

ICEST 2021**II International Conference on Economic and Social Trends for Sustainability of Modern Society****TRENDS AND PROSPECTS FOR THE DEVELOPMENT OF
HEALTHCARE IN MODERN CONDITIONS**

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Abstract

The article deals with the problems of financing health care, the analysis is carried out in the context of world countries such as the United States of America, Germany, France, Great Britain, Canada, Japan and a number of other countries. The study examined indicators such as: total health spending as a percentage of gross domestic product, the share of public health spending in relation to all government spending in the country, private health spending as a percentage of total health spending, current health spending in US dollars per capita at purchasing power parity, public health spending in the world in US dollars per capita and others. In addition, the structure of private expenditures in the Russian Federation, as well as socio-economic factors influencing their change, are considered. The provisions from the strategy of the World Health Organization to reduce the share of private spending are presented. The article identifies the main problems and trends in the development of health care in modern conditions.

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Keywords: Cost structure, healthcare, public and private spending, world ranking of countries



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1. Introduction

Medicine is one of the important areas for humans, its role is constantly growing: preventive medicine is developing, individual therapy at the level of the human genome, biotechnology is used - all this is associated with scientific progress.

The last two decades have been characterized by a rapid growth in the development of medicine and technology: the emergence of innovative technologies in the treatment of diseases that were previously considered incurable - cellular, immunobiological, tissue and engineering technologies. The latest cyber systems and neurocomputer interfaces are being created and widely used in patients' rehabilitation programs. All these factors contribute to the expansion of the boundaries of medicine, which allows us to go beyond traditional boundaries and become a super-efficient, personalized and high-level industry that ensures the protection of public health.

The main distinguishing feature of the modern development of medicine is "biologization", that is, the use of a wide range of approaches that are based on molecular and cellular biology, and the strengthening of the interpenetration of related specialties that previously developed independently.

In world practice, there are three systems of financing medicine: budgetary, budgetary - insurance and entrepreneurial. In Russia, financing takes place according to the budget and insurance system, that is, the main source of finance is budget revenues generated from taxes levied on individuals and legal entities. In other words, the model is called "mixed", financed by private and public (public) funds. The budget finances programs guaranteeing free medical care to citizens, as well as the cost of maintaining all kinds of medical institutions (Ulumbekova, 2015). Private funds finance health care in two ways:

- Direct payment for medical services in public and private organizations;
- Payment for medical services through the voluntary medical insurance system.

2. Problem Statement

The right to health care and medical care is a constitutional social right of a citizen of Russia, which provides for the government to implement federal programs for the development of all health care systems and their financing. Sustainable development of health care is one of the tasks of ensuring the national security of the state. Therefore, the relevance of the topic under consideration is due to the great importance of medicine, since the development of medicine is a necessity that arose with the rapid growth of technologies that dictate new tasks in this branch.

3. Research Questions

In accordance with the set goal, the following tasks were solved during the study:

- identified trends in the development of healthcare in Russia and the world;
- identified health problems at the current stage of economic development;
- prospects for the development of healthcare in the Russian Federation have been predicted.

4. Purpose of the Study

Based on the foregoing, let us single out the main goal of this article - an analysis of current trends, problems and prospects for the development of healthcare in the Russian Federation.

5. Research Methods

The methodological basis of the study is general scientific methods of cognition: analysis and synthesis, induction and deduction, as well as economic and statistical methods when analyzing health care costs in different countries of the world.

6. Findings

Consider the official statistics of total health care costs in the world, taking the most "important" in our opinion countries. In general, the countries under consideration have a stable percentage since 2015-2018, which has minor fluctuations (Shcherbakova, 2019).

Table 1. Total spending on healthcare in the world from 2005 to 2018, % of GDP

Country/ year	2000	2005	2010	2011	2015	2016	2017	2018
USA	12.5	14.6	16.3	16.3	16.7	17.0	17.0	16.9
Germany	9.9	10.3	11.1	10.8	11.2	11.2	11.3	11.4
France	9.6	10.2	11.2	11.2	11.5	11.5	11.4	11.3
Japan	7.2	7.8	9.2	10.6	10.9	10.8	10.8	11.0
Canada	8.3	9.1	10.7	10.3	10.7	11.0	10.8	10.8
Great Britain	7.3	8.5	10.0	10.0	9.9	9.9	9.8	10.0
Brazil	8.3	8.0	7.9	7.8	8.9	9.2	9.5	9.5
Italy	7.6	8.3	8.9	8.8	8.9	8.7	8.7	8.7
South Korea	3.9	4.6	5.9	6.0	6.7	6.9	7.1	7.6
China	4.5	4.1	4.2	4.3	4.9	5.0	5.2	5.4
Russia	5.0	3.3	3.2	3.6	3.5	3.5	3.5	5.3
Turkey	4.6	4.9	5.0	4.7	4.1	4.3	4.2	4.1

Total health expenditures include the sum of public and private expenditures, and cover items such as preventive and curative health services, family planning, medical and dietary nutrition, and emergency care. This cost item does not include water and sanitation services. Let's take a closer look at this information about general expenses (World Data Atlas, 2018).

