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Changes in the social sphere of Russian society: healthcare and education

Annotation. The article presents the performance assessment of the main components of the social sphere: healthcare and education in the 1990–2014 period. The performance dynamics in healthcare and education is analyzed on the basis of the statistical data. Social sphere is characterized by both quantitative and qualitative indicators that reflect the quality of service provided to population. Also important are the indicators reflecting the population response to the quality of service in healthcare and education. The article considers the issues existing in these social spheres.

Keywords: healthcare, morbidity rate, education sector, general education, vocational education, indicators, dynamics.

Social sphere represents the environment for the formation of emotional and social tension in society. It permeates the entire society, economic and political spheres. Social relations are formed between individuals with regard to the satisfaction of their social needs under appropriate working conditions, consumption of material goods, improvement of welfare and recreation provision, education opportunities, access to objects of spiritual culture. Social development implies changes that lead to the emergence of new public relations, institutions, norms and values. The main activities of the state in the social sphere are to protect the health and to improve the education of the country's population.

Healthcare

In accordance with the Federal Law “On the fundamentals of health protection of citizens in the Russian Federation”, health protection of citizens is a system of political, economic, legal, social, scientific, medical measures, including sanitary and anti-epidemic (preventive) ones, undertaken by the state authorities of the Russian Federation, institutions, officials and other individuals, citizens in order to prevent diseases, to protect and to improve the physical and mental health of every person, to maintain his/her long and active life, to provide an individual with medical care [5].

The performance assessment of the healthcare system requires the analysis of the dynamics of indicators reflecting the state and changes in Russian healthcare system. The article analyses the dynamics of healthcare system indicators over the period of major transformations in society from 1990 to 2014.

Significant health indicators are quantitative characteristics: the number of physicians and the number of beds in healthcare institutions. In the period under review the number of physicians (all doctors with higher medical education) per 1000 people increased. This indicator rose from 4.5 physicians per 1000 people in 1990 to 5.1 physicians in 2011 (*Fig. 1*). In the next two years the number of physicians slightly decreased, but the value for this indicator was still higher than at the beginning of the analyzed period [8]. Head of the Russian Ministry of Health considers the indicator to be very low [3]. However, in 2010 the World Health Organization (WHO) ranked Russia fourth in the world by the number of physicians [1]. In 2014 Russia had 4.9 physicians per 1000 people. This is the largest number of doctors-to-population ratio among the CIS countries. For example, according to WHO and the World Bank [2, 9], Belarus accounted for 3.9 physicians per 1000 people, Kazakhstan – 3.6, Ukraine – 3.5. In Western Europe the highest number of physicians per 1000 people was observed in Greece (6.1 physicians). In other countries this indicator is lower: Spain – 4.9, Austria – 4.8, France – 3.2, Great Britain – 2.8 (2013).

A decrease in the number of physicians may lead to an increase in healthcare waiting periods, deterioration of the healthcare quality. It seems, however, that in the case of Russia healthcare challenges are related not so much to the number of physicians, but to the issues concerning the organization of the healthcare system. Moreover, the workload of physicians in the CIS countries is higher than in Western Europe, people are accustomed to free and affordable health services.

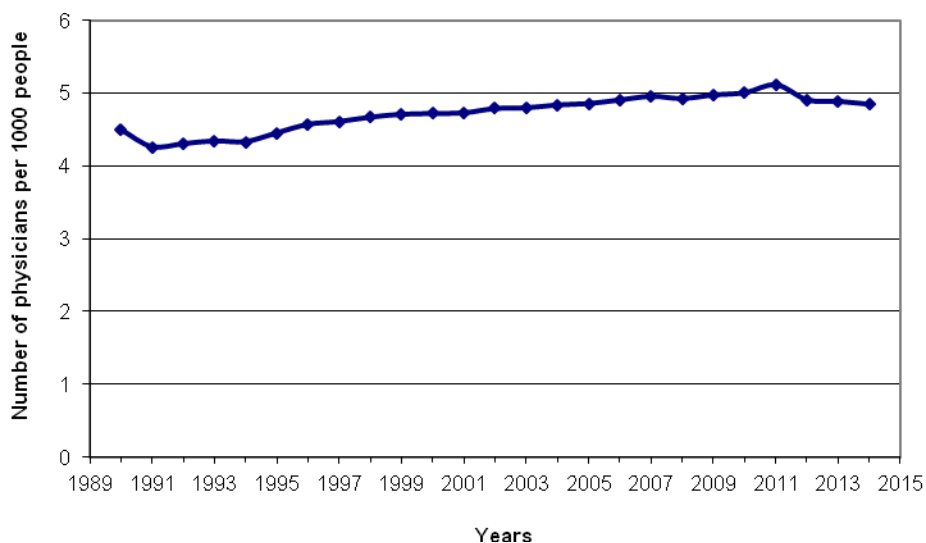


Figure 1 – Number of physicians per 1000 people

The number of hospital beds per 1000 people according to the state statistics [8], on the contrary, fell from 13.5 in 1991 to 8.7 in 2014 (Fig. 2). For comparison, Ukraine accounts for 9.0 hospital beds per 1000 people, Kazakhstan – for 7.2 beds (2012).

