

Effective Model of Public Health Formation

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Abstract

The article considers the demographic and epidemiological grounds for evolutionary transition from the economics of medical care to the public health economics; the methodology for the formation of an effective strategy of public health promotion in Russia; the modern concepts of the economy of public health; and data, calculated on this basis, such as the Human Capital Development Index, Human Development Index and the ratings of the Russian Federation in these international indices. The analysis of models of public health and the most important factors, determining the health of population (lifestyle, heredity, ecology, medicine) were presented. Also, the most significant risk factors of mortality of the Russian Federation population were considered, among which the behavioral risk factors, associated with the way of life of population, were defined. On this basis, the strategy for reduction of behavioral risk factors and for promotion of healthy lifestyle of population was formulated. The analysis of the features of State Program of the Russian Federation "Health Development" for 2013-2020, and the new program, having the same name, was carried out. These programs are connected with the development of prevention and the formation of healthy lifestyle of population (HLS) in the country. In addition, the regional targeted programs for the prevention of diseases, the formation of healthy lifestyle, and their social results were studied. The effectiveness of a comprehensive intersectoral approach to the formation of healthy lifestyle of population in the regions of Russia in modern conditions was substantiated.

Keywords: Public health economics; Theory of human capital; Concept of human development; Models of public health; Risk factors; Healthy lifestyle; Government programs; Integrated intersectoral approach.



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1. Introduction

The basis for the formation of an effective public health strategy in modern Russia is an evolutionary transition from the traditional concept of healthcare economics (medical care) to public health economics. It reflects an integrated approach to the problem of rational distribution of limited economic resources in priority areas, in order to improve the health of our population, in the conditions of demographic aging and leading role of chronic noncommunicable diseases (NCD) in the structure of disablement and mortality of citizens of the Russian Federation. This transition is due to a significant increase in the need for medical care among the elderly population, an increase in the total costs of treatment and social services for elderly population and people with disabilities in the context of limited resources of the country's budget system, and real incomes of the majority of population. Reduction of medical care availability in these conditions can lead to the increase in morbidity, disability and mortality of population. This requires the transition to public health economy, which allows to define the most important factors of risk and promotion of public health, ensuring the reduction of total costs of treatment, social maintenance and rehabilitation of NCD patients, social services and pensions for disabled people, economic losses as a result of premature mortality, invalidity and temporary disablement of population (Galli *et al.*, 2013).

2. Methodology

The following general scientific and special research methods were used in the work: systemic and interdisciplinary approaches, normative and positive analysis, intercountry comparisons, statistical analysis, strategic and program-target approaches, retrospective analysis, analysis of international indices and ratings of human capital development, human development, factor analysis (Benería *et al.*, 2015).

3. Results and Discussion

The theory of human capital, which includes the concept of health capital, reflects the approach to the public health economy from the standpoint of improvement the quality of national human capital, as the most important factor in socio-economic development and competitiveness of the modern national economy. It plays a leading role in the structure of the national capital of the Russian Federation and especially developed countries.

According to the Russian Federal State Statistics Service, 26.5% of all deaths among the population of the Russian Federation accrue to the people under the age of 60; 37.7% of male population dies before the age of 60. The current situation, existing in the conditions of decline of able-bodied population due to demographic reasons, determines the need to implement a system of preventive, curative and rehabilitation measures at all levels of state and municipal management, based on intersectoral interaction and social partnership, in order to preserve and develop the capital of health of working citizens and potential labor resources of the Russian Federation, in the context of increasing international competition in global markets.

In the framework of the World Economic Forum, the international rating of countries, according to the Human Capital Index 2015, was presented, covering 124 national economies.

When determining the place of various countries in this rating, 4 groups of indicators were used (total - 46):

- “- education and training;
- health, physical and psychological well-being;
- employment;
- infrastructure, legal protection, social mobility”.

The leader among the participating countries in terms of human capital development in 2015 became Finland, which took leading positions, according to all its main indicators. Also, Norway, Switzerland, Canada, Japan, Sweden, Denmark, the Netherlands, New Zealand and Belgium are in the TOP-10 of participating countries.

