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**QUALITY ASPECTS OF HEALTHCARE DELIVERY TO THE POPULATION OF RUSSIA**

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**Abstract**

Subject. The process of improving the quality of life of the Russian population / Study of the real state of the quality of life of the population of Russia. Goals/Objectives. To assess the quality of medical care in the context of improving the quality of life. Methodology. Empirical level research methodology. Results/conclusions. A study of the quality of medical care for the population has been conducted / In terms of the main indicators of the quality of health care for the population, Russia lags behind the economically developed countries of the world.

**Keywords**

Quality of life – Quality of medical care – Life expectancy – Availability of high

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## Introduction

In accordance with Part 1 of Article 41 of the Constitution of the Russian Federation, every citizen of the Russian Federation has the right to health protection and free medical care. Articles 18, 19 of the Federal Law of November 29, 2011 No. 323-ФЗ “On the Fundamentals of Citizen Health Protection in the Russian Federation” state that every Russian citizen has the right to health protection in the form of providing affordable and high-quality medical care.

In recent years, the Russian Federation has consistently implemented measures to ensure quality medical care for the population in the country’s health care system, with the organization of access to health care for the population and responsiveness of the health care system to the expectations of citizens.

However, positive changes in the field of health care have turned out to be insufficient to solve a number of problems in the country’s national healthcare system, which relate, in the opinion of the citizens, to the availability of medical care, *the provision of high-quality primary health care, a reduction in the deficit in professionally trained personnel in outpatient and polyclinic institutions, etc.*

The quality of medical services provided to the Russian population is an integral part of the quality of life. Paradoxically, contrary to the formal laws of logic, the opinion of the end user of healthcare services (the Russian population) about the quality of the provided medical care is not taken into account (!) when planning the development of the Russian health care system. It turns out that, in the opinion of the population, the emerging social problems caused by the lack of quality and availability of medical care are, actually, generated by the national health care system<sup>1</sup>.

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<sup>1</sup> Yu. A. Korchagin, The broad concept of human capital (Voronezh: CIRE, 2009); A. G. Aganbegyan, “Achieving the highest level of life expectancy in Russia”, *Economic policy*, num 2 (2012): 134-156; A. G. Aganbegyan, “About the goals and measures of health care reform in Russia”, *Economic issues*, num 2 (2014): 149-157; A. G. Aganbegyan, “How much is human life in Russia?”, *Economic policy*, num 1 (2014): 54-66; G. Becker, “Economic view of life. Lecture of the Nobel Prize winner in the field of economic sciences for 1992”, *Bulletin of St. Petersburg University*, Vol: num 5 (1993); A. A. Bykov, “On Methodologies for the Economic Evaluation of the Life of an Average Person”, *Problems of Risk Analysis*, Vol: 4 num 2 (2007): 178-191; S. M. Guriev, *Economy myths. Misconceptions and stereotypes that spread the media and politicians* (Moscow: Mann, Ivanov and Ferber Publishing House, 2017); V. V. Droshev and I. F. Kosmin, “Theory and methodology for determining the cost of human life”, *Journal of Economic Theory*, num 4 (2012): 28-38; V. V. Droshev and I. F. Kosmin, “Theory and methodology for determining the cost of human life”, *Journal of Economic Theory*, num 4 (2012): 28-38; M. B. Denisenko and E.Ya. Varshavskaya, “Duration of working life in Russia”, *Economic Journal of the HSE*, Vol: 21 num 4 (2017): 592–622; N. D. Klikunov, “Estimates of the cost of human life”, *Society and Economics*, num 3 (2009): 44 – 49; A.L. Kudrin and E. T. Gurvich “Starineno population and the threatened budget crisis of St. Petersburg”. *Economic Issues*, Num 3 (2012): 52-79; A. A. Kuklin and S. E. Shipitsyna, *Economic assessment of human life*. Ekaterinburg: Institute of Economics, Ural Branch of the Russian Academy of Sciences. 2012; A. S. Milovidov *Years of life and years of work* (Moscow: Finance and Statistics, 1983); B. N. Porfiriev, “*Ekonomicheskaya assessment of human losses as a result of emergency situations*”, *Questions of economy*, num 1 (2013): 48—68 y L. D. Revutsky, “Human capital of an enterprise: how to evaluate it”, *Man and Labor*, num 7 (2010): 45 – 47.



