

UDC 33

## Health Economics

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**Abstract.** The article considers the concept of health as an economic category. The impact of the public health condition on the pace of socio-economic development is studied. The condition of the nation's health is examined. Factors having the impact on health condition are identified and the ways for its improvement are proposed.

**Keywords:** Health economics; public health; health factors; health improvement.

Health has always been a core human value, the basis for harmonious development of personality and the greatest blessing. "Health is a man's best wealth" - said the famous physician of antiquity Hippocrates. And according to the philosopher Arthur Schopenhauer, nine-tenths of our happiness depends on the state of health.

Today, not only doctors and sociologists deal with the health issues, but also economists. Value and importance of health are much bigger than of the usual types of resources such as timber, coal, gas and oil. Not accidentally, many medical institutions have established economic services and introduced a position of a Deputy Head for economics. Eventually we can observe the emergence of a new direction in science – health economics.

**Health economics** considers social (i.e. public health) and individual health as a component of the economic growth, and, hence, sustainable development of the state, which can and shall be managed.

The better is the state of public health, the higher are the rates of socio-economic development. Poor health results in the decrease of production volumes and, given the mass morbidity, production becomes disorganized. The state bears losses in the form of payments for the sick leave, disability pensions and survivors' benefits, as well as for maintaining the nursing homes. It should be noted, that due to the temporary and permanent disabilities (caused by illness, injury or industrial accident) or death of the citizens the amount of gross domestic product reduces.

This fact is demonstrated by the following figures: according to the RAS Institute for Socio-economic development of territories the state loses about 0.3 per cent of GDP due to the temporary disability of population, 0,8 per cent – due to its premature death, 0,04 per cent – due to the non-participation of disabled people in the production process and about 17 per cent – due to the reduction in the worker's life duration. Thereby the losses are significant and urgency of the issue on the population health safeguarding is very high.

Health is one of the most important factors affecting the quality of life. And the quality of life improvement is among the major state targets.

United Nations Development Programme (UNDP), launched in 1990, considers provision of each person with the opportunity to realize their potential and live a healthy, adequate, creative and active life, as the main purpose of economic and social progress. UNDP suggests a method for calculating the "human development index (HDI)", which lately became a synonym for the "quality of life" notion.

It is worth emphasizing, that the UN experts allocate life expectancy, which primarily depends on health, to the first place among the HDI components.

As for Russia, dynamics of the population's life expectancy has increased over the past 20 years, and since 2005 this indicator has grown from 65 to 68.8 years. But still Russia holds only 120th position among 187 countries (Fig. 1) as of 2011. Thus our country lags far behind the leading countries as per the relevant index – for more than 10-12 years.

