assessing the efficiency of the distribution and formation of a payroll budget. Labor utilization requires permanent and continuous analysis, as in the context of limited funding, the head of the institution needs to find reserves to improve the efficiency. The indicators used for the analysis should be valid (i.e. aimed at achieving the purpose of the study), informative (allowing assessing not only the actual state, but also predicting the expected result), available for the collection of initial data for subsequent analysis and monitored over time (dynamics). The paper presents the methodology for assessing the efficiency of the payroll budget, which is informative and easy to use, the indicators of which meet all the necessary requirements.

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## 1. Introduction

Ongoing health reforms are aimed at the effective use of available resources, which is caused by increased competition in the health services market. However, the reduction in funding for health facilities led to problems, including staffing. The number of private clinics providing medical services for money is growing, which leads to the fact that in conditions of insufficient funding medical personnel become less interested in the quality of their duties. Remuneration is an indicator that reflects the healthcare situation. Salary may significantly improve the quality of medical services by increasing the interest of medical workers through remuneration. Currently, the distribution of incentive payments falls on the shoulders of management, which independently establishes the amount of incentives. In these conditions, there is a need for an effective assessment of the payroll budget (Golova, Baranova et al., 2020).

The issues of studying the remuneration fund and stimulating medical workers were considered by such scientists as M. Armstrong, L.S. Babynina, V.N. Bobkova, O.A. Bodrova, A.B. Borisova, N.A. Volgina, G.M. Gaidarova, E.V. Galaeva, A.I. Goncharova, L. Zhukova, A.Ya. Kibanova, E.V. Kolomina, I.V. Korneeva, D.T. Milkovich, E.A. Mitrofanova, Yu.G. Odegova, M.L. Pirogovsky, A.L. Pidde, B.A. Raisberg, G.G. Rudenko, V.I. Samarukha, N.I. Sokolovskaya, D.Yu. Stiglitz, M.S. Sklyar, G.E. Ulumbekova, A.A. Fedchenko, R.I. Henderson, V.M. Shipova, R.A. Yakovleva (as cited in Afonassenko, 2018).

## 2. Problem Statement

In the context of the modernization of remuneration systems in the budget sector, many decisions regarding the organization of the remuneration system are transferred directly to the institution level. We considered various methods for assessing the efficiency of the payroll budget in health care institutions, however, it should be noted that the existing methodological approach does not make it possible to determine the rational use of the healthcare funds, the amount of savings or overexpenditures of the existing payroll, and factors not taken into account that have an impact on the financial performance of the institution as a whole, and hence on the emerging payroll budget for core staff (Kadyrov, 2019). In this regard, we believe that there is an objective prerequisite for the methodology for assessing the efficiency of the payroll budget for healthcare institutions (Golova, Gapon et al., 2020).

## 3. Research Questions

The subject of the study is the social, labour and economic relations that arise in the process of calculating wages in healthcare organizations.

The object of the study is a method for assessing the efficiency of remuneration for core staff in healthcare organizations in Omsk Region.

The practical relevance of the study is the possibility of using the results of the study by healthcare institutions to analyze the remuneration fund for the core staff and assess its efficiency.

#### **4. Purpose of the Study**

The purpose of the study is to develop the methodology for assessing the efficiency of the remuneration fund for the core staff, which includes the calculation complex consisting of indicators adapted to the peculiarities of healthcare institutions, which, unlike existing ones, is aimed at improving its efficiency.

#### **5. Research Methods**

The methodological basis in the work included the general scientific methods, which involve a complex and systematic approach, namely: induction and deduction, analysis and synthesis, synthesis of information and its comparison. Information formed in such specialized programs as the *Program Complex PARUS - Budget 7* within *Salary* and *Accounting* modules, as well as *Microsoft Word* and *Microsoft Excel* were used to analyze the payroll budget in health organizations (Krestyaninova, 2019).

#### **6. Findings**

When improving the efficiency of the payroll budget, first of all, it is important to understand the notion of its efficiency. We studied the wording of this concept.