## Materials and Methods

A sociological survey conducted by the Financial University in 2018 showed that the following components of the quality of life are of paramount importance for residents of Russian cities:

- the state of the medical infrastructure, the quality of health care services delivery;
- the state of the education system;
- the state of housing, the volume of housing construction in the city, the quality and speed of maintenance of the housing stock;
- the level of income sufficient to maintain the necessary consumption of goods and services;
- the quality of the cultural environment (cultural infrastructure) in the city;
- the state of road facilities: city roads, public transport operation, work of the state traffic safety inspection.

## Results

It should be noted that in modern Russian academic literature the following aspects are not sufficiently developed:

- theoretical and methodological approaches to a comprehensive study of improving the quality of medical services provided to the Russian population, including using various methods of a sociological survey of the population about the quality of medical care provided;
- methods of digital assessment of socio-economic processes that cause negative changes in the quality of life of the population, including reducing the quality of medical care provided to the population;
- strategies of socio-economic adaptation for various social groups and segments of the population, including marginal, to the changes in the quality of provided medical care<sup>2</sup>.

Theoretical and methodological approaches to the study of public opinion about the quality of medical care are usually grouped according to the following parameters:

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<sup>2</sup> I. L. Trunov; L. K. Aivar, and G. Kh. Kharisov, "Equivalent to the cost of human life", Representative power, num 3 (69) (2006): 24 – 29; I. L. Trunov, and A.A. Vostrosablin "The economic equivalent of human life", Bulletin of the Russian Academy of Natural Sciences, num 4 (2004); G. E. Ulumbekova, Health of Russia. What should be done: scientific justification of the Strategy for the Development of Health Care in the Russian Federation until 2020 (Moscow: GEOTAR-Media, 2010); B. T. Uralnis, Problems of the dynamics of the population of the USSR (Moscow: Nauka Publishers, 1974); A. K. Cherkashin, "Assessment of quality of life based on the solution of the inverse problem of modeling population dynamics", Population, num 1 (63) (2014): 54 – 67; L. I. Dublin and A.J. Lotka, The Money Value of a Man (New York: Ronald Press, 1930); S. Dudel and M. Myrskylä, By the Great Recession. Max Planck Institute for Demographic Research. MPIDR Working Paper, num 006 (2016). Retrieved from: <https://www.demogr.mpg.de/papers/working/wp-2016-006>; A. Krupnick; B. Ostro; R. Lee, et al. Resources for the Future's Health Benefits Models. December 1994 Report of the Resources for the Future (N.W.: Washington, D.C., 1994); R. Kadefors; K. Nilsson; L. Rylander; P.-O. Östergren and M. Albin, "Occupation, gender and work-life exits: A Swedish population study", Aging & Society, num 38 (7) (2018): 1332–1349 y T. Leinonen; P. Martikainen and M. Myrskylä, "Periodic, cohort, trends and projections for Finland", Journals of Gerontology: Series B. Psychological Sciences and Social Sciences, num 73 (2) (2018): 302–313.

- average life expectancy (or average healthy life expectancy);
- availability of medical care for the population;
- low financial burden on household budgets caused by the need for medical care - financial affordability of health care.

The modern trend in the economically developed countries of the world is the development of the health industry in accordance with the rating assessments of the quality of medical services, which will inevitably influence the development of the health care system in Russia.

Objectively, Russia is not a leader in terms of indicators of the national health care system among the developed countries of the world, as evidenced by the places occupied by Russia in various ratings of the quality of medical care.

For example, when comparing the indicators of Russia with the indicators of the EU, the OECD countries and the world average indicators for the main indicators of the quality of medical services for the population, Russia's lag in most indicators becomes apparent.

Table 1 shows the comparative data on the main indicators of the quality of medical care (averages for 2000-2017) of Russia, the EU, the OECD and the world average.