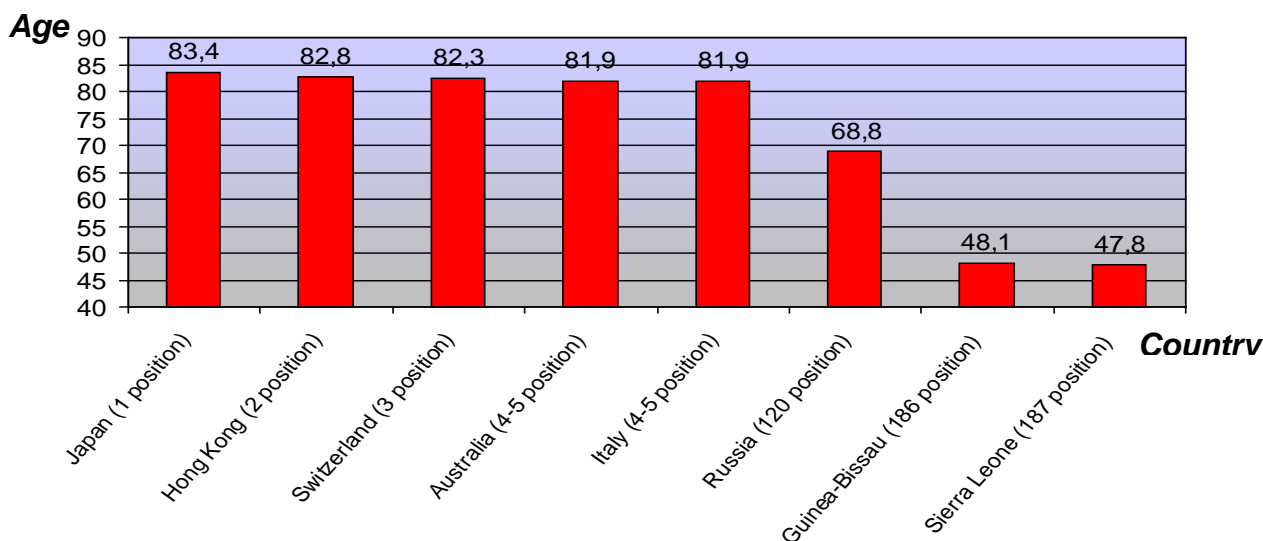
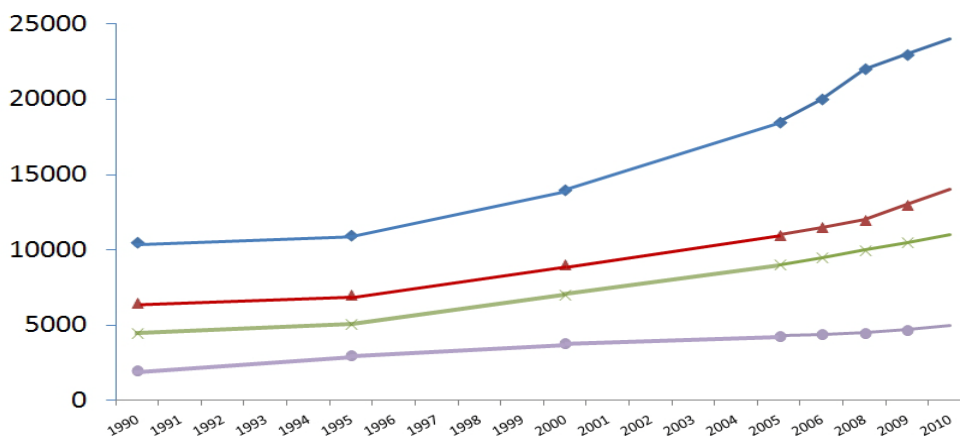


Fig. 1. Life expectancy in the selected countries (according to the Human Development Report of 2011, UNDP)

In 2010 228 million cases of acute and chronic diseases were registered in our country, which is 1.5 times more than in 1990 (Fig. 2). At the same time the number of cases of diseases resulting in death had also increased. For example, the number of cases of the circulatory system diseases increased by 2 times, cancer - by 60%. The frequency of severe diseases of the musculoskeletal system and connective tissues, as well as abnormal pregnancy, complications in childbirth and postpartum has increased. Some improvement in the socio-economic situation has caused an increase in the birth rate and decrease in mortality. However, it should be noted that since the 1980-ies the overall death rate in Russia has increased by 30 per cent.

As a result, since 1990 the population of Russia has decreased overall by 3.6 per cent, in the North West region – by 11.2%, in St. Petersburg – by 2.8%. In Russia able-bodied citizens die four times more often than in the developed countries, and twice more often than in the developing ones.

Thus, the current state of the nation’s health cannot be considered as satisfactory.



1. Diseases of the circulatory system
2. Diseases of the musculoskeletal system
3. Abnormal pregnancy, complications in childbirth and postpartum per 100 thousand women aged 15-49 years
4. Neoplasms/cancer

Fig 2. Dynamics of total morbidity in Russia within 1990-2010 per 100 thousand people (by class of diseases)

In order to identify ways on improving health we need to specify the factors affecting it. In our opinion, those are:

- *economic factor*, associated with human capabilities to create the material basis for their well-being;
- *medical factor*, related to the capabilities for treating people, as well as the possibility of consuming the high-quality food;
- *environmental factor*, associated with the impact of environment on humans;
- *social factor*, determined by the people's potentialities of perceiving themselves as the full-fledged members of society.