Russia in this rating took 26th place, rising by 25 points, compared with the previous rating of 2013. The strongest positions of the Russian Federation are connected with high availability of basic levels of education at any age: primary, secondary and higher. At the same time, the Russian Federation lags behind the countries with a comparable level of economic development in a number of other indicators, in particular, in the quality of medical care and the duration of healthy life of population ([Human Capital Report, 2015](#)).

In the global Human Capital Index 2017, Russia ranked 16th place ahead of Japan, the Republic of Korea, Israel, France and the United Kingdom, as well as most countries of the former Soviet republics, except Estonia. It should be noted, that in the latest rating of Human Capital, the indicators of health capital were practically not taken into account, except for the expected healthy life expectancy, which was 63.4 years in the Russian Federation ([Carley and Spapens, 2017](#)).

The modern models of public health allow to identify the most important socio-economic, natural, biological and medical factors, determining the level of public health, and to give an approximate assessment of their contribution. According to available data, the health of Russians is 50-55% dependent on the way of life and standard of living. At the same time, the contribution of the level of healthcare development to maintaining the health of population is estimated at 10–15%, the impact of environmental factors – at 20-25%, and genetic – at 10-15%. In addition, each of the above factors can be as the factor of public health improvement, as the risk factor. For example, healthcare in the conditions of public underfunding leads to the development of paid medicine and reduced availability of therapeutic and preventive care for the population, becoming a risk factor.

Defining the most important risk factors and determining their degree of influence on the main indicators of public health losses are the key tasks of the public health economy. This allows to form an effective comprehensive strategy and programs for the reduction of impact of the main risk factors on life and health of population in the country, due to the distribution of limited economic resources in the priority areas of nation health improvement.

The main risk factors, which have the most significant contribution to the overall mortality of Russian population (mainly from chronic non-communicable diseases and external causes) are the following: arterial hypertension (35.5%), high cholesterol in the blood (23%), smoking (17.1%), insufficient consumption of fruits and vegetables (12.9%), obesity (12.5%), excessive alcohol consumption (11.9%), low physical activity (9%). At the same time, the leading role of risk factors, associated with the way of life and standard of living of population in the Russian Federation, is recognized ([Dumit, 2008](#)).

The State Program of the Russian Federation “Healthcare Development” for 2013–2020 presents an integrated approach to systematization of the main risk factors and reduction of their prevalence among the population of the Russian Federation, using the methods of social and medical prevention, the formation of a healthy lifestyle (HLS) of citizens ([Cardis et al., 2006](#)).

Since 2018 the State Program of the Russian Federation "Healthcare Development" was decided to be transferred to project management with the implementation of its activities in 2018-2025. Resolution of the Government of the Russian Federation dated December 26, 2017, № 1640 “On Approval of the State Program of the Russian Federation “Healthcare Development” entered into force on January 1, 2018. At the same time, the previously operating RF State Program has lost its force ([Order of the Government of the Russian Federation, 2005](#)).

New Program includes 9 areas (sub-programs), the first of which is "The improvement of health care delivery, including the prevention of diseases and the formation of a healthy lifestyle".

Within the framework of the 1st direction, the Priority Project “Formation of a healthy lifestyle (“Public health promotion”)” is presented, suggesting an increase in the share of citizens of the Russian Federation, committed to healthy lifestyles, up to 50% in 2020 and to 60% in 2025, as a result of formation of their responsible attitude to their health. This project is planned to be implemented during 2017 - 2025.

At the same time, the targeted programs on the formation of foundations of healthy lifestyles among the population in the regions were financed in 60 subjects of the Russian Federation, in the previous years. In crisis conditions, most of them were closed or ended in 2015. Instead, sectorial health development programs are implemented, including sub-programs for the formation of healthy lifestyles, as well as the programs for

development of other social sectors (development of physical training and sports, education, culture, etc.), related to the formation and development of healthy lifestyles. They are designed to be fulfilled until 2020.

In March 2015, the government of the Russian Federation reported on the results of work on the implementation of a set of state policy measures to form a healthy lifestyle of citizens. In particular, according to the report, the number and share of population of the Russian Federation at the age of 15 years and older increased:

- people, who did not drink alcohol (in 2011 - 38.2%, in 2014 - 41.6%),
- non-smokers (in 2011 - 61.8%, in 2014 - 63.5%).