Tuvalu ranks first in the world, with total expenditures in 2018 of 19.0% of gross domestic product (hereinafter GDP) (in monetary terms \$ 8 million), second place is the Marshall Islands with 17.6% of GDP (in monetary terms \$ 38 million). The third place is occupied by the United States with an indicator of 16.9% of GDP (in monetary terms, 3,475.021 billion US dollars). According to Table 1, it can be seen that US spending from 2000 to 2017 had a stable positive growth rate. In 2018, there is a decrease in the indicator by 0.1%, but we do not exclude the possibility that in monetary terms the amount of expenses could increase.

Russia in this world ranking in 2018 is in 117th place with an indicator of 5.3%. In monetary terms, this is 88.753 billion US dollars and consists of such sources as federal budget funds, regional budget funds

and funds from the Federal Mandatory Medical Insurance Fund (hereinafter MHIF). This figure is much lower with developed countries.

The last 187th place is occupied by Monaco with an indicator of 1.6% (in monetary terms, 115 million US dollars). As we can see, if the state takes the first place, this does not mean that a large amount of funds is allocated in monetary terms. The only thing that can be said for sure from this table is how much of the country's total health expenditure is accounted for by the country's GDP.

According to the World Health Organization (hereinafter WHO), health spending is growing at a faster pace than the growth of the world economy, and is about 10% of global GDP. The growth of these expenditures in countries with a high level of income has an average growth rate of 4%, and in countries with a middle and low level – about 6% (World Health Organization, 2019).

Let us consider what share is occupied by government spending (Table 2) on health care in the share of total government spending. Let's break down by the same countries. Government spending shows how much the government allocates financial resources to solve a specific problem. They are one of the important components of a country's GDP, according to the macroeconomic identity: $Y = C + I + G + NX$, where Y is the country's output, C is the country's consumption, I is the country's investment, G is government spending, and NX is net exports (Bystrova, 2012).

The share of government spending in different countries ranges from 20 to 55% of GDP. The increase in government spending has both positive and negative consequences. Positive consequences, such as an increase in demand for goods and services, improvement of technology, with an increase in allocations for research and development. The negative consequences include: with an increase in tax collections, the disposable income of the private sector decreases, investment activity decreases, therefore, the profitability of projects will decrease, and the demand for imported goods will decrease.

Table 2. Government spending on health care in the world from 2005 to 2018, % of government spending

Country/ year	2000	2005	2010	2011	2015	2016	2017	2018
Japan	15.3	17.8	18.9	21.7	23.2	23.2	23.4	23.6
USA	16.2	17.9	18.4	18.9	22.3	22.5	22.5	22.5
Germany	16.2	16.7	17.4	18.0	19.5	19.6	19.9	20.0
Canada	14.8	17.1	18.1	18.3	19.8	19.7	19.6	19.5
Great Britain	15.8	16.8	17.3	17.9	18.8	19.1	19.0	19.2
France	13.5	13.9	13.9	14.0	14.6	14.8	14.8	14.8
South Korea	8.1	9.3	11.9	11.6	12.6	13.1	13.6	14.0
Italy	11.8	13.7	14.0	13.7	13.1	13.3	13.1	13.2
Brazil	10.1	8.4	9.0	9.2	9.9	10.0	10.3	10.3
Russia	9.7	9.9	8.6	9.0	8.8	8.2	8.8	9.8
Turkey	7.2	10.3	10.9	11.1	9.7	9.6	9.7	9.3
China	6.1	7.5	8.8	8.6	9.4	9.1	9.1	8.9

Costa Rica holds the leading position with 27.8%, followed by Japan with 23.6%, and San Marino closes the top three with 23.4%. In this rating, the United States with an indicator in 2018 of 22.5% takes 4th place. The percentage of deductions of financial resources from countries such as the United States, Japan, Germany, during the period under review, is growing steadily and positively, which makes it possible to reduce the risk of “impoverishment” of the population due to payment for medical services. In

many countries that are economically developed, the share of government spending is growing. Cameroon is the last in these statistics at 187th place with a share of 1.1% of government spending on health.