Let us consider the above factors in more detail.

#### I. Economic factor.

One of the main problems in modern Russia is a huge gap between the rich and the poor. Low wages of most employees and high unemployment do not facilitate the improvement of population's health. The state has taken steps to improve the welfare of Russians. According to the state statistics, since 2000 there has been a steady decline in the number of persons having the incomes below the subsistence level. In eleven years the number of such people has decreased by almost a half (Fig. 3).

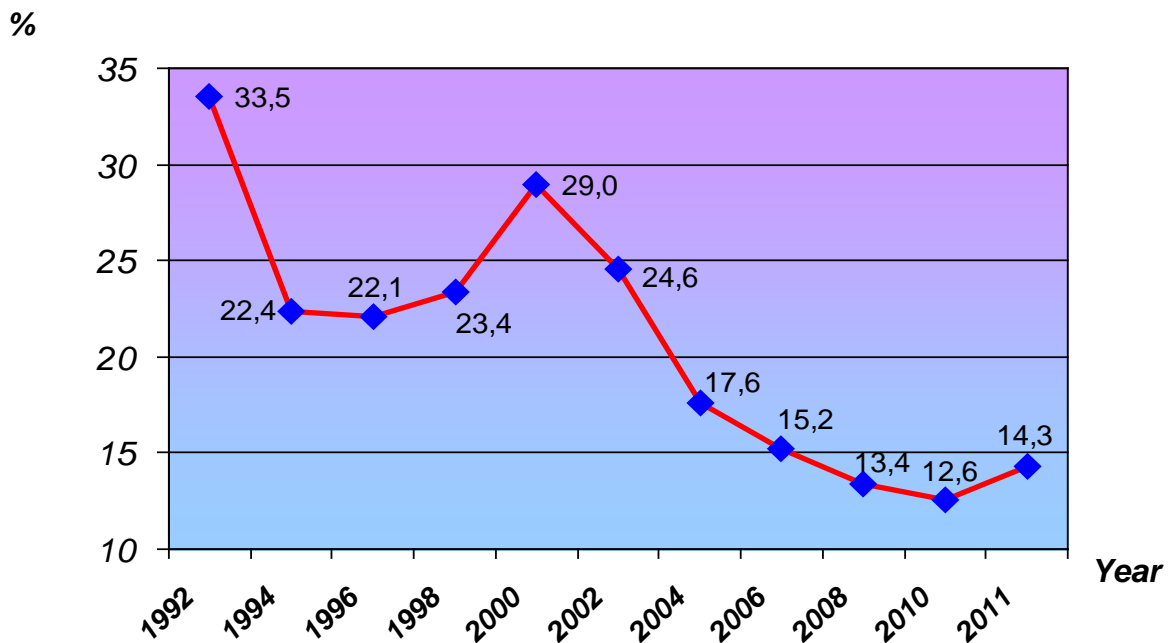


Fig. 3. Russians having incomes below the subsistence minimum (according to the Federal State Statistics Service of Russia)

However, the results of the on-line survey, published in the newspaper "Metro", showed that Russians are spending excessively much on food – half of their personal income, which is more than in any other country (Fig. 4). Consequently, the income of most citizens is insufficient and cannot be spend on the other vital needs.

