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Dynamics of Pediatric Service Staffing in the Republic Sakha (Yakutia)

ABSTRACT

The analysis of the dynamics of the supply of the Sakha (Yakutia) Republic population by physicians of all specialties, doctors-pediatricians, taking into account the pediatric surgeons, pediatric endocrinologists, pediatric oncologists for the 1995-2013 was done. In general in the Sakha Republic (Yakutia) during the analyzed period the increase of the children's population by doctors staffing of the pediatric profile was marked. This increase happened, both in Russia and in the Republic Sakha (Yakutia), mainly due to the reduction of the child population and, to a lesser extent, increasing the number of doctors themselves. The study has revealed the growth of doctors - pediatricians just in densely populated areas and the preservation of the unavailability of pediatric care in areas with low population density of the Sakha (Yakutia) Republic.

Keywords: medical staff, doctors staffing, nurses staffing, pediatric service, the ratio of doctors and nurses.

INTRODUCTION

Health is now the Republic Sakha (Yakutia) (RS(Y)) a powerful state structure having an extensive network of health care institutions. Significant is its contribution to the stabilization of the demographic indicators for the region. Today, the health care system of RS(Y), the efforts of the organizers of health during the difficult years at the turn of the century managed to retain its practical significance, restructured its resources, which ensured its continued development. But, at the same time, indicators of health of the population, slow population growth, lack of effectiveness of health systems require resource investment and, to a greater degree of human resources.

Uvarova T.E. and Burtceva T.E. [5], in a study of medical support areas densely populated by indigenous peoples in the Republic Sakha (Yakutia), noted the continued decline in core resources (number of health facilities, number of beds, frames, etc.). This reduction happened in sparsely populated areas of the RS(Y) with "excess" in comparison with common

federal, performance security of the population throughout the country. This situation demonstrates the inadequacy of rationing of medical support of the population, focused on the number of resident population, which is a violation of the constitutional rights of citizens of the Russian Federation (RF) to affordable health care. This fact is mentioned not only in the Far North, but also in other sparsely populated areas, in Siberia [3,4], in the central regions of Russia [2], and others.

Due to the fact that the rate of doctors is the most generalized criterion level of care, the analysis it is of particular interest to any of the regional health system. It should be noted that the most complex processes are currently taking place at the district health level. The staffing situation is tense in medical organizations at district level develops because that is where most of the focus problems of a systemic nature.

Objective: To analyze the dynamics of availability of RS(Y), physicians of all specialties, pediatric physicians, considering pediatric surgeons, pediatric endocrinologists, pediatric oncologists, per 10 000 of the total population, child population (0 to 17 years) for 1995-2013 years.

MATERIALS AND METHODS

A statistical analysis of the security of the population of RS(Y), physicians of all specialties, pediatric physicians, given the pediatric surgeons, pediatric endocrinologists, pediatric oncologists, per 10 000 of the total population, child population (0 to 17 years inclusive) for the 1995-2013 according to Rosstat, GBU RS(Y) "Yakut republican medical information-analytical center». A comparative analysis of the data of the Far Eastern Federal District (DFO) and the Russian Federation was done. To conduct the study, considering the medical and economic zoning of the RS(Y) [1], the areas of the country were divided into 6 groups: central, industrial, Vilyuisk, Northern and Arctic. Calculations were performed using software packages Statistica 6 and Excel. For the analysis of factors contributed most significantly associated with the studied parameters - providing the population of RS(Y), physicians of all specialties, pediatric doctors.

RESULTS AND DISCUSSION

Staffing of physicians of all specialties in the DFO and the RS(Y) is significantly higher than the Russian average, of doctors of all specialties in Yakutia before 2001 was significantly

($p=0.045$) lower than in the Russian Federation, after steady growth - by data for 2011, the number of doctors in the Sakha Republic (Yakutia) was significantly ($p = 0.012$) more than in Russia, but less than in the DFO. Over the past 20 years in the Russian Federation number of physicians increased in all specialties was 15.1%, in DFO - 18.8%, in the Sakha Republic (Yakutia) - 34.3% (Fig. 1).