So, in the modern economic dictionary, this concept is defined as the ratio of the result to the costs that were made to obtain it (Raisberg et al., 2019). In a large encyclopedic dictionary, efficiency is considered as the ratio of costs for a rare combination of factors to the production of goods and services, which may be measured both in physical terms (otherwise technological efficiency) and in monetary (economic efficiency). In the Oxford Explanatory Dictionary, efficiency is presented in the form of achieving any result with minimal costs and simultaneously obtaining the maximum volume of production taking into account a certain set of resources (Yashina et al., 2018). In general terms efficiency is considered as a measure of cost to achieve the objectives or to measure the results achieved against the costs incurred. Since in our case the data for the analysis is accounting, it is important to note that the correct organization in the state-funded institution contributes to the possibility of conducting a comprehensive analysis of various objects of accounting in order to make certain management decisions. It should be noted that any economic analysis of the activities of a public health institution, in contrast to the analysis of the activities of a commercial enterprise (private medical organization), has some characteristic features due to a number of factors: specifics of activities, and it is necessary to remember that healthcare is a social sphere and therefore the classical methods of analysis do not apply here; status of the state-funded institution, which means no borrowing, which excludes the use and evaluation of certain indicators of the analysis; combining budget and extrabudgetary activities, which determines the division of several sources and their analysis; funding of institutions, which does not improve management performance, and again prevents the analysis of certain traditional indicators (profit, sustainability and profitability).

By examining different approaches to labour force analysis, let us look at what indicators are proposed by modern scientists to assess the efficiency of the payroll budget in healthcare institutions. Thus, Goleva (2019) proposes to use five indicators in the analysis of labour resources to determine the causes