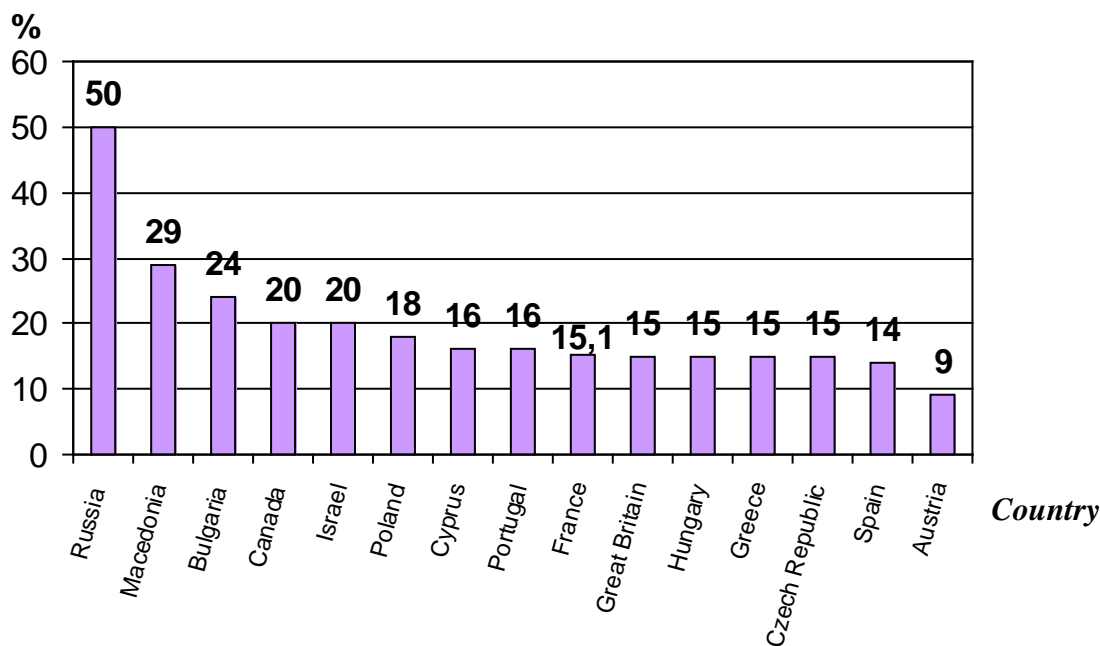


Fig. 4. Spending on food in the world (percentage of personal income, the national average)

It is obvious that under these conditions it's very hard to find the means for investing in one's own health. And we do not mention, for example, the purchase of a swimming-pool or a gym membership card. Due to the lack of income Russians are forced to save their expenses not only on food, but also on medications. According to the results of the survey carried out in the fall of 2010 by the All-Russian Center for the Study of Public Opinion, 58 per cent of respondents confirmed that expenses on pharmaceuticals are burdensome for their budget, while another 19 per cent (almost one in five respondents!) claim that they do not have enough money to buy even the most basic medications (Fig. 5).

