

# Public financing of health care as a basic value of human capital

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**Abstract.** Human capital is the main element of the country's national wealth. The purpose of the study is to develop methodological tools for assessing the effectiveness of the implementation of national projects and state programs in the field of healthcare as a tool for ensuring the development of Russia's human capital. The developed methodological toolkit was tested on the data of the Federal State Statistics Service of the Russian Federation, financial authorities of Russia for 2019. Evaluation of the effectiveness of the implementation of national projects and state programs in the field of healthcare was carried out on the basis of the final standardized indicators of achieving the goal. The indicators take into account the immediate results of national projects, government programs, the financial potential of short-term and long-term healthcare financing in Russia. The use of such indicators makes it possible to classify regions with a high, satisfactory and unsatisfactory level of implementation of budgetary policy and develop measures aimed at understanding that the main value of the country is people.

**Keywords:** state programs, national projects, performance evaluation, rating of regions of the Russian Federation, final standardized indicator, value-oriented budget strategy

## 1 Introduction

Russian President Vladimir Putin described the meaning of the value-oriented state financial strategy: "The meaning of our entire policy is saving people, increasing human capital as the main wealth of Russia. Therefore, our efforts are aimed at supporting traditional values and family, at demographic programs, improving the environment, health people, development of education and culture".

The value-oriented strategy is aimed at developing human capital as the main component of the country's national wealth. These aspects of the implementation of the value-oriented approach of the state financial policy are reflected in scientific works [1-13].

State funding should ensure the development of science and education, health care, the spiritual wealth of people, their morality, which subsequently affects morality in society.

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Public investment in human capital in the health sector is reflected in the amount of public funding. (Table 1).

**Table 1.** Healthcare expenditures in the state budget of Russia for 2022-2024

Indicators	2020	2021	2022	2023	2024
Expenditures, total	22 821.6	23 431.9	23 694.2	24 610.0	25 036.7
in % of GDP	21.3	18.8	17.8	17.3	16.5
including:					
Healthcare	1 334.4	1 362.3	1 245.5	1 211.5	1 234.8
in % to total	5.8	5.8	5.3	4.9	4.9
in % of GDP	1.2	1.1	0.9	0.9	0.8

The ratio of income of social funds and GDP in 2022 is about ten percent, which is critically low for solving strategic tasks related to population growth and providing the population with high-tech medical care.

**Table 2.** Public financing of health care expenditures within the framework of the national projects "Demography" and "Healthcare"

Indicators	2021	2022	2023	2024
National project "Demography", billion rubles	650.2	751.5	881.3	957.3
National Healthcare Project, billion rubles	255.1	343.0	303.3	304.6
Total, billion rubles	905.3	1094.5	1184.6	1261.9
in % of GDP	0.85	0.88	0.88	0.82

In fairness, it should be noted that the current financing of healthcare costs is carried out from a special extra-budgetary Compulsory Medical Insurance Fund (CMIF), the volume of which is planned in the amount of 2.5 trillion rubles for 2022.

An important regional problem is the high difference in the level of income received from the compulsory health insurance fund per Russian citizen (Table 3).

**Table 3.** Regions by income per capita from the CMIF compared with the average Russian value, thousand rubles (fragment)

Regions	CMIF revenue for 2019	Coefficient compared to the national average
Volgograd region	12.15	0.78
Moscow city	23.36	1.49
Ivanovo region	12.28	0.78
Kamchatka Krai	36.20	2.31
Karachay-Cherkess Republic	11.13	0.71
Krasnodar Krai	12.04	0.77
Nenets Autonomous Okrug	37.93	2.42
Nizhny Novgorod Oblast	12.42	0.79
Pskov Oblast	12.26	0.78
Rostov Oblast	11.86	0.76
Sakhalin Oblast	47.28	3.02

Tyumen Oblast	23.73	1.52
Chukotka Autonomous Okrug	47.50	3.03
Yamalo-Nenets Autonomous Okrug	41.42	2.65

A methodology based on the proposed methodological tools for diagnosing the implementation of national projects, government programs and their financial support will make it possible to make management decisions in order to develop human capital.

## 2 Methods

At the first stage, the analysis of indicators is carried out in two blocks: indicators of achieving the goal and immediate results of the implementation of the national projects "Demography", "Health" in the field of healthcare and indicators characterizing current funding and strategic opportunities for increasing funding.

The author's methodology is based on a system of indicators for achieving the goal and indicators of direct results of the implementation of national projects in the health sector. The national projects "Healthcare", "Demography" are characterized by indicators of achieving the goal and indicators of the immediate results of national projects: population mortality, mortality from malignant neoplasms, infant mortality, the number of children per 1 woman, etc.