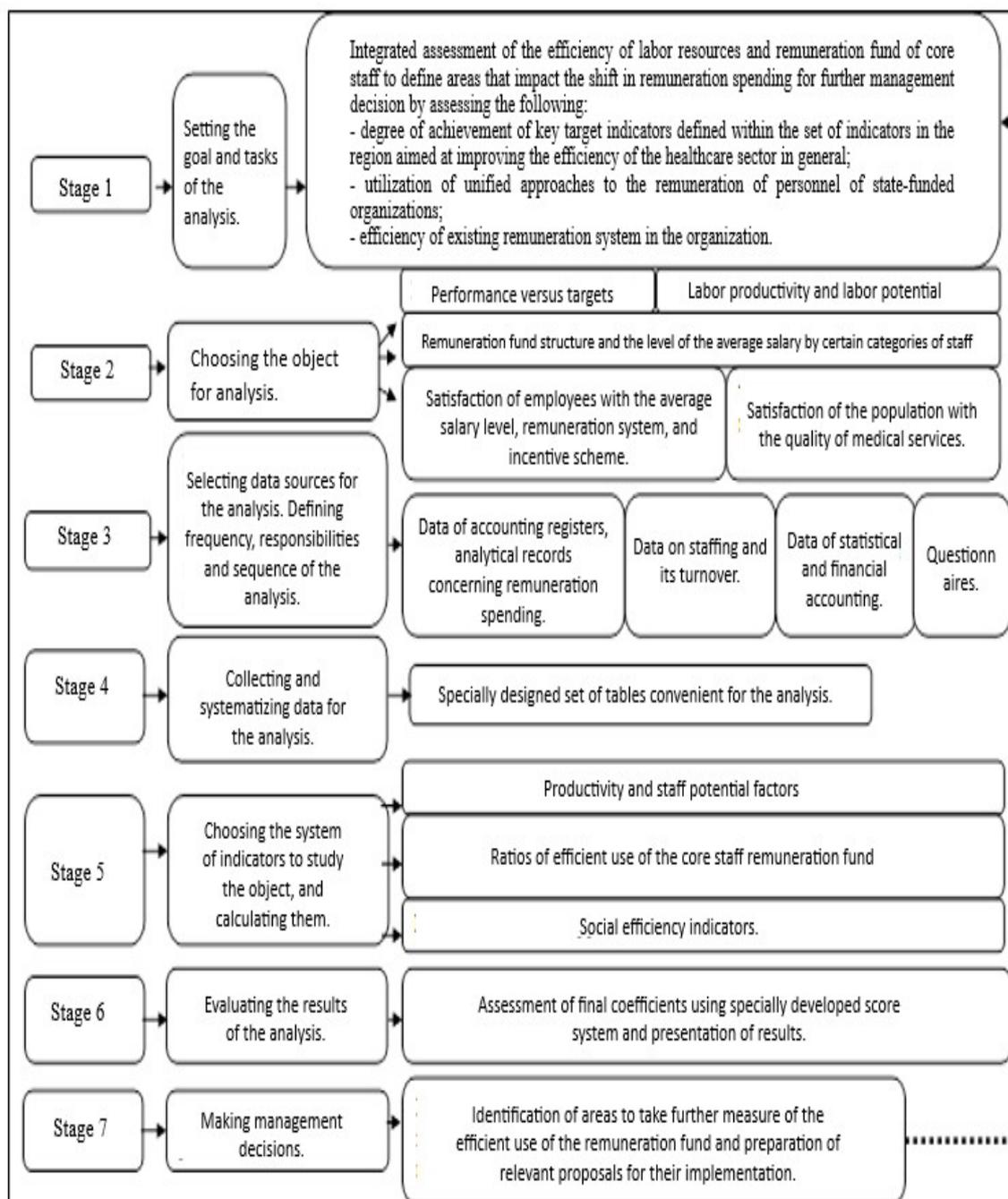
and volumes of lost workdays, the use of personnel potential and working conditions: labour productivity; staffing; ratio of doctors to nurses; labour intensity; proportion of certified doctors and medical personnel of their total number with distribution by qualification categories. Volgin (2016) propose to use only one indicator to assess the efficiency of wages – remuneration efficiency. Kudelina and Tulupova (2018) use two indicators to assess the efficiency of the healthcare system resources: labour productivity ratio and labour productivity. In our opinion, Vorobyova (2019) proposed the most comprehensive approach and suggests the following indicators to analyze the efficiency of labour costs: salary intensity; salary recovery; remuneration profitability; labour productivity. However, existing methodologies do not determine how well healthcare institutions utilize financial resources, savings or overexpenditures, nor do they take into account factors affecting both the overall financial performance of the institution and the current remuneration fund for core staff.

## 7. Conclusion

Considering the above, we believe that when analyzing the efficiency of the core staff remuneration fund in healthcare institutions it is important to use a set of indicators that, in addition to the above indicators, would additionally reflect the specifics of the industry, i.e. determine the sources that would allow assessing not only economic, but also social efficiency (efficiency of wage systems), and also reflect the dynamics, structure of labour costs, including by grade (Dashkova, 2018). Schematically, an optimal version of the methodology for analyzing the payroll budget of the core staff of healthcare institutions is presented in Figure 01.

Taking into account the fact that three types of efficiency are distinguished in the healthcare system, we believe that the efficiency of using the core staff remuneration fund in state-funded healthcare institutions cannot be assessed by one indicator, including labour productivity. A comprehensive ratio analysis should be carried out, assessing social efficiency in addition to economic efficiency, which is important for employees of the institution (Zarubina, 2018).

Based on the fact that the organization and application of the remuneration system aimed at improving the efficiency of the employee directly depends on the amount of labour costs, as well as on the need of the institution to ensure the achievement of the indicators determined by its founder to improve the efficiency of healthcare in the region, we propose to conduct an efficiency assessment in several stages using twelve indicators: average indicator of the volume of medical services; ratio of the average salary of paramedical personnel to the average in the region; share of administrative, management and support staff in the total salary fund; share of salary payments in the salary structure of medical workers; growth rate of salaries of administrative and managerial personnel to the growth rate of average salaries of doctors; qualification level of medical personnel; rate of secondary employment of medical personnel; ratio of paramedical personnel to doctors; ratio of the average salary of doctors to the average in the region; productivity gains to the increase in the average salary of health workers; satisfaction of the population with the quality of medical services; satisfaction of medical workers with the efficiency of the wage system (Basova, 2017).