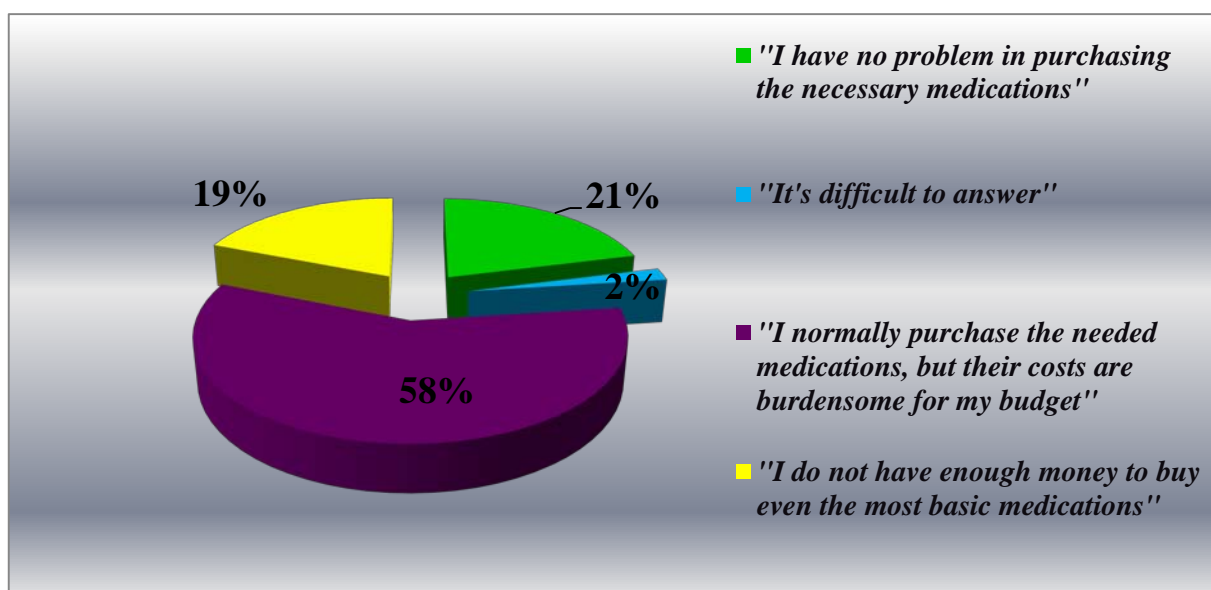


Fig. 5. Survey of the Russian citizens on the advisability of purchasing medications (2010)

The size of the citizens' income is directly related with the improvement of their living conditions, which in its turn impacts the health issues. If we compare some of the Russian cities with the foreign ones, the prices for housing in Russia are much higher, while the wages are much lower.

As a result, Russia is on the 80th place among 200 countries in terms of the housing supply, lagging behind even such countries as the Latin America, Africa and the Middle East countries. In our country we have on an average 21 square meters of housing per person, while in the developed European countries this figure equals to 40-60 square meters per person, and in the U.S. – 70 square meters. And a large number of houses can be hardly considered as such. Thus, a quarter of all housing in Russia has no sewerage or water supply system, and more than the half – no hot-water supply. Another giant problem is the rapid deterioration of the housing stock.

## **II. Medical factor.**

In the recent years the budgetary expenditures for the healthcare system in our country have increased significantly. Thus, according to the Russian Federation Ministry of Finance, almost 930 billion rubles were invested in the implementation of the national project "Health" during the period from 2006 to 2012. Modern medical Centers for cardiovascular disease and cancer treatment were established, and perinatal Centers, as well as the high medical technology Centers, are under construction.

However, state budget expenditures on healthcare amount to only 4.8 per cent of GDP. This is one of the lowest investment indicators in comparison with the developed European countries. Moreover state financing is intended mainly for the improvement of the major cities healthcare systems, while the rural ones are still at a very low development level. This leads to the extreme regional differences. According to the UN Millennium Development Goals Report, maternal and infant mortality in the rural areas around the world is by 40 per cent higher than in the cities. In our country this figure is even higher - 50 per cent.

We should also mention the problems concerning the quality of foodstuffs. And the main hazard here is the food adulteration. Thus, in the course of the food quality and safety monitoring, carried out by the Committee for Economic Development, Industrial Policy and Trade of St. Petersburg Government, various non-conformities to the requirements of the normative documents (regulations) for many food groups were found. For example, approximately 30 per cent of the tested samples of meat, dairy and fish products didn't comply with the requirements.

## **III. Environmental factor.**

Situation in the regard of the environmental protection in our country is alarming. According to the President Vladimir Putin, about 15 percent of the Russian territory is in the critical condition in terms of the environmental indicators. Russian economy is active mainly in the so-called "dirty" industries – metallurgy, oil and gas industry, while the eco-friendly industries, such as electronics, virtually are not being developed.

According to the public surveys, the majority of Russian citizens believe that the environmental conditions in the regions of their habitation have deteriorated in the recent years and are afraid of possible environmental disasters.

