IRSTI 06.52.13 https://doi.org/10.26577/CAJSH.2020.v6.i4.02

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INDICATORS OF ECONOMIC EFFICIENCY OF INNOVATIVE MANAGEMENT IN HEALTHCARE

Today, growing costs is one of the major problems limiting population's access to medical care. This problem is also reflected in many countries around the world. The objective reasons for the increase in health care costs are: the expansion and emergence of improved methods of diagnosis and treatment, the growth of health-related needs and care, and the process of population aging.

Under the influence of this trend, health care in the world is working to maximize the use of limited budget funds, develop and implement cost control methods in order to reduce current costs.

In order to solve this problem, in the 1980-90 years, health care began to talk about medical care, its convenience and effectiveness. A prerequisite for ensuring a decent level of quality in providing health care is implementation of policy methods for the assessment of medical technologies in everyday clinical practice.

Measuring cost-effectiveness in health care is quite hard, due to the lack of universal evaluation methods. Nevertheless, a certain methods were developed to determine economic efficiency. The scientific article examines and systematizes the methods for assessing the effectiveness in the system of innovative management in the industry, adopted in foreign and domestic practice.

Key words: innovative management, management, social sector, scientific potential, efficiency, globalization, scientific and technological progress, new technologies.

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Денсаулық сақтаудағы инновациялық басқарудың экономикалық тиімділігінің көрсеткіштері

Бүгінгі таңда медициналық көмектің халыққа қолжетімді болуына кедергісін тудыратын мәселенің бірі – күнделікті шығыстардың өсуі болып табылады. Аталған мәселе әлемнің көптеген елдерінде де көрініс табуда. Денсаулық сақтауда шығындардың өсуінің объективті себептері ретінде: диагностика мен емдеу әдістерінің кеңеюі және жетілдірілген әдістерінің пайда болуы, халықтың денсаулық сақтау саласына байланысты қажеттіліктерінің және күтімінің өсуі, халықтың қартаю процесі болып табылады. Аталған тенденцияның әсерінен әлем елдерінің денсаулық сақтау саласы шектеулі бюджет ақша-қаражаттарын максимальді тиімді жұмсауға, ағымдағы шығындарды төмендету мақсатында шығындарды бақылау әдістерін дайындап, оны енгізуге жұмыс жасауда. Осы мәселені шешу мақсатында 1980-90 жылдары денсаулық сақтау саласында медициналық көмек және оның қолайлы болуы мен тиімді болуы туралы айтыла бастады. Медициналық қызмет көрсетуде сапаның лайықты деңгейін қамтамасыз етудің алғышарты – күнделікті клиникалық тәжірибеге медициналық технологияларды бағалаудың саясат әдістерін енгізу болып табылатындығын ерекше атап өтеді. Денсаулық сақтау саласындағы экономикалық тиімділікті өлшеу жалпыға бірдей бағалау әдістерінің болмауына байланысты өте қиындатылған. Соған қарамастан қазіргі таңда экономикалық тиімділікті анықтайтын бірқатар әдістер енгізілген. Ғылыми мақалада шетелдік және отандық тәжірибеде қабылданған өндірістегі инновациялық менеджмент жүйесіндегі тиімділікті бағалау әдістері зерттеліп, жүйеленген.

Түйін сөздер: инновациялық менеджмент, менеджмент, әлеуметтік сектор, ғылыми әлеует, тиімділік, жаһандану, ғылыми-техникалық үдеріс, жаңа технологиялар.