Indicators	EU	OECD countries	Russia	World average values
Average per capita health care costs from all sources, dollars (Purchasing Power Parity, PPP)	2781.0	3612.8	891.5	925.3
Average life expectancy at birth, years	79.5	78.8	68.1	70.5
Expenditure on health from household budgets per person per year, dollars (PPP)	430.7	558.9	300.7	211.8
Percentage of those who fell below the subsistence minimum of \$ 3.1 in PPP prices for 2011 due to excessive medical expenses,%	0.4	0.4	0.1	1.9
Percentage of citizens spending more than 10% of the household budget for medical purposes,%	7.8	6.8	3.4	10.7
Percentage of citizens spending more than 25% of the household budget for medical purposes,%	1.2	1.4	0.6	2.4
Basic Healthcare Accessibility Index	78.6	79.9	63.2	63.7
Percentage of citizens for whom the cost of surgery may be excessive,%	4.9	6.5	43.8	44.3
Percentage of citizens for whom the need to pay for surgery can lead to poverty,%	1.2	3.5	18.3	46.9

Source: authors' calculations according to the World Bank data

Table 1

Comparison of the indicators of Russia with the indicators of the EU, the OECD countries and the world average indicators for the main indicators of the quality of medical services for the population (averages for 2000-2017)

According to the research of the Financial University in 2018, consumer perception of the quality of public health services is gradually improving. As can be seen from Table 2, the proportion of Russians, who are completely or mostly satisfied with the quality of medical care they receive personally, has slightly increased. Russians are most satisfied with the health insurance services they receive under policies purchased at their own expense or at the employer's expense.

The problems with ensuring the availability of medical care to the population have become urgent in Russia. The percentage of those who have recently had to turn to medical institutions in other regions or abroad is constantly increasing. Over a quarter of the inhabitants of large and medium-sized cities in the last two or three years were forced to travel to another city or abroad for the necessary medical care, as compared to 20% in 2015.

The number of Russians who believe that there are enough medical institutions in their city to provide quality medical care to the population is declining: in 2018 their percentage fell to 22%. According to the study, the least available for Russians today are polyclinics of a wide profile, diagnostic centers and specialized medical clinics.

The obtained results of the study have shown that:

- 74% of residents of large and medium-sized cities use the free-of-charge services of medical institutions funded under the Compulsory Health Insurance (CHI) system, and 42% use paid services of private medical institutions;
- the percentage of consumers of paid medical services has increased by more than a third since 2011, while the percentage of owners of voluntary medical insurance (VMI) policies acquired at their own expense or provided by the employer remains low - 3% and 8% respectively;
- insurance medicine is distinguished by the fast growing quality assessment of medical care - 85% of residents of large and medium-sized cities are completely or mainly satisfied with it;
- a third of the survey participants believe that there are enough medical institutions in their city, although earlier it was noted that polyclinics and diagnostic centers are the institutions that the city lacks most;
- the proportion of Russians who lack money for medicines is decreasing - 64% of respondents said that over the past year they have not had cases when they did not have enough money to buy medicines;
- the percentage of those who have recently had to seek medical assistance in other regions, Moscow or abroad, is not reduced, and there is an increase in the percentage of those who have recently had an pretext and intention to sue doctors or medical institutions for errors, negligence or omissions.

## Discussion

In modern socio-economic conditions of life of the Russian society, caused by international, military and other conflicts of different levels, natural and man-made disasters, it is extremely important to reduce the levels of injury and morbidity of the population; at the same time, there is a need for a legal basis to formally establish an adequate methodology for calculating the value of human life at all stages of its life and activity<sup>3</sup>.

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<sup>3</sup> A.S. Milovidov, Years of life and years of work (Moscow: Finance and Statistics, 1983); B. N. Porfiriev, "Ekonomicheskaya assessment of human losses as a result of emergency situations".

The criteria for the optimality of the size of material compensation in connection with the death of a person in various emergency situations of natural, man-made and other nature:

- sufficiency of the amount of compensation in accordance with the subjective requirement of "justice";
- sufficiency of the amount to compensate for the damage incurred by the household in connection with the death of a person in various emergency situations;
- sufficiency of the amount to compensate for moral damages suffered by the family as a result of the death of a relative in emergency situations.