One-third of the Russian population lives in areas where there are no effective water-purifying systems; 40 percent of the urban water-supply systems are in the emergency condition. Nevertheless public surveys show that one-third of the population keep on drinking the water taken straight from the tap without filtering or boiling it, and consequently health of 30 million people is under the threat.

Half of the urban population lives in the areas where air pollution level is characterized as high and very high. And over the past ten years in 16 out of 34 Russian cities the air pollution level has increased, which is, first of all, caused by the steady increase in the number of vehicles in the cities. Hundreds of thousands of Russian people live in the sanitary protection zones of industrial enterprises, where the air pollution levels are notably high and according to the Russian laws it's prohibited to live in there.

Soil quality in Russia is also unsatisfactory. In the cities the soil is heavily contaminated with cadmium, arsenic, antimony, radioactive substances. But among the most dangerous contaminants is lead, the main source of which is the exhaust gases produced by vehicles. Lead has the most negative impact on human health: adults suffer from the dysfunction of the reproductive system

and children's mental development slows down, causing mental abnormalities. According to environmentalists, lead contamination covers the whole Russia. However, effective measures on the lead emissions reduction have not yet been developed.

#### IV. Social factor.

Socio-psychological state of the Russian society cannot be considered satisfactory. Russia is one of the most “anxious” countries in the world, along with Sudan, Iraq and Somalia. In today’s Russia population mortality is caused among other by the stress (provoked by the unstable situation in the country), from which dies at 20 times more people than 30 years ago.

At the same time such pernicious habits as drinking alcohol and smoking, which are very harmful for health, are widespread across Russia. According to the data of the Ministry of Health and Social Development of Russia, alcoholic beverages consumption in Russia in terms of pure alcohol equals to approximately 15 liters per person per year, while the World Health Organization considers the level of 8 liters per person per year as threatening to the nation’s health. Each additional liter in excess of the above limit takes away 11 months of male’s lives and 4 months of female’s lives. And Russia has gone far ahead than the other countries in this respect (Fig. 6).