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Показатели экономической эффективности инновационного менеджмента в здравоохранении

На сегодняшний день одной из проблем, препятствующих доступности медицинской помощи населению, является рост ежедневных расходов. Данная проблема находит отражение и во многих странах мира. В качестве объективных причин роста затрат в здравоохранении выступают: расширение и появление усовершенствованных методов диагностики и лечения, рост потребностей и ухода населения, связанных с здравоохранением, процесс старения населения. Под влиянием данной тенденции здравоохранение стран мира работает над тем, чтобы максимально эффективно расходовать ограниченные бюджетные средства, разрабатывать и внедрять методы контроля затрат с целью снижения текущих затрат. С целью решения этой проблемы в 1980-90 гг. в здравоохранении стали говорить о медицинской помощи, ее удобстве и эффективности. Необходимым условием для обеспечения достойного уровня качества предоставления медицинской помощи является внедрение методов политики по оценке медицинских технологий в повседневную клиническую практику. Измерение экономической эффективности в здравоохранении крайне затруднено по причине отсутствия общепринятых универсальных методов оценки. Тем не менее, в настоящее время выработаны методы по определению экономической эффективности. В научной статье рассмотрены и систематизированы методики оценки эффективности в системе инновационного управления в отрасли, принятые в зарубежной и отечественной практике.

Ключевые слова: инновационное управление, менеджмент, социальный сектор, научный потенциал, эффективность, глобализация, научно-технический прогресс, новые технологии.

Introduction

In the health sector, health care quality is one of key indicators of a country's social progress.

The first President of Kazakhstan N.A. Nazarbayev pays constant attention to the improvement of national medicine. And the implementation of the industry modernization program is an innovation or an attempt at widespread implementation.

Healthcare must constantly meet growing requirements, meet new innovative standards, which is repeatedly emphasized by the First President of our country (Innovations in Healthcare, 2017).

The report "Kazakhstani way – 2050: Common goal, common interests, common future" in the state importance of the report The First President of Kazakhstan N.A. Nazarbayev also emphasized that Kazakhstan in its development should keep up with global economic trends, "it is important to strengthen innovative industrialization trends to ensure nation's sustainable development on the basis of a knowledge-based economy" (The Address of the Head of State (2014)).

In foreign scientific research, in particular, the Global Innovation Economy Survey conducted by Cornell University, INSEAD and WIPO (2017), it was mentioned that the main areas where innovation is generated in the world are information technology and healthcare. Switzerland is an example of where pharmaceuticals ranks 7th among other countries in innovation. In comparison with a European country, Kazakhstan ranks 78th (according to national official statistics, the manufacturing industry is the most innovative area in Kazakhstan).

In the context globalization's scientific and technological progress, world's countries' development is directly related to transition to innovative economy. Such transition is determined by international integration in the scientific and industrial spheres, technological progress and the intensive implementation of R&D. This type of economic development is used in many countries around the world and is often actively developed in developed countries.

Economic development of this type is due to the innovative and technological factor: GDP growth is provided from 75% to 90%, which allows States to strengthen their competitive positions in the world markets of highly scientific products, and successfully solve socio-economic problems of society.

With this type, more than 90% of the world's scientific potential is concentrated in developed countries and 80% of the world's high-tech market is under control.

Annually, the volume of exports of high technology products, for example, in developed countries, the United States also receives $ 700 billion from technology exports, Germany – $ 530 billion, and Japan – $ 400 billion. (Bezdudny F.F., 1998; Lenchuk E.B., 2009).

The introduction of innovations is the main method and condition for increasing the competitiveness of enterprises, maintaining high rates of development and the level of their profitability. However, one should not forget that only under the condition of effective use and creation of a favorable environment for the introduction of innovations, innovative progress in society can be ensured.

Literature review. Number of international and Kazakhstan's economists made a significant contribution to the theory and practice of innovative development and management. However, for the effective applied functioning of innovative business, the current state of the domestic economy requires detailed specification of the main elements of innovative development and management (Kusmoldayeva Zh.N. et al., 2017).

The works of many foreign and domestic scientists and economists are devoted to the issues of innovative development. Among foreign researchers, the works of Schumpeter J., Santo B., Zavalin P.N. should be noted. Fatkhutdinova R.A., Trifilova A.A., Guseva A.F., Kazakova P.A. and others (Schumpeter YA, 2007; Santo B., 1990; Zavalin P.N. et al., 2014; Fatkhutdinov R.A., 2008; Gusev A.F. et al., 2012; Kazakov P.A. et al., 2012).