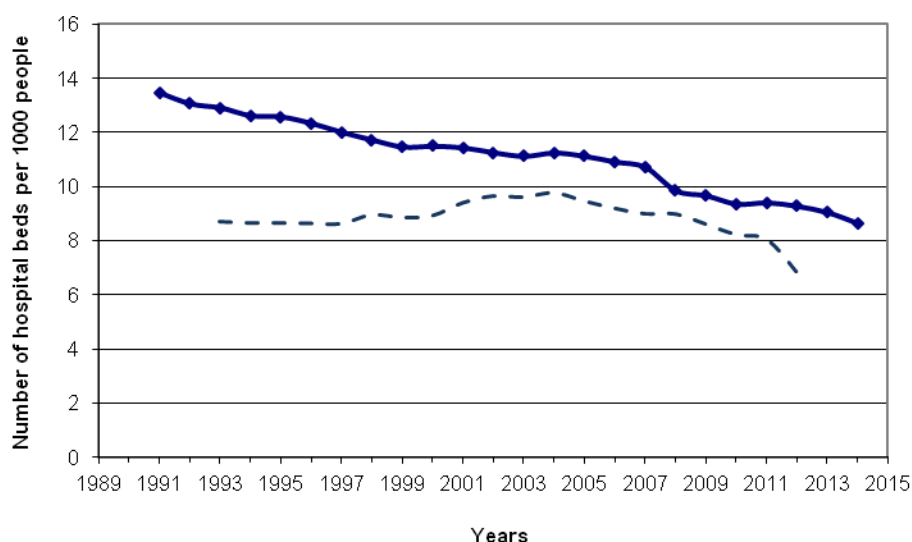


Figure 2 – Number of hospital beds

The number of hospital beds per 1000 children (the dynamics of the indicator is shown in figure 2 as dotted line) had been increasing from 1993 (8.7 hospital beds per 1,000) up to 2004 (9.8 hospital beds), then this indicator worsened and became lower than 1993 value (6.8 hospital beds per 1000 population in 2012). The number of places in residential institutions providing social services to the elderly and the

disabled fell within the range of 219–252 thousand places with a slight increase at the end of the period under review.

One of the criteria for assessing population health is the morbidity rate (number of patients registered as having been diagnosed for the first time). The indicator of overall morbidity shows the prevalence of all diseases. The incidence rate and its dynamics reflect the health status of the population and the efficiency of healthcare institutions. The overall morbidity of the population in the period under review increased by 20.9% (651.2 cases of disease per 1000 people in 1990 and 787.1 cases of disease in 2014). The dynamics of the overall morbidity is presented in *Figure 3* [8].

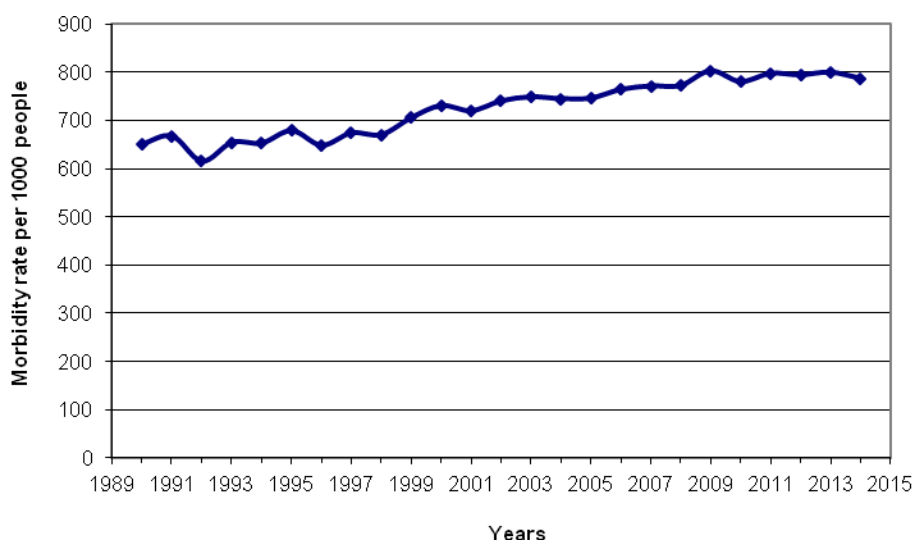


Figure 3 – Number of patients registered per year

The health of children, as compared to other population groups, is more socially determined and depends on the state of the environment, heredity, parents' health status, living and upbringing conditions of children, organizational level of health and recreation activities in preschool facilities and schools.

The analysis of the dynamics of the overall morbidity showed that the incidence rate increased more among children (patients registered as having been diagnosed for the first time) than among adult population (by 61.6%). While in 1990 the incidence rate was 1135.3 per 1000 children under the age of 14 [8], in 2009 it made up 1924.1 cases per 1000 children (*Fig. 4*). In subsequent years the incidence rate among children decreased, having declined by 4.6% by the year 2014.