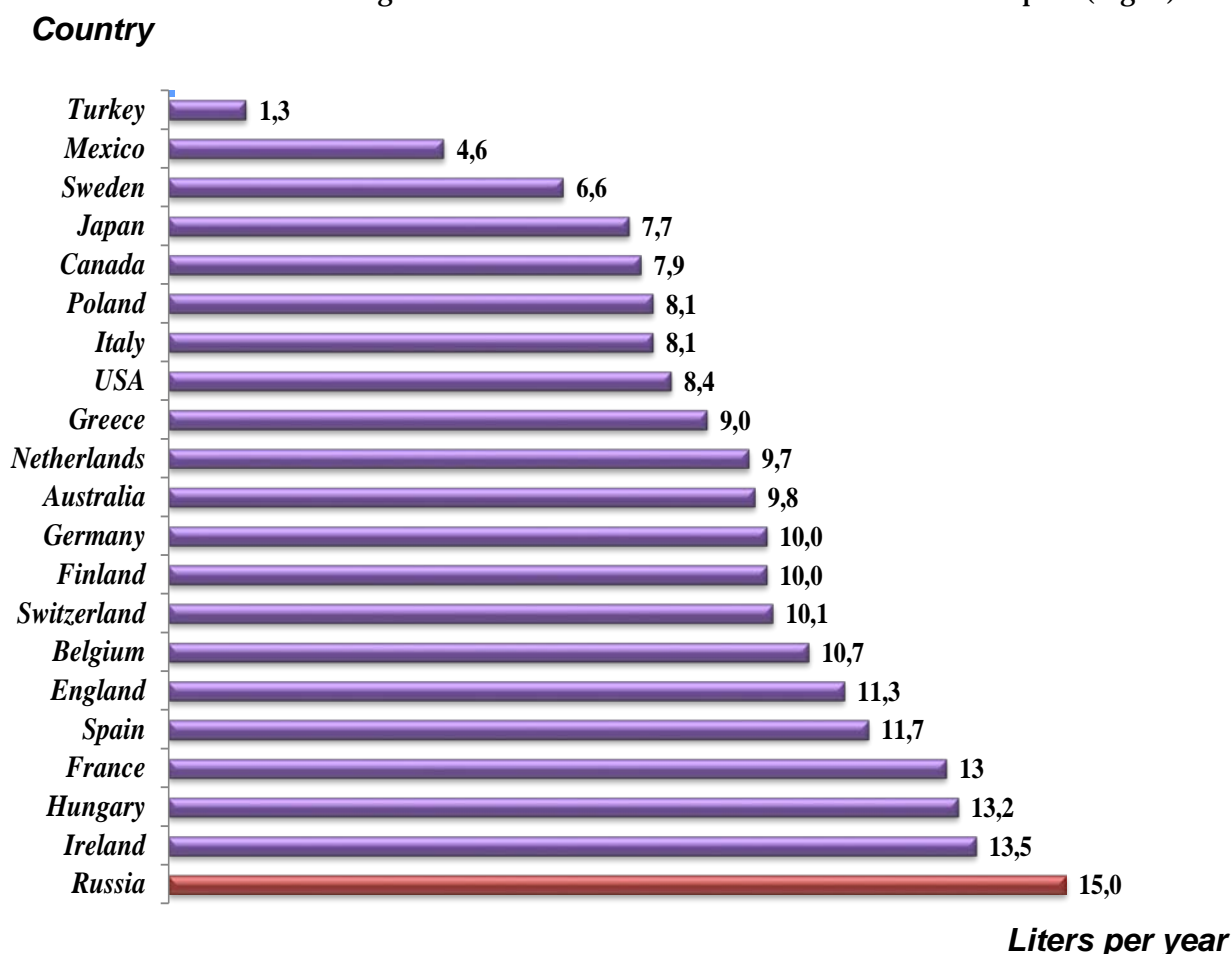


Fig. 6. Alcohol consumption around the world

Tobacco corporations have found a huge sales market in our country. There are 43.9 million smokers in Russia (about 40 per cent of all adult population), which exceeds the world average by almost one and a half times. At the age of 19-44 years, seven out of each ten males and four out of each ten females smoke (Fig. 7).