Indicators of the implementation of regional state programs in the region: population, birth and death rates, etc.

Indicators characterizing the financial potential of short-term and long-term healthcare financing in Russia: the share of CMIF in the country's GDP, CMIF income and expenditure per inhabitant, etc.

The second stage is the standardization of indicators from 0 to 1 according to formulas (1) and (2).

The first group is the maximization of indicators for achieving the goal, the immediate results of national projects, government programs, their financing (for example):

$$GNPNF_{ij}^* = \frac{GNPNF_{i \max} - GNPNF_{ij}}{GNPNF_{i \max} - GNPNF_{i \min}} \quad (1)$$

The second group is the minimization of indicators of achieving the goal, the immediate results of national projects, government programs, their financing (for example):

$$GNPNF_{ij}^* = \frac{GNPNF_{ij} - GNPNF_{i \min}}{GNPNF_{i \max} - GNPNF_{i \min}} \quad (2)$$

where  $GNPNF_{ij}$  is actual value and  $GNPNF_{ij}^*$  is a standardized value of the  $i$ -th indicator of achieving the goal and immediate results of national projects, government programs, financing in the  $j$ -th region,  $GNPNF_{i \max}$  is the greatest and  $GNPNF_{i \min}$   $K_i \min$  is the least calculated value of the  $i$ -th indicator of achieving the goal and immediate results of national projects, government programs, financing among the regions.

At the third stage, the final standardized indicator of achieving the goal and immediate results of national projects is determined

$(TSINPI_j^{norm})$  according to the formula (3):

$$TSINPI_j^{norm} = \sum_{i=1}^n GPNPF_{ij}^* K_i \phi_j^{HOPM} = \sum_{i=1}^n K_{ij} \tag{3}$$

The following is a scoring for  $TSINPI$ , and the best result is the lowest value of the final standardized indicator.

### 3 Results

Empirical results of calculations based on the proposed methodology using data sources [14-17] are presented in Table 4.

**Table 4.** Rating of regions based on the final indicators of achieving the goal and direct results of national projects, government programs and funding for 2019

Regions	1	2	3	4	5	6	7	8	9	10
Khanty-Mansi Autonomous Okrug – Yugra	3.610	5	2.190	8	5.80	13	4	8	12	1
Tyumen region	4.073	7	2.374	10	6.45	17	6	10	16	2
Moscow city	4.311	1 2	2.687	19	7.00	31	10	12	22	4
First level	4.264	1 0	1.387	4	5.65	14	5	20	25	5
Tyva Republic	5.155	2 6	2.508	12	7.66	38	15	19	34	8
St. Petersburg	5.012	2 1	2.806	22	7.82	43	17	18	35	9
Nenets Autonomous Okrug	4.058	6	3.513	68	7.57	74	34	5	39	12
Second level	5.307	3 1	2.047	6	7.35	37	14	40	54	15
Republic of Tatarstan	4.276	1 1	2.613	17	6.89	28	8	46	54	16
Nizhny Novgorod Region	5.993	6 5	3.906	86	9.90	151	81	68	149	84
Ivanovo oblast	6.194	7 4	3.604	75	9.80	149	79	74	153	87
Third level	6.204	7 5	4.139	89	10.34	164	85	60	145	81

Source: authors’ calculations

Column designations:

- 1 (TSINPI) – the final standardized indicator of the implementation of national projects;
- 2 (TSINPI score) – a score given according to the final standardized indicator of the implementation of national projects;
- 3 (TSIRSHCPI) – the final standardized indicator of the implementation of regional state programs in the field of health care;

4 (TSINPI score) – score given on the final standardized indicator of the implementation of national projects;

5 (TSINSHCI) – the final standardized indicator of the implementation of national projects and state programs in the field of health care;

6 (TSINSHCI score) – a score given according to the final standardized indicator of the implementation of national projects and state programs in the field of health care;

7 (TSINSHCI rating) – a rating compiled on the basis of a score given for the final standardized indicator;

8 (Rating F) – financial potential of short-term and long-term healthcare financing in Russia;

9 (FPSTLTHCF total score) – the total score, which includes the final standardized indicator of the implementation of national projects, state programs in the field of health care and the financial potential of short-term and long-term health care financing in Russia;

10 (Rating for FPSTLTHCF) – rating compiled on the basis of the score of the final standardized indicator.

The leading regions that implement national projects, state programs in the field of healthcare and have a high financial potential for short-term and long-term public financing of healthcare include: Khanty-Mansiysk Autonomous Okrug – Yugra, Tyumen Okrug, Moscow.