To determine the size of payments to families of the dead and injured in various emergency situations (ES) of natural and man-made character as compensation for the damage caused, the concept of "cost" of average human life (CAHL) is used - a conventional economic value used to solve various socially significant tasks.

The following formula can be used to estimate the base, minimum estimate of the "cost" of human life:

$$CAHL = \sum_{i=k}^n GDP \text{ per capita}_i, (1)$$

where CAHL is the "cost" of the average human life; *GDP per capita<sub>i</sub>* is the predicted value of per capita GDP in the *i*-th year at constant prices (excluding inflation), *k* is the first year after a person's premature death, *n* is the year of the expected "natural" death of a person, corresponding to the average life expectancy (either on average or by gender).

Knowing the age of a particular person at the time of his/her death, one can estimate the loss the society has incurred due to the premature death of this person. In addition, one

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Questions of economy, num 1 (2013): 48—68; L. D. Revutsky, "Human capital of an enterprise: how to evaluate it". Man and Labor, num 7 (2010): 45 – 47; I. L. Trunov; L. K. Aivar and G. Kh. Kharisov, "Equivalent to the cost of human life". Representative power, num 3 (69) (2006): 24 – 29; I. L. Trunov and A. A. Vostrosablin "The economic equivalent of human life". Bulletin of the Russian Academy of Natural Sciences, num 4 (2004); G. E. Ulumbekova, Health of Russia. What should be done: scientific justification of the Strategy for the Development of Health Care in the Russian Federation until 2020 (Moscow: GEOTAR-Media, 2010); B. T. Uralnis, Problems of the dynamics of the population of the USSR (Moscow: Nauka Publishers, 1974); A. K. Cherkashin, "Assessment of quality of life based on the solution of the inverse problem of modeling population dynamics". Population, num 1 (63) (2014): 54 – 67; L. I. Dublin and A. J. Lotka, The Money Value of a Man (New York: Ronald Press, 1930); S. Dudel and M. Myrskylä, By the Great Recession. Max Planck Institute for Demographic Research. MPIDR Working Paper, num 006 (2016). Retrieved from: <https://www.demogr.mpg.de/papers/working/wp-2016-006>; A. Krupnick; B. Ostro; R. Lee, et al. Resources for the Future's Health Benefits Models. December 1994 Report of the Resources for the Future (N.W: Washington, D.C. 1994); R. Kadefors; K. Nilsson; L. Rylander; P.-O. Östergren and M. Albin, "Occupation, gender and work-life exits: A Swedish population study", Aging & Society, num 38 (7) (2018): 1332–1349; T. Leinonen; P. Martikainen, and M. Myrskylä, "Periodic, cohort, trends and projections for Finland". Journals of Gerontology: Series B. Psychological Sciences and Social Sciences, num 73 (2) (2018): 302–313 y E. Loichinger, and D. Weber, "Trends in working life expectancy in Europe", Journal of Aging and Health. 2016; 28 (7): 1194–1213.

can also estimate the average loss of society due to the death of the average person. Then  $k$  is the year following the current one, and  $n$  is calculated as:

$$n = k + \alpha - \beta, \quad (2)$$

where  $\alpha$  is the average life expectancy of a person at the current date,  $\beta$  is the average age of the country's population at the current date.

Calculations made in accordance with this approach give an estimate of the cost of human life in the amount of 31.7 million rubles (546 thousand US dollars in 2017 prices). The calculations used the assumption about the growth of per capita GDP in Russia after 2018 by 2.5% on average in real terms.

When assessing the “cost” of a human life as the size of a household's monetary loss due to a person's death, it is necessary to use the expected amount of income minus individual consumption expenditures for a number of years equal to the difference between the average life expectancy of a person (either on average or by gender) and the age of the person at the time of his/her death. Income and individual consumption for future periods are calculated on the basis of the current date values, taking into account the forecast of growth of indicators in real terms, as well as the expected level of inflation.