Russia, with an indicator of 9.8%, is on the 95th line of the world ranking. Expenses in cash in rubles in 2018 amounted to 3.32 trillion. rubles. State expenditures of the Russian Federation go to the provision of medical care to citizens in the form of a wage fund with accruals, to provide the population with medicines and medical products, as well as other expenses. If we consider the presented statistics from Table 2, we can conclude that government spending in percentage terms is not stable, often has negative growth rates. The situation is the same in monetary terms. A constant decrease in this cost item leads to "chronic underfunding of medicine" and has such consequences as: a shortage of medical personnel and an increase in the burden on working personnel, unequal access in some regions to obtain affordable and high-quality medical services, and an increase in morbidity and mortality. To eliminate these problems, it is necessary to adequately finance such a cost item as medicine.

Private expenditures on medicine are shown in Table 3 and represent the own, personal funds of citizens, that is, the population voluntarily pays "out of pocket" such costs as: medical services, the purchase of medicines, sanatorium and resort services, contributions from employers and the population to voluntary medical insurance (hereinafter VHI).

Table 3. Private spending on healthcare in the world from 2005 to 2018, % of total healthcare spending

Country/ year	2000	2005	2010	2011	2015	2016	2017	2018
Brazil	58.0	58.3	54.7	55.2	57.0	57.0	58.1	58.2
USA	55.8	54.6	51.4	51.3	49.3	49.6	49.7	49.6
China	78.0	67.0	48.0	46.2	39.8	41.9	43.3	43.6
South Korea	49.7	43.0	40.7	41.4	42.6	42.5	42.1	41.5
Russia	40.4	38.8	38.6	37.3	41.3	43.0	42.9	40.5
France	27.3	27.5	29.5	29.8	27.6	27.4	26.7	26.6
Canada	27.1	27.0	26.8	26.2	26.0	27.0	26.8	26.5
Italy	27.4	22.5	21.5	23.0	25.6	25.6	26.3	26.1
Turkey	38.3	32.3	22.0	20.9	21.9	21.6	22.3	22.6
Germany	21.8	24.3	24.3	24.6	23.0	22.7	22.3	22.3
Great Britain	23.2	18.6	17.7	18.0	19.8	19.6	20.5	21.4
Japan	19.6	18.8	18.1	16.3	15.9	16.0	15.8	15.9

Armenia ranks first with an indicator in 2018 of 86.4% of private spending of total health spending. Next comes Cameroon - 85.5%, then Turkmenistan 81.4. A high percentage of private spending indicates insufficient funding of medicine from the state and a decrease in the guaranteed volume of medical care; government funding is unable to provide a sufficient volume of free medical services to the population. There is a decrease in the responsibility of the state by reducing health care costs, but at the same time, the responsibility of insurance companies is increasing. A high percentage may indicate that the population bears high costs for the purchase of expensive medical devices and medicines.

Russia occupies 90th place in this rating with an indicator of 40.5%. This means that most of the costs of medical services, 59.5%, are paid by the state. It should be noted that there is mainly a positive growth rate of private spending during the period under review. Accordingly, this indicates the underfunding of medicine by the state.

In last place is the Republic of Kiribati with an indicator of 0.1%, such a low indicator is characterized by such factors: a small population of 115,300 people, a low standard of living. Let's highlight the main factors that are associated with a high percentage of private spending in the total share:

- insufficient funding from the state of the medical industry;
- rapid growth in prices for medicines and medical devices, which creates a high level of costs for these cost items;
- deficit of health workers in public institutions.

Let's list the socio-economic factors that also have a significant impact on the share of private spending:

- the level of income of the population;
- educational level of the population;
- age structure of the population;
- the state of health of the population.

Many countries have a high percentage of private spending, and the government of these countries has begun to take measures to reform health financing policies (Dyachuk, 2018). Therefore, WHO has made several recommendations that will reduce the share of private spending. Here are some points from this strategy:

- paid services should be canceled in public medical institutions;
- certain “vulnerable” groups of citizens, such as: low-income, pregnant women and children, - it is necessary to exempt them from paying official payments due to the designated purpose;
- providing a number of medical services free of charge, such as pregnancy management, newborn nursing;
- increase universal coverage of the population with medical services;
- increasing the volume of current spending on health care, by increasing the share of government spending;
- revision of state tariffs for medical services provided;
- restraining the growth of prices for medicines and medical devices (Dyachuk, 2018).