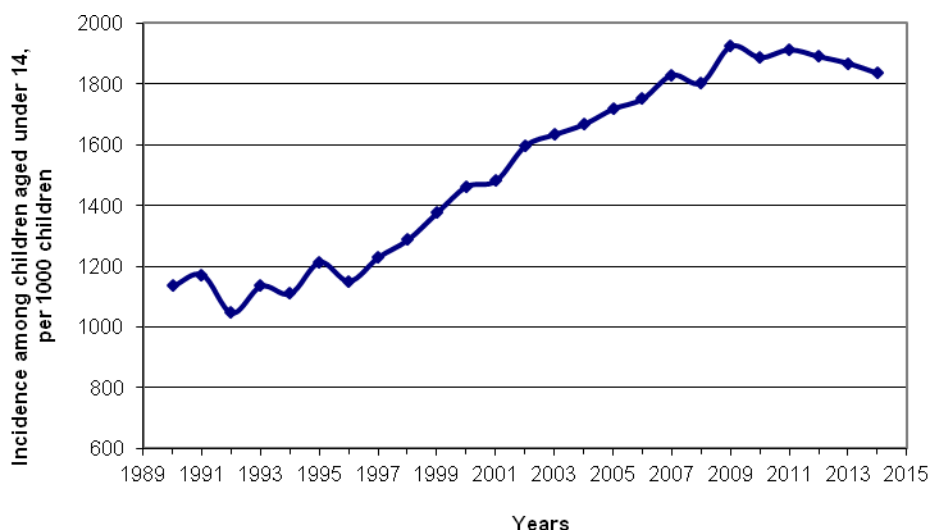


Figure 4 – Incidence among children aged under 14

The incidence of tuberculosis has always been a serious problem in the world. In developed countries the prevalence of tuberculosis began to decrease in the first half of the 20th century due to the introduction of effective drugs and diagnostic tools. However, in the 1980s the incidence of tuberculosis was registered to rise again. In Russia, the incidence of tuberculosis began to grow in 1991 [8]. A significant increase in the number of patients with active tuberculosis (patients diagnosed for the first time) was observed until 2000 (*Fig. 5*). During this period the number increased 2.6 times (from 34.2 to 89.8 patients per 100,000 people). In 2010, “The procedure of providing medical care to tuberculosis patients in the Russian Federation” was approved by the Ministry of Health and Social Development. Within the framework of the Program the bacteriological laboratories and hospitals were upgraded, the supply of medicines increased, control over the virus was enhanced, the training for personnel was provided. Additional measures to fight active tuberculosis, taken in accordance with this program, affected the number of patients with active tuberculosis; it decreased by 33.7% (to 59.5 patients per 100,000 people) by 2014. However, the given indicator is still rather high.

In accordance with WHO criteria, one of the main indicators of the healthcare system quality is the indicator of the total healthcare expenditure. It comprises public, private and external expenses, as well as social security expenses and out-of-pocket healthcare costs.

In Russia health expenditure per capita at purchasing power parity (constant 2011 international dollars) has been rising practically all the years. While in 2000 health expenditure per capita amounted to 370.6 international dollars, in 2014 it made

up 1835.7 international dollars, i.e. having increased 5 times. For comparison, in 2014 healthcare expenditure per capita in Belarus was 1031.0 international dollars, in Kazakhstan – 1068.1 international dollars, in Ukraine – 584.2 international dollars [2]. In Western Europe healthcare spending is higher: France – 4508.1 international dollars, Great Britain – 3376.2 international dollars, Spain – 2965.8 international dollars per capita (2011 PPP).

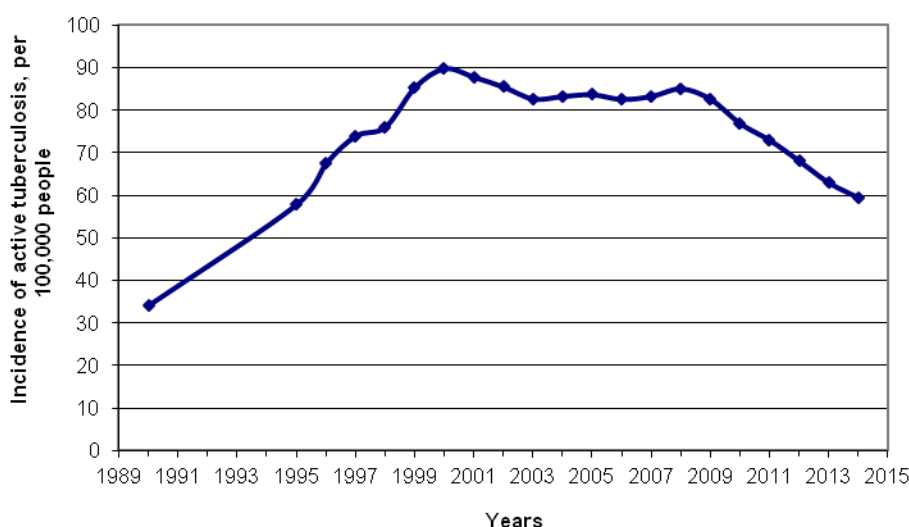


Figure 5 – Incidence of active tuberculosis

WHO data reveals a direct connection between health expenditure and life expectancy of the population: in countries where health spending per capita exceeds 1000 US dollars, life expectancy is over 75 years. This link is apparent, in case there are no serious changes in the socio-economic sphere. In Russia in 1999–2003 life expectancy were decreasing, while healthcare costs were increasing. During these years, life expectancy was negatively affected by other socio-economic factors associated with the financial crisis in the country and the transformation of society in general. In 2014 life expectancy of the population of Russia amounted to 70.93 years; for comparison, in 1990 life expectancy was 69.19 years; in 2003 – 65.31 years.