In general, the final assessment of material damage from the death of a person due to an emergency can be calculated using the formula:

$$CAHL = \sum_{i=k}^n (I \text{ per capita}_i - C \text{ per capita}_i) / (R_i / I_i), \quad (3)$$

where CAHL is the “cost” of the average human life paid to the family of the deceased at a time,  $I \text{ per capita}_i$  is the predicted value of the average per capita income in the  $i$ -th year,  $C \text{ per capita}_i$  is the predicted value of the average per capita individual consumption in the  $i$ -th year, in general - the average subsistence minimum,  $k$  is the first year after a person's premature death,  $n$  is the year of the expected “natural” death of a person, provided that he/she would have lived the number of years corresponding to the average life expectancy of the population,  $R_i$  is the accumulated return on investment of the compensation paid at a time from year  $k$  to year  $i$ , and  $I_i$  is the cumulative inflation from year  $k$  to year  $i$ .

With the view of the need to more fully take into account the structure of income, the assessment of material damage from the death of a person during an emergency can generally be calculated using the following formula:

$$CAHL = \sum_{i=k}^{nm} (S_i - SM_i) / (R_i / I_i) + \sum_{i=ki=n+1} (P_i - RSM_i) / (I \text{ per capita}_i / I_i), \quad (4)$$

where CAHL is the “cost” of the average human life paid to the family of the deceased at a time,  $S_i$  is the predicted value of the size of the average salary in the  $i$ -th year;  $SM_i$  is the predicted value of the subsistence minimum for the working-age population in the  $i$ -th year,  $P_i$  is the predicted value of the average pension in the  $i$ -th year,  $RSM_i$  is the predicted value of the subsistence minimum for the retiree in the  $i$ -th year,  $k$  is the first year after a

person's premature death,  $n$  is the year of expected retirement, provided that the deceased lived the number of years corresponding to the average life expectancy of the population,  $m$  is the year of the expected "natural" death of a person, provided that he/she lived the number of years corresponding to the average life expectancy of the population,  $R_i$  is the accumulated return on investment of the compensation paid at a time from year  $k$  to year  $i$ , and  $I_i$  is the cumulative inflation from year  $k$  to year<sup>4</sup>.

In accordance with the calculated final index of the quality of medical care for the population in Russian cities (where a study was conducted in 2017 based on the results of citizen surveys), the highest quality of medical services for the population is in the following Russian cities: Nizhny Novgorod, Grozny, Kazan, Ufa, St. Petersburg, Tyumen, Orenburg, Novokuznetsk, Penza, and Tomsk.

Of great interest are data on the assessment of the "cost" of life obtained on the basis of citizen surveys. In the course of sociological studies conducted in 2017-2018 by the Financial University, the respondents determined the amount of the payment, which they considered to be a sufficient and fair reimbursement to the family of a person who died in transport, at work or in other emergencies equal to 5.2-5.4 million roubles. The median value of the "cost" of human life, according to Russians, is much less - 1.4-1.6 million roubles.

Of particular interest are the assessments of Russians regarding the "cost" of disability, i.e. a fair and decent monetary compensation in connection with disability. In the course of a sociological research, respondents named fair payments in connection with disability in the amount of 4.2-4.4 million roubles as average and 1.2-1.4 million roubles as the median value, which is slightly lower than the reimbursement of the "cost" of life.

Calculations based on the data on the dynamics of life satisfaction in Russia, per capita consumption and life expectancy in 2005-2015 show that the "cost" of life in our country is 43.2 million roubles. Calculations made on the basis of data on life expectancy, household income and migration flows in the Russian regions in 2010-2018 showed that the "cost" of human life is 37.3 million roubles<sup>5</sup>.

## Conclusion

At present, the level of medical care provided to the population in Russia cannot be recognized as complying with international standards; in terms of the main indicators of the quality of medical services for the population, Russia lags behind the economically developed countries of the world. It is well-known that the quality of medical services for the

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<sup>4</sup> E. Loichinger, and D. Weber, "Trends in working life expectancy in Europe", *Journal of Aging and Health*. 2016; 28 (7): 1194–1213; K. Murphy and R. Topel "The Value of Health and Longevity", *Journal of Political Economy*, Vol: 114 num 5 (2006): 871—904; J. Mrozek, and L. Taylor, "What Determines the Value of Life? A Meta-Analysis", *Journal of Policy Analysis and Management*, Vol: 21, num 2 (2001): 253-270; R. Ottinger; D. R. Wooley; N. A. Robinson, et al. *Environmental Costs of Electricity* (New York, London, Rom: Oceana Publications, 1990); D. J. Reynolds, "The Cost of Road Accidents", *Journal of the Royal Statistical Society* (1956); K. Viscusi, "The Value of Life: Estimates with Risks by Occupation and Industry", *Economic Inquiry*, Vol: 42 num 1 (2004) 29–48 y K. Viscusi and J. Aldy, "The Value of a Statistical Lifetime Review of the World of Estimates Throughout the World". *Journal of Risk And Uncertainty*, Vol: 27 num 1 (2003): 5–76.