Consider the structure of private spending in Russia for 2018, which are shown in Figure 1.

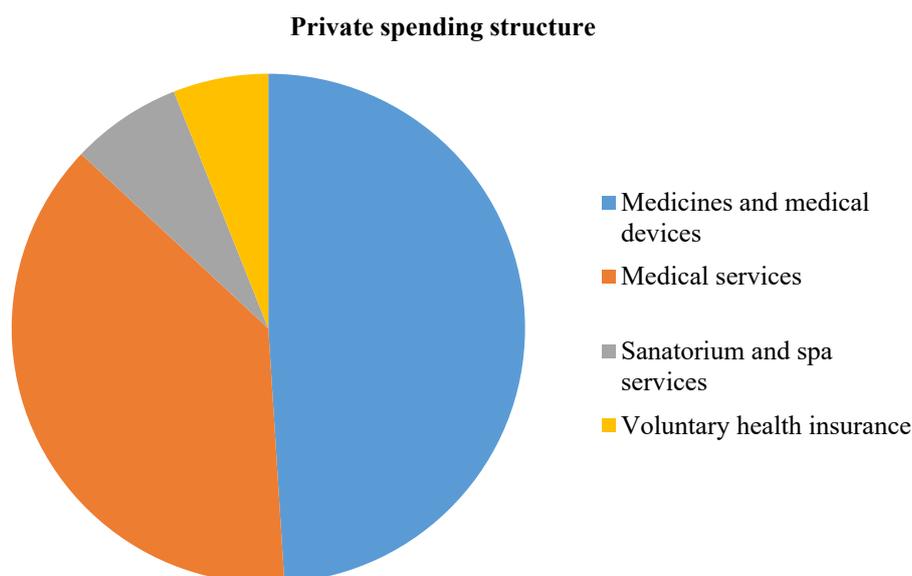


Figure 1. Structure of private spending in Russia in 2018

If we consider the structure of private spending on medicine in Russia, then it is as follows: 49% are the purchase of medicines and medical devices, 38% are various paid medical services, 7% are sanatorium and resort services, 6% are voluntary medical insurance.

The structure of total spending on health, that is, the percentage of private and public, has a dual effect on health outcomes: with an increase in the share of private spending, but not more than 50% of total spending, the efficiency of medical services improves, but as soon as the indicator exceeds an extremely high share – over 50% there is a decrease in the availability of medicine for the population (Ratnikov, 2020).

Let us turn our attention to such statistics as the current expenditures on health care in the world per person, which are presented in Table 4. Current expenditures per capita represent the final consumption expenditures of one person, including the costs of medical services, medicines, medical devices and related medical services. This indicator characterizes final consumption, that is, it expresses the need of households and the state for medical goods and services (Avksentyev et al., 2016).

Table 4. Current spending on health care in the world from 2005 to 2018, US dollars per person, in terms of purchasing power parity (hereinafter PPP)

Country/ year	2000	2005	2010	2011	2015	2016	2017	2018
USA	4 564	6 455	7 930	8 131	9 491	9 878	10 210	10 624
Germany	2 691	3 277	4 321	4 587	5 353	5 574	5 931	6 098
France	2 517	3 136	4 061	4 218	4 692	4 943	5 110	5 250
Canada	2 430	3 290	4 257	4 273	4 729	4 909	5 023	5 200
Great Britain	1 927	2 798	3 645	3 720	4 228	4 311	4 473	4 620
Japan	1 909	2 453	3 192	3 778	4 368	4 305	4 386	4 504
Italy	2 049	2 517	3 139	3 212	3 266	3 417	3 572	3 624
South Korea	717	1 151	1 879	1 961	2 531	2 748	2 929	3 214
Brazil	756	884	1 138	1 173	1 403	1 411	1 483	1 531
Russia	368	604	1 087	1 156	1 287	1 280	1 389	1 488
Turkey	443	587	881	921	1 061	1 136	1 176	1 171
China	129	208	381	436	702	759	838	935

The leader in this summary is Liberia, with \$ 12,643 per person in 2018. The second place is occupied by the United States with an indicator of USD 10,624 per person, followed by Switzerland - USD 8,114 per person. Russia ranks 64th with an indicator of \$ 1,488 per person, which means that less money is spent per capita in our country than other developing countries. The Democratic Republic of the Congo is in last 187 place with an indicator of US \$ 31 per person. In the most developed countries, this indicator has a positive growth rate every year.