Child mortality rate is a specific indicator of the quality of medical assistance provided to population, particularly to mothers and children. Child mortality rate characterizes not only the efficiency of the healthcare system, but also the level of social and economic well-being of society. The statistics of child mortality [8] covers infant mortality rate (deaths of children under one year of age), under-5 mortality rate (deaths of children under the age of 5), and mortality rate among children aged 1–14.

Infant mortality rate (deaths of infants under one year) decreased in the period under review from 17–18 cases per 1000 live births in 1990–1997, to 7.4 cases in 2011. During 2012–2013, when the socio-economic situation in the country worsened, infant mortality was higher than in previous years (Fig. 6); however, in 2014 this indicator returned to the level of 2011 (7.4 cases per 1000 live births).

Thus, the diverging dynamics of the indicators characterizing healthcare does not allow for a conclusive assessment of the state activities in the healthcare sector. Nevertheless, the results of the healthcare system performance cannot be considered satisfactory, as evidenced by the incidence increase.

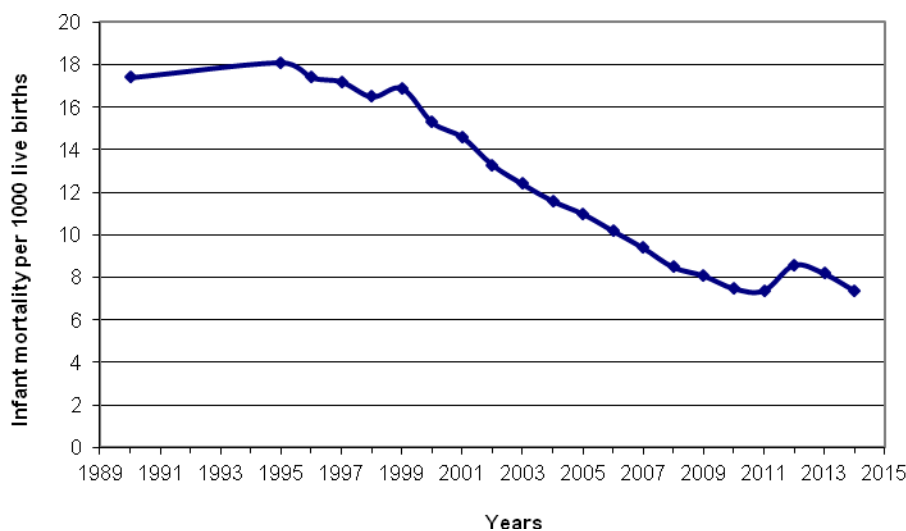


Figure 6 – Infant mortality per 1000 live births

Education

Education is one of the defining factors of social and economic development of the country. The level of education affects the intellectual, moral, and cultural state of society. Education sphere covers the process and the result of an individual's acquisition of knowledge about the world, as well as the system of social institutions that provide a basis for learning and skills development. Education is implemented through several stages: elementary, secondary and higher education. The system of education comprises various types of educational institutions: preschool, general, secondary vocational and higher professional, supplementary education establishments including public and private ones. The level of general and tertiary education is determined by the requirements of production, the state of science, technology and culture, public relations.

The development of education sphere depends on the policy implemented by the state authorities. In Russia, the activities in the education sphere are carried out in accordance with the Federal Law “On education in the Russian Federation”. It says that education is a single purposeful process of upbringing and training, which is a socially significant boon and is implemented for the benefit of the individual, family, society and the state; it is also a set of acquired knowledge, abilities, skills, values, experience, and competence of certain amount and complexity aimed at the intellectual, spiritual, moral, creative, physical and (or) professional development of the individual, satisfaction of his/her educational needs and interests. Education system includes a network of educational institutions, scientific organizations, management bodies in the sphere of education and a set of learning standards and curricula [4]. The aforementioned law specifies four levels of general education and four levels of vocational education.

Quantitative changes in the Russian education system from 1990 to 2013 are analyzed on the basis of the official state statistical data [8]. General education comprises preschool, elementary general, basic general, secondary general education.

Preschool education in Russia provides the formation of common culture, learning and versatile development of children, as well as supervision, care and health activities for preschoolers aged 2 months to 7 years. As a rule, preschool education is offered in preschool educational facilities, which include kindergartens implementing the early childhood general education program. There are nursery schools for children of early age, kindergartens for children of older preschool age and preschools with the focus on different activities. In the period under review the number of preschool educational facilities had been constantly decreasing in urban and in rural areas equally [8].

A particularly sharp decline in the number of preschool educational facilities was observed in the first half of the analyzed period (*Fig. 7*). This resulted from a decrease in the number of births and preschoolers (*Fig. 8*). The number of births from 1990 to 1999 fell by 38.9% (from 1988.9 thousand children to 1214.7 thousand children per year). Value orientations of parents started to change and childbirth ceased to be a priority. Moreover, the impact was exerted by the challenges of the period of society transformation (real income decline, poverty increase, enhancement of income differentiation of society, unemployment, reduction in the volume of social security and free services in healthcare and education, etc.).