<sup>5</sup> World Values Survey Data analysis tool. Retrieved 12.27.2018 from: <http://www.worldvaluessurvey.org/WVSONline.jsp>.

World Bank Databases. Retrieved 12.27.2018 from: <http://data.worldbank.org/>.

population in all economically developed countries of the world depends mainly on the level of social inequality in each country. For example, in the Russian Federation, as a result of the social inequality, there is a significant difference between the level of quality of medical care for urban and rural residents in different regions of the country, arising from the different levels of financial, human, material and technical support of medical institutions and organizations of the national health care system. The results of the study have shown that, at the present time, the opinion of the Russian population about the responsiveness of the national health care system to the citizens' expectations is actually not being conducted. The Ministry of Health of the Russian Federation, when calculating the integral indicator of responsiveness of the Russian health care system to people's expectations in matters not related to health, uses the method of measuring based *not on the opinion of the Russian population as a whole according to WHO recommendations, but on the opinion of patients* according to departmental statistical reports, which generally reduces the objectivity of this integral indicator.

In modern Russian academic literature the following aspects are not sufficiently developed:

- theoretical and methodological approaches to the study of the quality of medical care provided to the population;
- methods of digital assessment of negative changes in the quality of life of the Russian population, including the changes reducing the quality of medical care;
- strategies of socio-economic adaptation for various social groups and segments of the population, including marginal, to changes in the quality of life and to the provided medical care.

In order to ensure legal regulation of the provision of affordable, high-quality medical care to the population with the responsiveness of the Russian health care system to the population's expectations, legal acts of federal authorities of the Russian Federation, constituent entities of the Russian Federation and municipal authorities need to be improved. For example, in order to improve the quality of medical care for the population, it is necessary to make a number of changes and additions to the Federal Law of 21.11. 2011 № 323 ФЗ "On the basis of health protection of citizens in the Russian Federation." The article was prepared at the Financial University under the Government of the Russian Federation as part of the government order for 2018 of the Government of the Russian Federation, approved on December 28, 2017 No. 9980п-П17 on the research topic "Study of the quality of medical care for the Russian population in the context of improving the quality of life."

## References

Aganbegyan, A. G. "About the goals and measures of health care reform in Russia". Economic issues, num 2 (2014): 149-157.

Aganbegyan, A. G. "Achieving the highest level of life expectancy in Russia". Economic policy, num 2 (2012): 134-156.

Aganbegyan, A. G. "How much is human life in Russia?". Economic policy, num 1 (2014): 54-66.

Becker, G. "Economic view of life. Lecture of the Nobel Prize winner in the field of economic sciences for 1992". Bulletin of St. Petersburg University, Vol: num 5 (1993).