On average, the indicator of countries belonging to the Organization for Economic Cooperation and Development (hereinafter OECD) is about \$ 4,000 per person, and varies within the following indicators: in Mexico, \$ 1,066 per person, and in the United States, \$ 12,643 US per person. The level of the indicator in the United States in recent years is much higher than in other countries of the OECD. Russia, which is one of the partners of this union, has an indicator in 2018 almost 8.5 times less than that of the United States. Current PPP spending on health care in many countries is mainly directed towards final consumption.

Consider the following quite an important indicator for comparing health spending in different countries of the world - this is government health spending per capita in US dollars, presented in Table 5.

Table 5. Public spending on health care in the world from 2005 to 2018, US dollars per person

Country/ year	2000	2005	2010	2011	2015	2016	2017	2018
USA	2 017	2 930	3 857	3 958	4 812	4 977	5 131	5 336
Germany	2 105	2 480	3 271	3 459	4 121	4 306	4 609	4 737
France	1 830	2 275	2 862	2 962	3 396	3 590	3 746	3 852
Canada	1 770	2 403	3 115	3 154	3 502	3 585	3 678	3 822
Japan	1 535	1 991	2 615	3 164	3 673	3 617	3 694	3 787
Great Britain	1 481	2 276	2 999	3 050	3 389	3 465	3 555	3 631
Italy	1 489	1 950	2 463	2 474	2 431	2 542	2 634	2 678
South Korea	361	656	1 115	1 149	1 452	1 581	1 696	1 879
Turkey	273	398	687	729	829	891	914	906
Russia	218	369	667	724	756	729	793	885
Brazil	315	368	512	522	602	606	621	638
China	28	68	198	234	422	441	475	528

The world leader is Norway with an indicator of USD 5,818 per person, followed by the United States with an indicator of USD 5,356 per person. And the three leaders of this rating are Luxembourg with an indicator of USD 5 136 per person. Russia is in 66th place, the last, 187th place, is occupied by the Democratic Republic of the Congo – \$ 5 per person. This indicator characterizes how much money the state allocates for one resident of its country in order to provide him with medical services. In developed countries, the indicator has a positive annual growth rate, which means: more funds are allocated per capita, this may be due to various factors, such as an increase in morbidity or an improvement in the quality of services provided (Starodubov, 2010).

The Russian indicator for the period under review also has a positive growth rate, but, despite this, show very low compared to developed countries: 6 times lower than in the United States; almost 5.4 times lower than in Germany; almost 4.4 times lower than in France.

It should be noted that a large number of health care costs does not mean that the country has a high life expectancy and low mortality, since most of the costs go to the treatment of citizens' diseases after they

occur. In many countries, health care costs are associated with treatment and recovery from illness, and many of these health services are expensive – they use the latest technology. Also, a large percentage of deductions go to the maintenance of medical institutions.

7. Conclusion

Let's summarize healthcare spending in Russia and group information on indicators in 2018:

- general expenditures on health care – 5.3% of GDP;
- current expenditures per capita – US \$ 609;
- current expenditures per capita – US \$ 1.488 (PPP);
- government expenditures on health care of total expenditures – 59.5%;
- total expenditure on health care US \$ 88.753 billion;
- the share of the MHIF funds in the current expenditures on health care – 37.3%;
- the share of VHI in current health care costs is 2%;
- government spending on health care per capita – US \$ 362;
- government spending on health care per capita – US \$ 885 (PPP);
- private expenditures on health care of total expenditures – 40.5% (World Health Organization, 2017).

Overall health care costs are comparatively lower than in the European Union, as the figure in 2018 is 2.8 times less than in France, 1.8 times less than in the UK, 1.6 times less than in Italy ... 85% of all expenses are spent on the provision of medical care, which are distributed in the following ratio: 70% goes to the wages fund with accruals, the remaining 30% goes to medicines, medical devices and other income. State funding mainly consists of MHIF funds, as well as federal and regional budgets.

Reducing public spending leads to inequality of citizens in receiving medical services, a lack of medical workers, beds in medical institutions and other resources needed to treat diseases. In order to solve this problem, it is necessary to sufficiently provide this article with funds from the federal budget. Unfortunately, we observe underfunding of the industry, which goes on from year to year, the indicator for many years was in the range of 3.2 - 3.6% of GDP, and only in 2018 it reached 5.3% of GDP.

It should be noted that in Russia there is a "gap" in the quality and availability of medical services in the regions, since the budget of each of the regions is different, so are the territorial programs to support certain groups of citizens. For example, a "rich" constituent entity of the Russian Federation, like Moscow, has no problems with financing medicine.

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