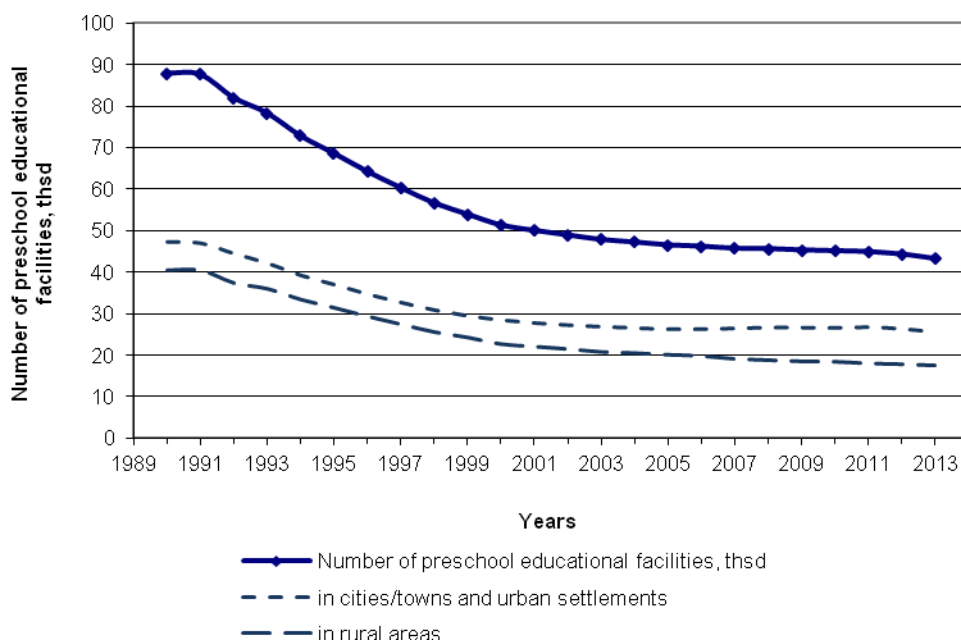


Figure 7 – Number of preschool educational facilities

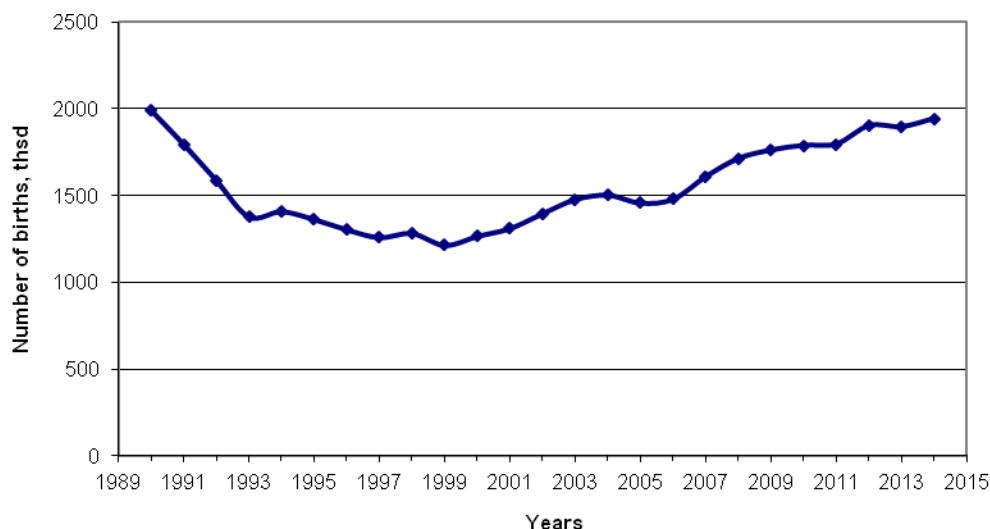


Figure 8 – Number of births

The adoption of the Federal Law No.81-FZ of May 19, 1995 “On state benefits to citizens with children” [6], “National action plan for children” (approved by Decree of the President of the Russian Federation No. 942 dated September 14, 1995), Presidential Decree “On National Action Strategy for children in 2012-2017” [7] and other government measures contributed to the birth rate growth, infant

mortality decrease and improvement of the socio-economic situation of families with children.

Since 2000 the birth rate began to rise; by 2014, the number of births increased by 60.0% (1942.7 thousand of children born in 2014). The share of children of the respective age group who attend nursery schools or kindergartens amounted to 55%–66% by years. The workload of preschool educational facilities began to increase (Fig. 9). During all the years the demand for nursery schools and kindergartens was higher in cities/towns and urban settlements than in rural areas. Cities accounted for 84–113 children per 100 places in preschools, while rural settlements accounted for 60–94 children (by years).

At present, preschool premises, converted in offices and often sold into private ownership in the 1990s as being of no use, cannot always revert to being kindergartens again. The construction of new preschool facilities requires time and financial resources. As a result, from 2005 onwards, not all children in cities can be enrolled to nursery schools or kindergartens. At the beginning of 2005, 805 thousand children lacked preschool slots, in 2011 – 2,145,000 children, in 2014 – 2,718,000 children.