- Bykov, A. A. "On Methodologies for the Economic Evaluation of the Life of an Average Person". *Problems of Risk Analysis*, Vol: 4 num 2 (2007): 178-191.
- Cherkashin, A. K. "Assessment of quality of life based on the solution of the inverse problem of modeling population dynamics". *Population*, num 1 (63) (2014): 54 - 67.
- Denisenko, M. B. and Varshavskaya, E. Ya. "Duration of working life in Russia". *Economic Journal of the HSE*, Vol: 21 num 4 (2017): 592–622.
- Droshev, V. V. and Kosmin, I.F. "Theory and methodology for determining the cost of human life". *Journal of Economic Theory*, num 4 (2012): 28-38.
- Dublin, L. I. and Lotka, A. J. *The Money Value of a Man*. New York: Ronald Press. 1930.
- Dudel, S. and Myrskylä, M. *By the Great Recession*. Max Planck Institute for Demographic Research. MPIDR Working Paper, num 006 (2016). Retrieved from: <https://www.demogr.mpg.de/papers/working/wp-2016-006>.
- Guriev, S. M. *Economy myths. Misconceptions and stereotypes that spread the media and politicians*. Moscow: Mann, Ivanov and Ferber Publishing House. 2017.
- Kadefors, R.; Nilsson, K.; Rylander, L.; Östergren, P.-O. and Albin, M. "Occupation, gender and work-life exits: A Swedish population study". *Aging & Society*, num 38 (7) (2018): 1332–1349.
- Klikunov, N. D. "Estimates of the cost of human life". *Society and Economics*, num 3 (2009): 44 - 49.
- Korchagin, Yu. A. *The broad concept of human capital*. Voronezh: CIRE. 2009.
- Krupnick, A.; Ostro, B.; Lee, R., et al. *Resources for the Future's Health Benefits Models*. December 1994 Report of the Resources for the Future, N.W. Washington, D.C. 1994.
- Kudrin, A. L. and Gurvich E. T. "Starineno population and the threatened budget crisis of St. Petersburg". *Economic Issues*, Num 3 (2012): 52-79.
- Kuklin, A. A. and Shipitsyna, S. E. *Economic assessment of human life*. Ekaterinburg: Institute of Economics, Ural Branch of the Russian Academy of Sciences. 2012.
- Leinonen, T.; Martikainen, P. and Myrskylä, M. "Periodic, cohort, trends and projections for Finland". *Journals of Gerontology: Series B. Psychological Sciences and Social Sciences*, num 73 (2) (2018): 302–313.
- Loichinger, E. and Weber, D. "Trends in working life expectancy in Europe". *Journal of Aging and Health*. 2016; 28 (7): 1194–1213.
- Milovidov, A. S. *Years of life and years of work*. Moscow: Finance and Statistics. 1983.
- Mrozek, J. and Taylor, L. "What Determines the Value of Life? A Meta-Analysis". *Journal of Policy Analysis and Management*, Vol: 21, num 2 (2001): 253-270.



Murphy, K. and Topel R. "The Value of Health and Longevity". *Journal of Political Economy*, Vol: 114 num 5 (2006): 871—904.

Ottinger, R.; Wooley, D. R.; Robinson, N. A. et al. *Environmental Costs of Electricity*. New York, London, Rom: Oceana Publications. 1990.

Porfiriev, B. N. "Ekonomicheskaya assessment of human losses as a result of emergency situations". *Questions of economy*, num 1 (2013): 48—68.

Revutsky, L. D. "Human capital of an enterprise: how to evaluate it". *Man and Labor*, num 7 (2010): 45 - 47.

Reynolds, D. J. "The Cost of Road Accidents". *Journal of the Royal Statistical Society* (1956).

Trunov, I. L.; Aivar, L.K. and Kharisov, G.Kh. "Equivalent to the cost of human life". *Representative power*, num 3 (69) (2006): 24 - 29.

Trunov, I. L. and Vostrosablin A. A. "The economic equivalent of human life". *Bulletin of the Russian Academy of Natural Sciences*, num 4 (2004).

Ulumbekova, G. E. *Health of Russia. What should be done: scientific justification of the Strategy for the Development of Health Care in the Russian Federation until 2020*. Moscow: GEOTAR-Media. 2010.

Urlanis, B. T. *Problems of the dynamics of the population of the USSR*. Moscow: Nauka Publishers. 1974.

Viscusi, K. "The Value of Life: Estimates with Risks by Occupation and Industry". *Economic Inquiry*, Vol: 42 num 1 (2004) 29—48.

Viscusi, K. and Aldy, J. "The Value of a Statistical Lifetime Review of the World of Estimates Throughout the World". *Journal of Risk And Uncertainty*, Vol: 27 num 1 (2003): 5—76.

World Values Survey Data analysis tool. Retrieved 12.27.2018 from: <http://www.worldvaluessurvey.org/WVSONline.jsp>.

World Bank Databases. Retrieved 12.27.2018 from: <http://data.worldbank.org/>.

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