The research of Kazakh scientists-economists is related to difficulties of innovative development, among which are the works of Kupeshova S.T., Mutanov G.M., Mukhtarova K.S., Romanyuk A., Sabden O., Sadvakasova T., Spanov M.U., Sypabekova S.Zh. and others (Mutanov G.M., 2012 ;, Mutanov G.M., 2014; Mukhtarova K.S. et al., 2016; Romanyuk A., 2017, Sabden O., 2009), Sadvakasov T., 2017), Spanov M.U., Kusmoldaeva Zh.N., 2018; Sypabekov S.Zh. and others. 2015 and others).

In the listed works of practicing scientists, innovations are studied in various industries, enterprises, regions and in the country as a whole. However, in the healthcare system, a sufficient amount of research has not been related to difficulties of innovative development, especially in the economic context, scientific and methodological studies on the economic efficiency of innovative management are poorly presented, only fragmentary works and inventions are devoted to this topic.

Materials and Methods. The scientific article is based on the use of scientific-theoretical, informational material, including the works of foreign and Kazakhstani scientists-experts, as well as tools of cluster and regression analysis.

As an information base, the article used the materials of official national statistics, methodological materials of international scientific and practical conferences and seminars on the topic of research, industry methodological materials and other information retrieval systems posted on the global Internet.

In the course of the scientific research, scientific methods of comparative analysis, economic assessment, generalization, deduction and causation, forecasting, systemic and logical analysis were applied on statistics that determine the order and position development of healthcare in Kazakhstan.

The study is based mainly on the scientific theories of domestic and foreign authors on the methodology of increasing the efficiency of innovation at the micro– and meso-levels. The article covers such aspects as: topical areas of innovation; questions of innovation management effectiveness in the field of medicine; based on comparative analysis, the factors of innovative management in healthcare; the main factors in the innovation management system in the social sphere (health care), which facilitated identification of the quality aspects of innovation management in the industry and more.

Subject to the active introduction of innovative technologies in the social sector (health care), the authors tried to provide a generalized assessment and an effective model of innovative management in health care our country.

Results and discussion. According to a foreign expert, the assessment of effectiveness in health care comes down to the fact that it is the health of the consumer – the patient, which is a measure of the effectiveness of health care ... and such a measure should be the degree of improvement in public health and patient satisfaction, respectively (Danishevsky K. D ., 2015:14).

Efficiency in general is understood as the degree of achievement of the planned effect. An effect is understood as a specific end result efficiency that contributes to the country's development in the following sectors: social, medical and economic.

Effectiveness in the social sphere is determined by the achievement of goals set in the direction of improving demographic indicators. Indicators of social efficiency in the health sector are defined as indicators of average life expectancy, birth rate, mortality, natural population growth, etc. Social health outcomes largely depend on changes in the socio-economic situation within the state.

Effectiveness in the medical field is determined by the level of achievement of goals in the field of prevention, diagnosis and treatment of diseases.

The medical effect (result) of healthcare can be expressed by various statistical indicators that determine the level and trends of morbidity, the number of sick and healthy people, indicators characterizing medical care quality etc.

Economic efficiency in health care is characterized by the degree to which positive financial results are achieved due to improved health of the population. The economic effect (result) can be measured in national production losses due to such indicators as premature mortality rate increase; number of lives saved at working age; the level and dynamics of disability; the cost of eliminating or reducing certain diseases; timeliness of the use of material resources and the results obtained, and others.

The features of economic analysis existing in health care boil down to the following. Thus, the analysis of economic efficiency in health care corresponds to the concept of a methodology that makes it possible to estimate the cost of one unit of health obtained by one method or another, for example, by obtaining a certain amount of investment in the technology of health production.