**Figure 1.** Methods and stages of assessing the efficiency of the core staff remuneration fund

These indicators are summarized in a table in the form of the calculation complex “Evaluation of the efficiency of the core staff remuneration fund”, which may be presented in Microsoft Excel for horizontal, vertical and comparative analysis. For convenience of analysis, each evaluation indicator is assigned a designation and evaluation method is defined, standard value is presented. Ratios calculated according to the data of a medical institution are proposed to be compared with a unit, as a criterion. A mathematical value is then determined for each factor to translate into a universal ten-point scale (Table 01).

**Table 1.** Scale of evaluation of the efficiency of the core staff remuneration fund

Indicator	Points. Maximum 100 points.										
	0	1	2	3	4	5	6	7	8	9	10
1. Performance indicators of the institution and labor resources. Maximum – 20 points. Total points – /2.											
I1	0.9 and below	0.91	0.92	0.93	0.94	0.95	0.96	0.97	0.98	0.99	1 and above
I2	0.9 and below	0.91	0.92	0.93	0.94	0.95	0.96	0.97	0.98	0.99	1 and above
I3	2 and above	1.9	1.8	1.7	1.6	1.5	1.4	1.3	1.2	1.1	1 and below
I4	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	1	1.1
2. Performance indicators for the use of core staff costs. Maximum – 60 points.											
I5	0.9 and below	0.91	0.92	0.93	0.94	0.95	0.96	0.97	0.98	0.99	1 and above
I6	0.9 and below	0.91	0.92	0.93	0.94	0.95	0.96	0.97	0.98	0.99	1 and above
I7	1.1 and above	1	0.9	0.8	0.7	0.6	0.5	0.4	0.3	0.2	0.1
I8	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	1	1.1
I9	1.1 and above	1	0.9	0.8	0.7	0.6	0.5	0.4	0.3	0.2	0.1
I10	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	1	1.1
3. Indicators of social efficiency. Maximum – 20 points. Total points – /3. Maximum points for each indicator – 30.											
I11	x	x	x	x	x	x	x	x	x	x	x
I12	x	x	x	x	x	x	x	x	x	x	x

Table 01 shows the maximum number of points for each group of indicators. The second group of indicators directly characterizes the efficiency of the incurred expenses for the remuneration of the core staff, therefore, the value for the group is determined by summing up the resulting points, and the maximum number of points is 60. The first group of indicators reflects the indirect impact on the performance indicators of labor costs, and therefore the amount of points for the group is proposed to be adjusted by half. The third group describes the parameters of fairness and efficiency of the current wage system, as well as the organization of medical services, and is a subjective indicator. In this regard, it is proposed to adjust the amount of two indicators by one third. The sum of the points in the first and third groups cannot be more than 20.

A questionnaire and a scale of its assessment may be developed to assess such indicators as “Satisfaction of medical workers with the efficiency of the wage system” and “Satisfaction of the population with the quality of medical services”, according to which the proportion of positive and negative responses is estimated. Questionnaires may be conducted annually, and if a decision is made to evaluate

the efficiency of the core staff remuneration fund quarterly, the results may be applied throughout the year. These questionnaires may indicate the dissatisfaction of medical workers with the amount of wages in the institution and the structure of wages, which is one of the areas for improvement in the current wage system.

In conclusion, it should be noted that the ultimate goal of assessing the efficiency of the core staff remuneration is to consider key indicators of the efficiency of the payroll fund using indicators and identifying areas that ensure normative indicators without additional financial support, or identifying reserves. It is necessary to consider the proposed indicators in a dynamic manner, since its consideration at a certain period of time is ineffective. A timely assessment will identify areas that may increase the efficiency of spending on the salaries of core staff of health institutions and the interest of workers in the efficiency of their work.

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