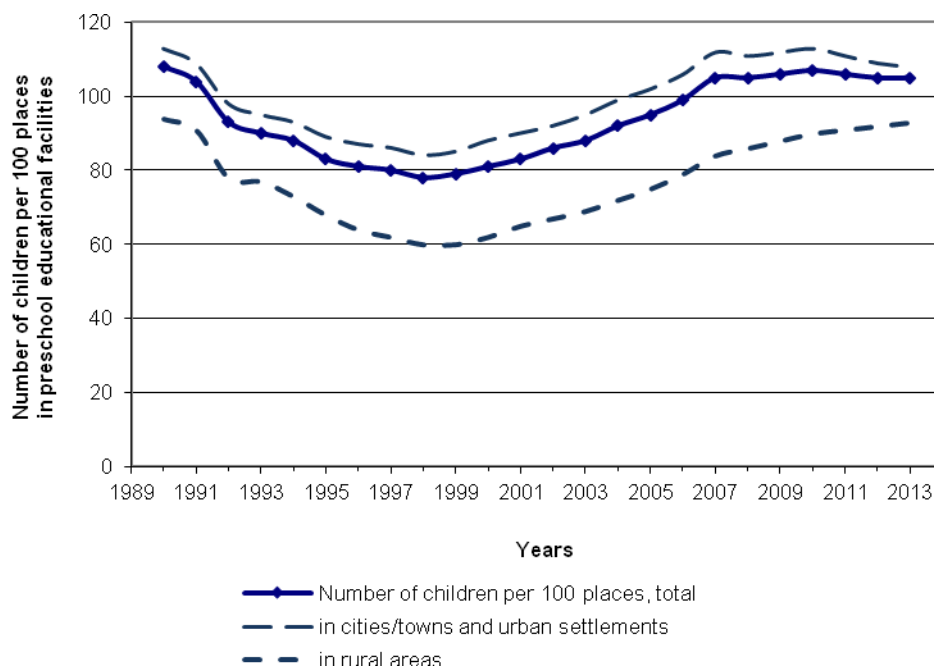


Figure 9 – Number of children per 100 places in preschool educational facilities

It should be noted that the skill level of preschool teachers has increased. While in 1990 17.4% of the staff had higher professional education, in 2014 their share amounted to 48.7%.

General education is the first stage of education that comprises elementary general, basic general and secondary (complete) general education. Elementary general education is focused on the formation of schoolchildren's personality, development of their individual abilities, positive motivation and skills in learning activities; basic general and secondary general education is centered on children's achievement of personhood and its further formation; it is intended to promote a thirst for knowledge and creativity in students, to develop skills of independent learning activities, to prepare schoolchildren for life in society, further education and beginning of professional career. These three levels of education are compulsory in Russia.

General education is provided in general education facilities (schools, lyceums, gymnasia). The number of day-time general education institutions has been decreasing since 1995; by 2014, it reduced by 36.16% [8]: in 1990, general education facilities in the country amounted to 67.6 thousand, as compared to 44.0 thousand in 2014 (Fig. 10). The number of schools closed in rural areas was higher than in urban areas: while in 1990 rural schools made up 71.3% of the total number of public schools, in 2014 their share was 59.2%. The number of evening (shift) general education institutions halved (from 2.1 in 1990 to 0.9 in 2014) as did the number of students in them. The vast majority of general education facilities were public, the share of private institutions did not exceed 1.6%.

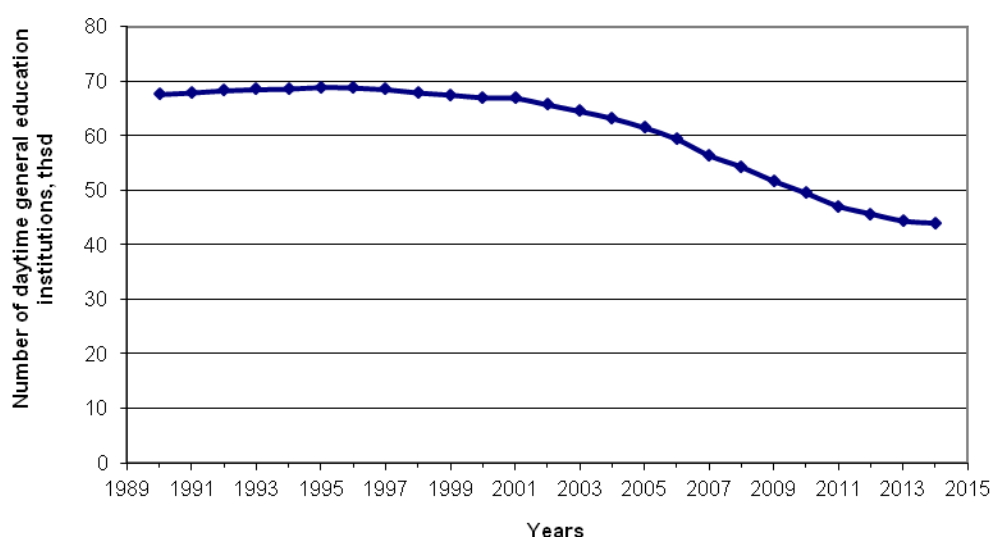


Figure 10 – Number of daytime general education institutions

The reduction in the number of schools resulted from a decline in the share of students, particularly in rural areas. From 1998 to 2010, the number of students in

secondary schools decreased by 36.5% (from 20.9 to 13.3 million students). Despite the reduction in the number of students, at the end of the period under review 14% of students attended school in the second or third shift. In recent years, the number of students in general education facilities tends to increase (14.2 thousand people in 2014, *Fig. 11*).