Economic efficiency analysis requires solving two problems – measuring efficiency and costs. Each of the dimensions has its own characteristics and can be problematic, for example, when changes occur difficulties may arise due to the contradictions of the following features:

– namely, it is very difficult to calculate pain or life;

– how to measure and calculate the expenses of patients (for example, transportation costs), the time spent for treatment, and whether to include these expenses;

– what to do if a person's investment in a vaccine against the virus is required at a given time, and the result of prevention will be only in decades;

– whether to calculate marginal or average costs: such as, if a person is vitally needed to perform a single emergency surgical intervention and its cost expression may be much higher than when the operation was "put on the waiting list".

More correctly, expense calculation, and therefore obtaining economic benefits, is far from an easy task.

Therefore, the concept of economic assessment of health technologies is often used as synonyms for assessing economic efficiency.

Currently, there are methods and methods for calculating economic analysis in healthcare on the market, which includes measures such as minimizing costs; comparing costs and benefits; comparing costs with efficiency and benefits (see figure 1):

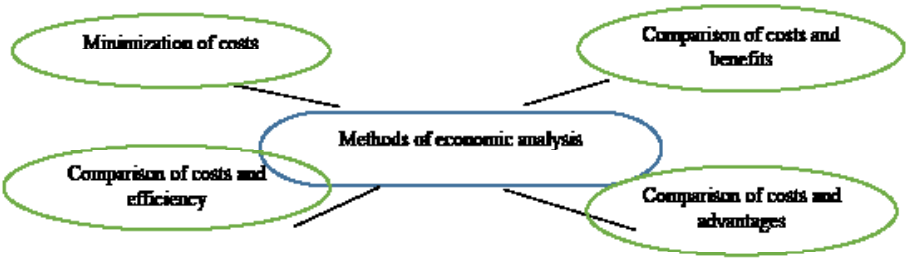

Figure 1 - Methods of economic analysis in health care *
* Note: made by author based on (Danishevsky K. D., 2015:15).

According to Figure 1 in the presence of many methods, there is a lack of one – universal.

Cost minimization (or cost estimation) can be used in cases when comparable technologies impose same influence on health without differences worth to statistically evaluate in their clinical effectiveness when costs of treatment and prevention compared. Because of different effectiveness this special methods frequently utilized by private entities. An example would be an estimate of the cost of a nursing home care service for the elderly and disabled, which shows a decrease in the comparative cost benefit of outpatient care as the severity of the patient's disability increases.

Cost-benefits and investments are expressed in monetary terms: costs are compared with savings. This method mostly used for evaluation of prevention programs in which evaluation of treatment effects may vary from paying no attention unto them to giving financial equivalent to life, health & pain. Widely known case is vaccine effectiveness studies.

Cost effectiveness or effective-cost evaluation methods allow separate cost of single health unit, single result such as death or disability prevented, prevented disease or disease complication, extra year of life. This method requires common result for alternatives and highly accurate evaluation of clinical effectiveness. Disadvantage of this method is impossibility of its application to comparison of technologies with no common result (such as blindness or death prevention). More important

problem limiting its implementation is the fact that most of diseases lead to multiple outcomes.

The method of cost – utility (benefit) is the most complex of the methods, the method differs in that it evaluates the value of a unit as the year of "quality" of life. An example of this method is the unit DALY (disability adjusted life year), which is determined by the disability of one year of life, with the treating nature of the disease. When measuring this unit: loss of n-the number of years of life due to disability, social preferences at different ages, and years that have passed through disability. The next unit of measurement is YHL (year of healthy life) – the year of life without defects and QALY (quality adjusted life year) – the year of a person's life with recovery (correction) for quality. Thus, the following functions are taken into account when calculating QALY. Among them: quality of life, mobility (the ability of a person to walk independently without assistance), fear, pain, manifestation of the soul (anxiety and depression), self-care, performance.