The regions with a satisfactory level of implementation of national projects and government programs include: St. Petersburg, Sakhalin Region, etc. Outsiders: Vladimir Oblast, Nizhny Novgorod Oblast, Tver Oblast, Bryansk Oblast, Ivanovo Oblast

Expenditure on health care per inhabitant of the Nizhny Novgorod region for the next three years is planned to be approximately 12 thousand rubles. With an inflation rate of 5 percent or more, one cannot speak of significant development in the field of health care.

## 4 Discussion

Based on the results of the study, the effectiveness of the implementation of national projects and state programs focused on the development of health care was determined based on the final standardized indicator of achieving the goal and the indicator of direct results of national projects. The numerical value of the proposed indicator made it possible to identify subjects with a high, satisfactory and unsatisfactory level of implementation of national projects in the healthcare sector.

The authors' research helps to increase the effectiveness of the implementation of national projects and state programs in the field of healthcare as a tool for ensuring the development of Russia's human capital.

## 5 Conclusion

An increase in funding in the field of healthcare will make it possible to attract qualified young personnel, make high-tech medical care available to the population, reduce the waiting time for operations, purchase modern expensive medicines for medical institutions, and make it possible to receive consultations from colleagues from other cities and countries through telemedicine.

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## References

1. E.V. Kireeva, Reg. Econ. Manag., **1-3(49)**, 359-368 (2017).
2. E.V. Kireeva, Reg. Econ. Manag., **2-1(50)**, 30-34 (2017).
3. R.N. Shpakova, State Admin. Elect. Bul., **77**, 311-336 (2019).  
<https://doi.org/10.24411/2070-1381-2019-10030>
4. A.G. Aganbegyan, A.N. Klepach, B.N. Porfiryev et al., Stud. Rus. Econ. Devel., **31**, 599-605 (2020). <https://doi.org/10.1134/S1075700720060027>
5. A.G. Aganbegyan, Stud. Rus. Econ. Devel., **30**, 1-9 (2019).  
<https://doi.org/10.1134/S1075700719010027>
6. T.G. Bondarenko, Utopía y Praxis Latinoamericana, **25(5)**, 370-378 (2020).  
<https://doi.org/10.5281/zenodo.3984269>
7. H. Dawid, P. Harting, M. Neugart, Rev. Int. Econ., **26(3)**, 651-671 (2018).  
<https://doi.org/10.1111/roie.12317>
8. A. Hamdan, A. Sarea, R. Khamis, M. Anaswehc, Heliyon, **6(6)** (2020).  
<https://doi.org/10.1016/j.heliyon.2020.e04046>
9. V.M. Kuzenkova, Pub. Admin. Iss., **5(1)**, 161-175 (2021).  
<https://doi.org/10.17323/1999-5431-2021-0-5-161-175>
10. M.A. Pechenskaya-Polishchuk, J. New Econ., **22(1)**, 90-104 (2021).  
<https://doi.org/10.29141/2658-5081-2020-22-1-5>
11. O. Vaganova, L. Konshina, I. Polevoy, B. Palashenkov, M. Sizyoongo, *Implementation of National Projects as the Main Instrument for Increasing the Economic Growth of Russia*, in Proceedings of the 8th International Conference on Contemporary Problems in the Development of Economic, Financial and Credit Systems (DEFCS 2020), 270-274 (2020). <https://doi.org/10.2991/aebmr.k.201215.057>
12. S.N. Yashin, N.I. Yashina, N.N. Pronchatova-Rubtsova, O.I. Kashina, *Methodical approaches to assessing the budget potential of the region taking into account the innovative development of high-tech industries*, in Proceedings of the 15th International Scientific Conference, European Financial Systems, 849-856 (Brno, Masaryk University, 2018)
13. N.I. Yashina, S.S. Petrov, N.N. Pronchatova-Rubtsova, O.I. Kashina, *Methodical approaches to the formation of model budgets in order to improve the effectiveness of the budget process in Russia*, in Proceedings of the 15th International Scientific Conference, European Financial Systems, 857-864 (Brno, Masaryk University, 2018)
14. Ministerstvo finansov Nizhegorodskoi oblasti [Ministry of Finance of the Nizhny Novgorod region]. Accessed on: March 04, 2022. [Online]. Available: <http://mf.nnov.ru/>
15. Ministerstvo finansov Rossiiskoi Federatsii [Ministry of Finance of the Russian Federation]. Accessed on: March 04, 2022. [Online]. Available: <https://www.minfin.ru/>

16. Federalnaya nalogovaya sluzhba [Federal Tax Service]. Accessed on: March 04, 2022. [Online]. Available: <https://www.nalog.ru/>
17. Federalnaya sluzhba gosudarstvennoi statistiki [Federal State Statistics Service]. Accessed on: March 04, 2022. [Online]. Available: <https://rosstat.gov.ru/>