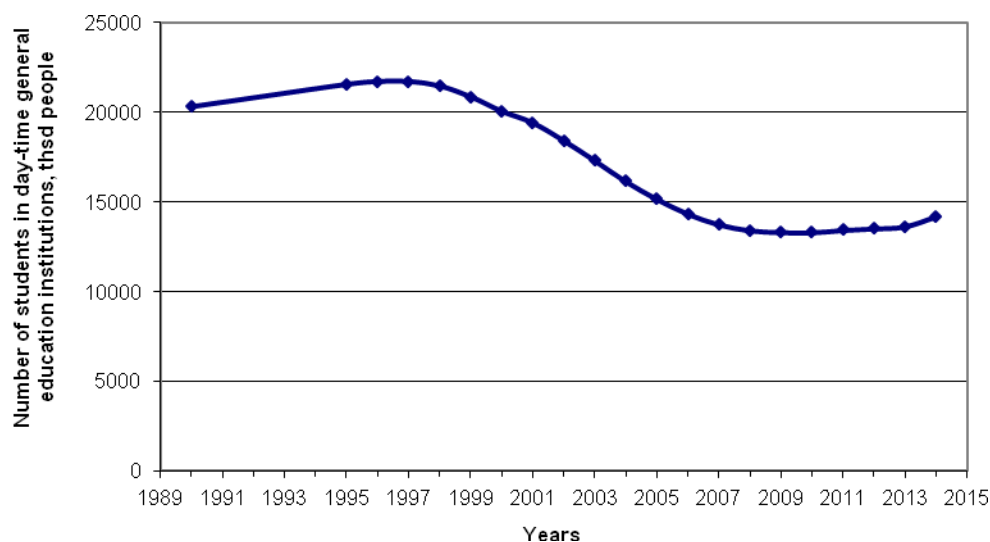


Figure 11 – Number of students in day-time general education institutions

The skill level of teachers in general education schools has been improving: in 1990 74.6% of schoolteachers had higher professional education, in 2014 – 85.4% of teachers.

According to the law "On education in the Russian Federation" [4] there are four levels of professional education: vocational secondary education; higher professional education – bakalavr (bachelor's degree); higher professional education – specialist, magistr (master's degree); higher education – training of highly qualified personnel (in state and non-state educational institutions). Vocational education is aimed at training skilled workers in all major areas of socially useful activities upon completion of basic general (9 grades) and secondary general (11 grades) education. In addition, the statistics comprises institutions of basic professional education, which can be obtained in educational institutions of elementary vocational education (professional technical schools, lyceums and colleges), and in licensed educational institutions of secondary vocational and higher professional education. Secondary vocational education aims at training skilled workers or employees and mid-level professionals. It can be obtained in technical schools and colleges or at the first stage of higher educational institutions. Higher education includes higher professional

education delivered at federal universities, universities, academies, institutes, and postgraduate studies (postgraduate military course, doctoral studies, etc). The purpose of these institutions is to prepare highly qualified specialists in accordance with the demands of national economic activities. The indicators of the number of professional education institutions demonstrate diverging dynamics (*Fig. 12*).