The effect of the intervention allows you to calculate the number of years of life added over a given amount; and for health deviations, a coefficient is determined from 0 to 1. People who had some health problems have a lower weight compared to those who did not have health problems in the study under the normal cost – benefit method (Danishevsky K.D, 2015: 17, 18).

According to the authors of the article, determining the effectiveness of the functioning of the order in the health care system is as follows associated with two main indicators. The first is the result orachievements in improving the health of citizens and the associated adequate level of financial(material) support. The second is effectiveness or efficiency, which is related to the achievementof improved medical outcomes that can be achieved with the same resources.

In this instance, it is necessary to take into account the44 attendance of two factors:

– the 1st factor of an objective nature, which medicine is not able to influence, or for which it cannot be responsible (for example, ecology, economic disasters, distribution total profit and income of citizens, etc.);

– the 2nd factor of a subjective nature, factors that characterize the effectiveness (efficiency) of the health care system (for example, the level and causes of death that could have been avoided – epidemic, congenital diseases, negligent or poor-quality medical assistance, etc.).

Weaknesses of economic analysis methods are shortcomings in the methodology, ethical and cultural barriers, even obstacles to talk about financial resources in health care organizations or give a negative statement to patients in need of medical care, which leads to the death of people in need, who could be given a helping hand, which would be allowed to invest money more advisable.

As we mentioned, if the economic analysis of efficiency is followed, it is not possible to determine a specific objective assessment of reliability from the results obtained from the analysis. In order to perform this examination, a sensitivity analysis is performed, but a special factor is the inclusion of different fluctuations in the initial parameters in the formula. For example, the prevalence of diseases, its cost of treatment, and of course the effectiveness of this treatment.

In this case, it will be appropriate to apply a correlation analysis, in which it is necessary to include the following indicators, such as the prevalence of the disease, its cost expression and the effectiveness of treatment of the disease. Correlation sensitivity analysis will allow you to get a realistic latitude (range), in which a realistic picture and an indicator of economic efficiency can be (Danishevsky K.D, 2015: 18).

Calculating and measuring results in the health sector is extremely difficult, since there are no universally accepted methods of evaluation. One way or another, a number of methods are currently being used to address the economic effectiveness of health sector activities. In foreign and domestic practice, other methods of evaluating effectiveness in the concept of advanced management in this industry are also adopted:

1) methods for measuring the economic performance of the health sector based on the calculation of the indirect economic effect, determined by the amount of prevented economic damage. The latter is due to a decrease in costs such as medical care, a decrease in the number of premature deaths, social insurance payments – payment of sick leave certificates, the number of working days, payment of pensions, etc. (Sorokina S.E, 2005: 3).

2) Calculating the cost-effectiveness of reducing the number of infectious and non-communicable diseases;

3) Calculation of the economic efficiency of the decline in the time period of workers ' inactivity in enterprises of the national economy;

4) Calculation of the economic result from the decline in disability (disability), as well as untimely death of a person;

5) Analysis of the economic result of saving and protecting life;

6) Calculation of the economic result of expenses: for research and scientific activities, medical (medical) and General health measures;

7) Analysis of the economic damage caused by incomplete use of medical beds;

8) Calculation of conditional savings in public finances as a result of reducing the period of treatment of diseases.

The difficulty and problem of calculating the economic efficiency of medical care and services provided is due to the complexity of calculating the cost of human life and harm to health, because when a patient dies, it concerns the emotional feelings and aspects of the treating patient and the lives of relatives, as well as their adaptation to this case (Sorokina S.E, 2005: 3).

Despite the inestimability of human life from the point of view of moral and ethical nature, in calculating the economic efficiency and effectiveness of health care as a system that regenerates and renews labor resources, it is necessary to develop economic characteristics and criteria for the cost of restoring health loss and evaluating the value of saved human life.

To date, these calculations and calculations are now carried out in such systems as: insurance and in court, while implementing measures to ensure the safety of the people in extremely dangerous situations.