In 2014, 29.3% of population of the Russian Federation was engaged to systematic physical training and sports (in 2012 - 20.6%, in 2013 - 27.5%).

This program-targeted approach showed its results in subsequent years. Thus, the prevalence of consumption of tobacco products among the population over 18 years old, according to the All-Russian Public Opinion Research Center, decreased from 34% in 2015 to 32% in 2016. The volume of consumption of alcoholic beverages per capita decreased from 10.5 to 10.3 liters. The level of public awareness of HIV infection among the total population of the Russian Federation increased from 78% to 81%. The share of population of the Russian Federation, which was systematically engaged in physical training and sports, increased over considered period from 31.9% to 34.2% ([Report of the Government of the Russian Federation, 2015](#)).

According to WHO, in 2016 Russia entered the top ten countries, which in recent years have achieved the greatest progress in combating heart and lung diseases, diabetes. This is also connected with an active policy of forming a healthy lifestyle among the population of the country and its regions in previous years.

According to the report of the Government of the Russian Federation in the State Duma in April 2018, for 6 years from 2012 to 2017, the life expectancy of the population in the Russian Federation increased by 2.5 years and reached almost 73 years. The total mortality per 100 000 population has decreased by 6.8%, the mortality rate of the population at working age - by 15.8%, which reflects the development of human potential and national human capital. The following indicators show the contribution of healthy lifestyle policy to the health promotion of the Russian Federation citizens during 2012-2017. The share of population of the Russian Federation, who is systematically engaged in sports, has increased from 22.5% to 36.8%, including pupils and students - from 47.0% to 76.8%. The prevalence of tobacco consumption among citizens of the Russian Federation decreased from 37.1% to 29.0%. At the same time, the share of male smokers decreased from 60.7% to 45.0%, or by 25.9%, and the share of female smokers decreased from 21.7% to 15.0%, or by 30.9% ([State Program of the Russian Federation, 2014](#)).

4. Summary

Under the current conditions, it is necessary to provide an integrated intersectoral approach to solving the problem of forming a healthy lifestyle in the regions of the Russian Federation, based on the interaction of various branches and sectors, which contribute to the development of a healthy lifestyle of population, including the improvement of environmental conditions of citizens.

This methodology and approach is recommended to be used by WHO, the Ministry of Health of the Russian Federation, the Public Chamber of the Russian Federation and Russian public organizations in the field of public health, in particular, the All-Russian Public Organization "National Health League".

At the same time, it is expedient for the subjects of the Russian Federation to use in the process of development of regional projects for forming a healthy lifestyle, the positive experience of implementation of targeted regional programs for the formation of healthy lifestyle, the development of concepts for the formation a healthy lifestyle of population in the regions, and the roadmaps for their introduction with the creation of inter-agency coordination councils ([Bagautdinova et al., 2014](#)).

5. Conclusions

Thus, the aging of population of the Russian Federation and the success of medicine in combating epidemics and massive infectious diseases, the result of which are a significant increase in the need for medical care and social services for the population, in the conditions of prevalence of chronic noncommunicable diseases and external causes in the structure of mortality and disability of population of the Russian Federation, require an evolutionary transition from the concept of medical care economics to a broader concept of the public health economics. Public health models make it possible to determine the most important factors, determining the potential for public health (lifestyle, heredity, ecology, medicine). In addition, each of these factors can be as a health promotion factor, as a risk factor. The analysis of the most important risk factors of mortality among the population of the Russian Federation showed that significant contribution was made by the behavioral risk factors, associated with the way of life of population. An effective strategy of public health promotion should include a set of measures for reduction of the most important behavioral risk factors, and form the basis and culture of a healthy lifestyle. At the same time, within the framework of new State Program of the Russian Federation "Healthcare Development" (2018-2025), and in the process of realization of priority project "Formation of a healthy lifestyle ("Public health promotion")" the subjects of the Russian Federation need to provide an integrated intersectoral approach to solving the problem of forming a healthy lifestyles of population. When developing regional priority projects for the formation of healthy lifestyles, they can use their experience in the implementation of targeted integrated regional programs for the formation of healthy lifestyles, with the establishment of inter-agency coordination councils ([Elshin, 2017](#)).

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