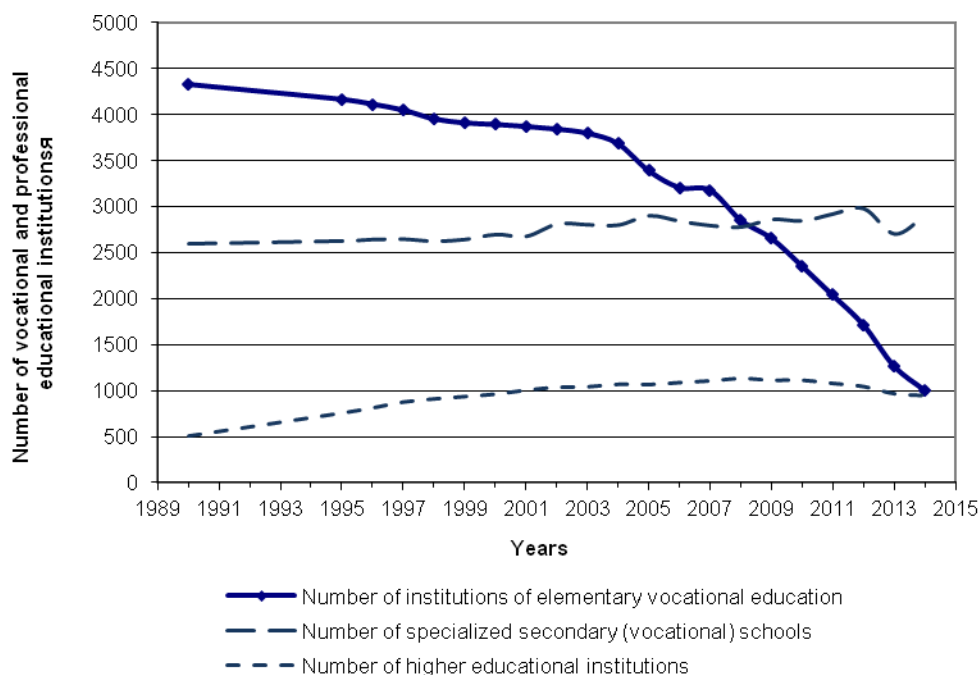


Figure 12 – Number of vocational and professional educational institutions

The number of the institutions of elementary vocational education decreased three times, as did the number of students attending these institutions. And vice versa, the quantity of the institutions of secondary vocational and higher professional education slightly increased. The share of non-state educational establishments grew up. By 2014, the percentage of students at non-state specialized secondary (vocational) schools reached 8.1%, and at higher educational institutions – 14.3%.

In 2014, 90.1% of teachers of professional and vocational educational institutions, who were engaged in training of qualified workers and employees, had higher education. The qualification level of teachers providing training of mid-level professionals is slightly higher: 96.4% of them completed higher professional education. 71.1% of lecturers at higher educational institutions held “Candidate of Sciences” degree (equivalent to Western Ph.D.) or doctoral degree (70.8% in state universities, 74.4% in non-state universities).

The equipment of higher educational institutions with e-learning tools has been increasing. In 2014, there were 222 personal computers used for educational purposes per 1000 students (as compared to 87 units in 2007).

The dynamics of the share of students attending vocational or professional educational facilities is similar to the dynamics of the educational institutions. The structure of students of vocational and professional educational institutions has changed:

	1990	2014
Higher educational institutions	41,6	64,8
Specialized secondary (vocational) schools	33,4	26,2
Institutions of elementary vocational education	25,0	9,0
Total	100,0	100,0

A desire for higher level of education is evident. As a result, the overall educational level of the population has been increasing. According to the population census, in 1989 higher and incomplete higher education was attained by 130 people per 1000 people of the respective age group, while in 2010 the number made up 272 people; and vice versa, elementary general education was obtained by 129 and 52 people by years, respectively (*Fig. 13*). The level of education does not fully reflect the quality of education; however, the share of population graduating from university or institute has doubled.

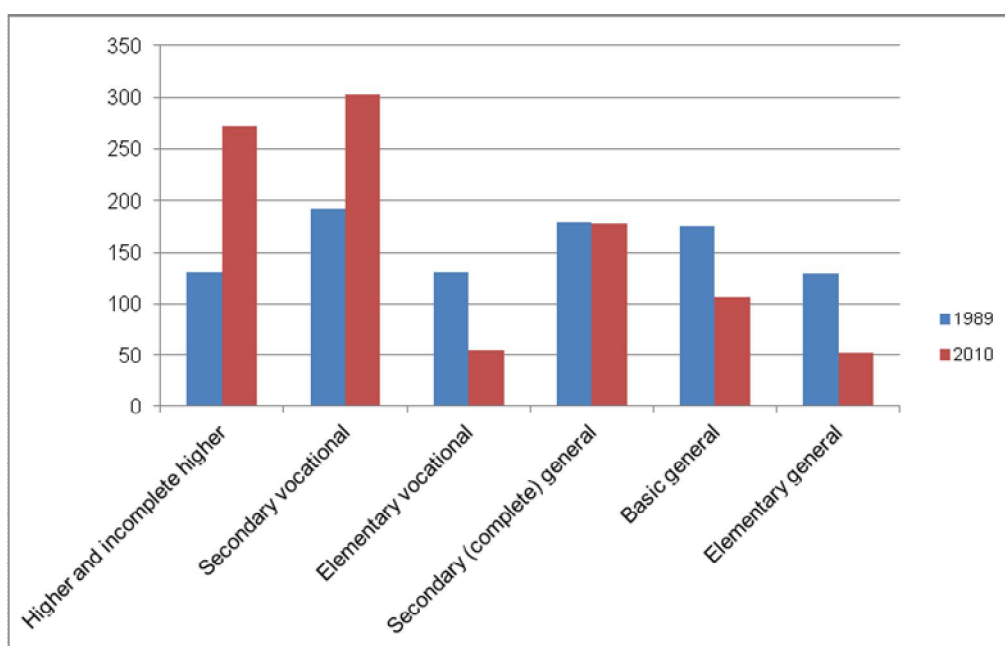


Figure 13 – Educational level of population

Consequently it can be concluded that the dynamics of the number of general educational institutions corresponds to the number of students. When birth rate dropped, the number of preschool educational institutions also decreased. A particularly sharp decline in the number of preschool educational facilities was observed in the first half of the period under review. The reduction in the number of students contributed to a decrease in the number of schools and lyceums, particularly in rural areas. The workload of educational institutions rises at the turning points of the dynamics of the demand for school slots. On the whole, the educational level of preschool teachers, schoolteachers and lecturers has been increasing. The educational level of the population has been improving as well. In the period under review the amount of population with higher education per 1000 people of the respective age has doubled.

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