Because understanding the cost of insurance (actual, objective) as for the life of humanity does not consist of semantic content inherent in different methods of determining the equivalent of a person's life in terms of money.

Individual's life cost made up from nation's life standards and country's social security spending. Human life value indicates characteristics of political system and economic development, legislation quality guaranteeing social security. You need to recognize this reality, in developed countries, medical care is more expensive.

We reviewed foreign experience in calculating and calculating the cost of living. For example, in a developed country like the United Kingdom, life damage compensation reaches 1.5 million pounds. In US Department of Transportation, estimated human life cost 3 million dollars during of transportation security calculations. Russian Air code establishes insurance cost for 2 million rubles (Rossiyskaya biznes-gazeta, 2009).

Life cost calculation is based on annual median gross income ratio to median death probability (Boyarintsev B.I., 2001) which in Russia is equal to 84 thousand US dollars in 2003, 453 thousand dollars in 2008, 2009-367 thousand US dollars. Also, this level depends on calculation methods, age, social status and profession.

A number of methods assess the lost income, while the equivalent of the cost of a person's life is his earnings for 5-10-15 years or 60-1000 times the minimum wage (Resolution of the Supreme Council of the Russian Federation, 1992; RF Law, 1996; RF Law, 1995; RF Law, 1993; RF Law, 1994; RF Law, 1995; RF Law, 1998; RF Law, 1997).

In countries such as the United States and great Britain, in the 50s and 60s of the twentieth century, the courts of these countries obliged employers and carriers of passengers to pay a person who died as a result of an accident or accident, an amount exceeding 6 times the salary received by this employee throughout his life (Harisov G.Kh., 1998).

In order to calculate the economic result of the health sector, the most appropriate method is to calculate the prevented loss and damage to the national economy from injuries (death) of people, i.e. the economic result from saving human health and life. Based on this method, the cost of life is determined equally by the economic loss and harm from injury or death of people, so the economic effect is equal to the prevented damage in the circumstances of the death of people.

The concept of universal methods for calculating economic losses from death or injury of people is based on the calculation of a person's contribution to social funds, taking into account society's expenditures on it. Thus, in Russia, the loss to the national economy from the death of a person is from 12 to about 391 thousand us dollars (Trunov I.L. etc., 2004). If we rely on classical methods and techniques, whereupon (Temporary guidelines, 1982) approaches to calculating losses in a broad sense can be divided into пeneral ones, where the loss is calculated using the example of averaged materials and information by country and industry; and also according to the second method (Methodology for determining economic loss, 1978) – based on the calculation of certain components of damage and loss.

In addition to the methods of measuring the cost of human life mentioned above, there are various other methods:

1) compensation of compensation funds to relatives based on a court decision;

2) monetary amounts for individual insurance cases;

3) the monetary amount of measures for the monetary funds necessary for the preservation of human life (Trunov I.L. etc., 2004).

In the field of neonatology, a method of measuring the amount of funds allocated by the state at the birth of a child can be used. In this case, the funds provided for the benefit and the income not received by the state are evaluated.

This method is used to calculate only state expenses related to pregnancy, childbirth and the birth

of a healthy child, but the peculiarity of this method is that sometimes gestational pressure complications are not taken into account during pregnancy or childbirth, as well as the cost of high-tech and innovative technological equipment necessary for a newborn and reproduction technology (IVF) (Sorokina S. E., 2005: 3).

In addition, many universal methods do not consider the moral damage of a person, it should be noted that these methods of calculation are more difficult (Erdelevsky A. M., 1998). Coverage changes cost-of-living, calculated in different ways, in Russia was 130 thousand US dollars to about 397,1 thousand US dollars. The United States, other foreign States – from 800 thousand US dollars to 9 million. US dollars , often the valuation of life, is equal to 250 thousand dollars US or 300 thousand US dollars (Trunov I.L. etc., 2004; Henley E.J. etc. 1984).