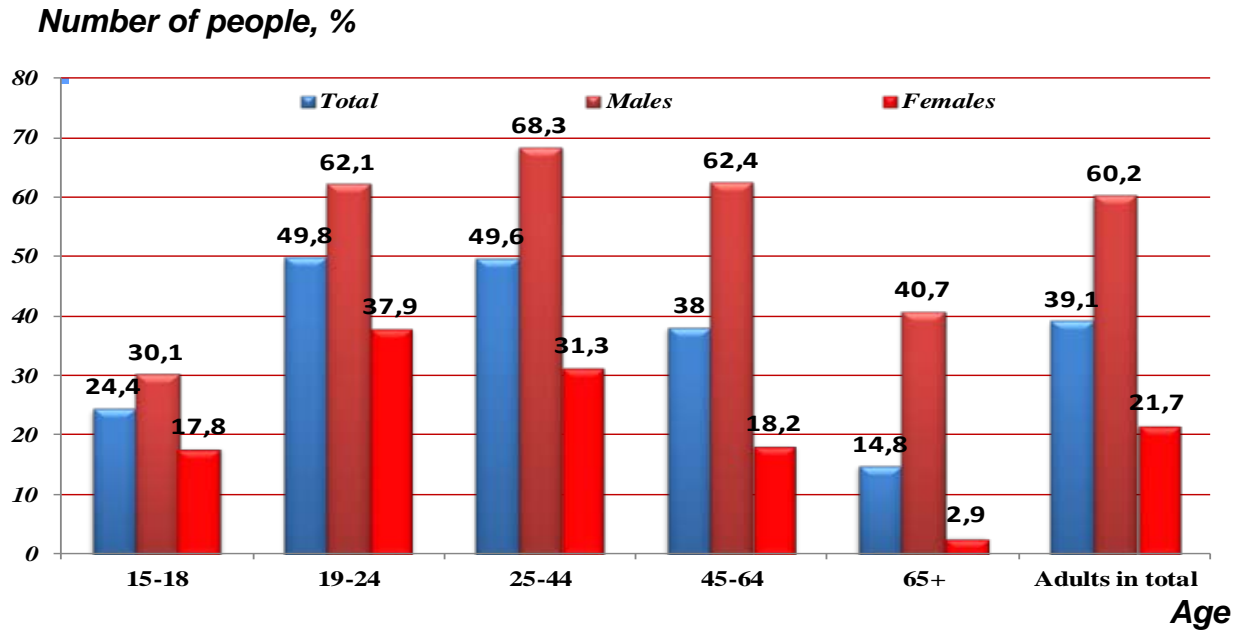


Fig. 7. Smoking in Russia  
(according to "Global survey of adults on smoking", Russia, 2009)

300 billion rubles are spent annually from the state budget on the treatment of diseases relating with smoking, although the government revenue collected from the tobacco companies amounts to only 88 billion.

According to the study "Novice smoker," the results of which were published in the newspaper "Arguments and Facts", 100 per cent of homeless adolescents and 31.7 per cent of girls and 24.4 per cent of boys in St. Petersburg are smoking.

The level of incidence of such socially dangerous diseases as HIV/AIDS, tuberculosis and diabetes in Russia is deplorable. According to the Russian Federation State Statistics Service, there is no improvement in this indicator and it keeps increasing across the country. For instance, since 2005 the number of HIV-infected people has increased by 30 per cent.

In many respects, such a sad situation is caused by the negative social phenomena, for example, the blood-borne diseases such as HIV/AIDS in Russia are transmitted mainly through needle sharing by the drug abusers. Drug addiction in our country becomes a national disaster. According to the Russian Federation Ministry of Health and Social Development the number of drug abusers in Russia is increasing annually by 4.5 per cent.

Currently, various options for the development of our country are being proposed by different institutions, and it's very important that the relevant plans and programs shall include a comprehensive improvement in all aspects - economic, social, cultural and etc.

We believe that Russia shall have the same values of public health indicators as the countries, which are at the same economic development level with our country.

To reach such a goal it is necessary to shift the main focus of the domestic medicine development to improving the availability of primary and high-tech medical care for the population, including the drug/medications supply. The quality of existing medical institutions shall be improved, as well as the efficiency of existing equipment and the qualification of doctors/medical personnel. The issue of the preventive medicine revival is urgent. It shall be understood that the increase in purchasing of expensive equipment and the construction of new health centers by itself will not solve the problem of improving the nation's health.

In addition we propose the following targets for further development:

**1. Strengthening the role of the state in the healthcare system improvement:**

- implementation of the national project "Health";
- implementation of measures on the improvement of the environmental protection;
- intensification of works on metrological provision and standardization.

**2. Transition to the preventive medicine and health protection:**

- acknowledgement of health as the resource of the economy;
- revival and development of the preventive medicine;
- development and implementation of the economic incentives for health improvement.

**3. Changing the attitude to one's own health:**

- adherence to a healthy lifestyle;
- choosing a family doctor;
- developing the responsible attitude to health among children.

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**Экономика здравоохранения**

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**Аннотация.** В статье рассматривается концепция здравоохранения как экономическая категория. Изучается влияние состояния здоровья населения на скорость социально-экономического развития. Исследуется состояние здоровья населения. Определяются факторы, влияющие на здоровье, и предлагаются способы для его улучшения.

**Ключевые слова:** экономика здравоохранения; здоровье населения; факторы здоровья; улучшение здоровья.