According to the Russian scientist, when measuring economic efficiency in the field of health care, it will be necessary to calculate how the industry as a whole is related to the preservation and restoration of labor resources within the state. As the basic equivalent of the cost of living for economic calculations, it is also possible to use a value of 250-300 thousand US dollars (Trunov I.L., 2004). With this approach, it is possible to apply the concepts of economic efficiency both to individual (new – author's note) technologies, and to the assessment of the health care system as a whole.

Only the use of economic calculations based on the assessment of the cost of life saved and restored health will allow health care to be considered not a costly sector of the national economy, but a profitable, economically efficient and thus take its rightful place (Sorokina S.E, 2005: 4)

The above considered various approaches and methods of increasing the efficiency of innovative management of the industry allowed the authors of the scientific study in a generalized form to include the analyzed results, which are included in the following table (see table 1):

Table 1 - Methods for assessing efficiency in the system of innovative management in healthcare*

Efficiency methods in the system of innovative management in healthcare	
Names	Values
1	2
Health technology assessments	There is a huge variety of technologies used in real Life, which include a large number of medications and surgical operations. Examples include the use of vitamin C as a prevention of colds that occur in normal daily life, or the use of various medications used to improve blood circulation in the brain
Cost minimization (or cost estimation)	This method compares the cost of treatment regimens, prevention programs, treatment and prevention programs, etc.
Cost-benefit assessment method	Comparison of costs with savings is made; costs-benefits, investments and outcomes are expressed in monetary terms
Calculation of the «cost – effectiveness» estimation method	The issued method requires the presence of a whole general solution for alternatives, as well as high purity and accuracy of the assessment of general clinical effectiveness.
Cost-benefit assessment method (benefit)	This method estimates the cost of such a unit as a year of a conditionally healthy, «quality» life.
Methodology for assessing the prevented economic damage	It is formed by reducing cost structure of medical care; reduction of social insurance payments (payment of certificates of incapacity for work, the number of working days, payment of pensions, etc.); decrease in premature deaths (number of employees)
Method for calculating the analog of human existence (*or cost expression*)	This method is an integral indicator that measures the quality of life within the state, and includes the cost of spending money necessary to ensure the security of the population of the state.
Method for calculating the economic efficiency of health care performance	The cost of health care treatment will be related to the calculation of the difference between saving lives and people's health.
Method of economic evaluation of health care performance	Measured as the ratio of the economic effect of treatment to the cost of health care costs
* Note: compiled by the author	

Thus, to improve the economic approaches of the state to the development and financing of health care, to increase its positive impact on the state and development of the country's demographic and

labor resources, it is necessary to further improve the calculations of economic efficiency in the health care system as an important social sphere of society as a whole and human life in particular.

Conclusion. In a scientific study, the authors came to the following conclusions:

1. Determination of the effectiveness of the functioning the system we are investigating belongs to authors of the scientific article, is associated with two main indicators. The first is the result or achievements in improving the health of citizens and the associated adequate level of financial (material) support. The second is effectiveness or efficiency, which is related to the achievement of improved medical outcomes that can be achieved with the same resources.

2. In this instance, it is necessary to take into account the fact of existence factors of an objective nature (which medicine is not able to influence or for which it is impossible to bear responsibility); and subjective factors (which characterize performance – the effectiveness of the health care system). At the same time, objective factors include ecology, economic disasters, distribution total profit and income of citizens, etc., and subjective factors include the level and causes of mortality that could have been avoided (for example, an epidemic, congenital diseases, negligent or poor-quality medical care, etc.).

3. There are features of economic analysis in health care, which boil down to the difficulties of finding a universal methodology for management efficiency in the health care system.

The authors of the study made an attempt to systematize various methods for measuring the effectiveness of health care, among which were noted such as assessing health technologies, minimizing or assessing costs, methods for assessing cost-benefit, cost-effectiveness, cost-utility, prevented economic damage, economic the effect of the health service, the economic efficiency of the industry, the method for determining the equivalent cost of human life, etc.

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