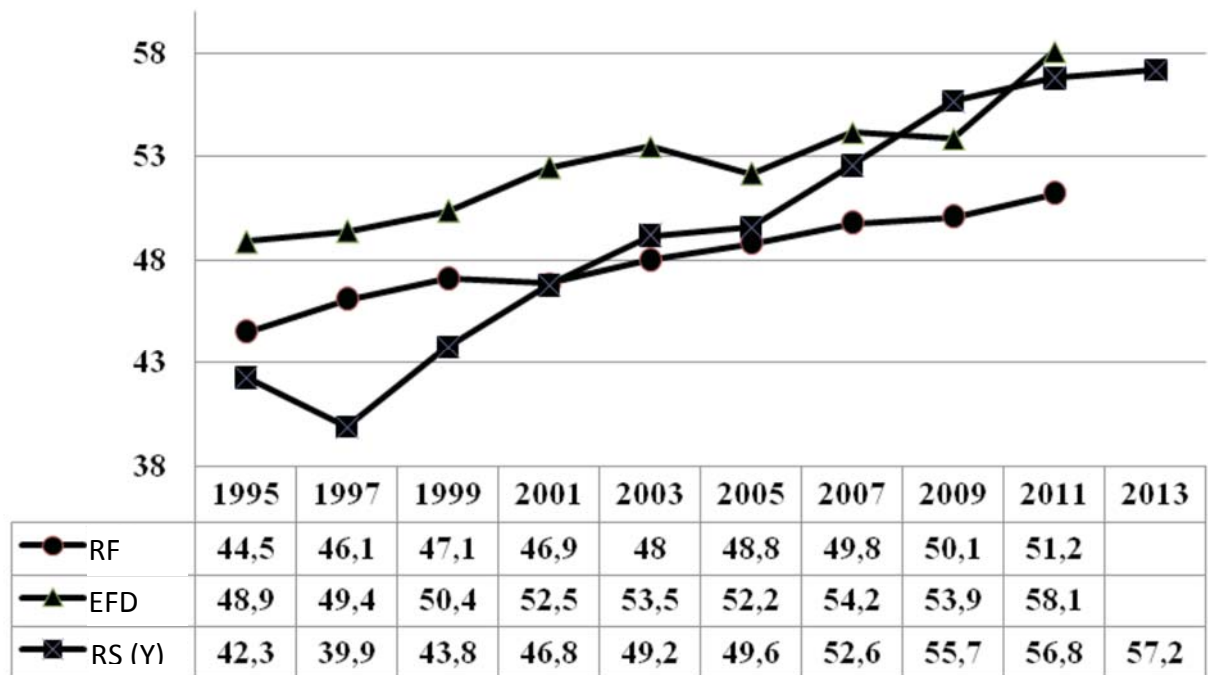


Fig. 1. The number of doctors of all specialties per 10 000 population (according to Rosstat, 2013 - according to GBU RS(Y) YARMIATS).

The structure of the posts of health workers to ensure the availability of skilled medical care differs from the average. The ratio of doctors and nurses is 1: 2.7, which is slightly lower than the optimal value - 1: 3. The current ratio in the country due to the need to provide primary medical care to the population in remote localities, decreasing cost of air ambulance, as well as the introduction of new technologies in medicine.

Number of active physicians in view of pediatric surgeons, pediatric endocrinologists, pediatric oncologists in the Sakha Republic (Yakutia) was always lower than in the whole of Russia, although there was an increase in the indicator for pediatricians 1999-2008. Performance security pediatricians child population of the Russian Federation has undergone rapid growth over the last 20 years: in Russia the number of pediatric physicians increased by

1.3 times, and in the RS(Y) for the same period - by 1.6 times (Fig. 2). Rising security pediatrician, as the Russian Federation and in the RS(Y) was mainly due to the reduction of child population and, to a lesser extent, increasing the number of doctors themselves. By the end of 2013 the number of physicians in pediatric RS(Y) per 10 000 children population was significantly lower ($p = 0.023$) than the average for the Russian Federation - 24.3 doctors per 10 000 children (RF in 2012 - 31, 1).

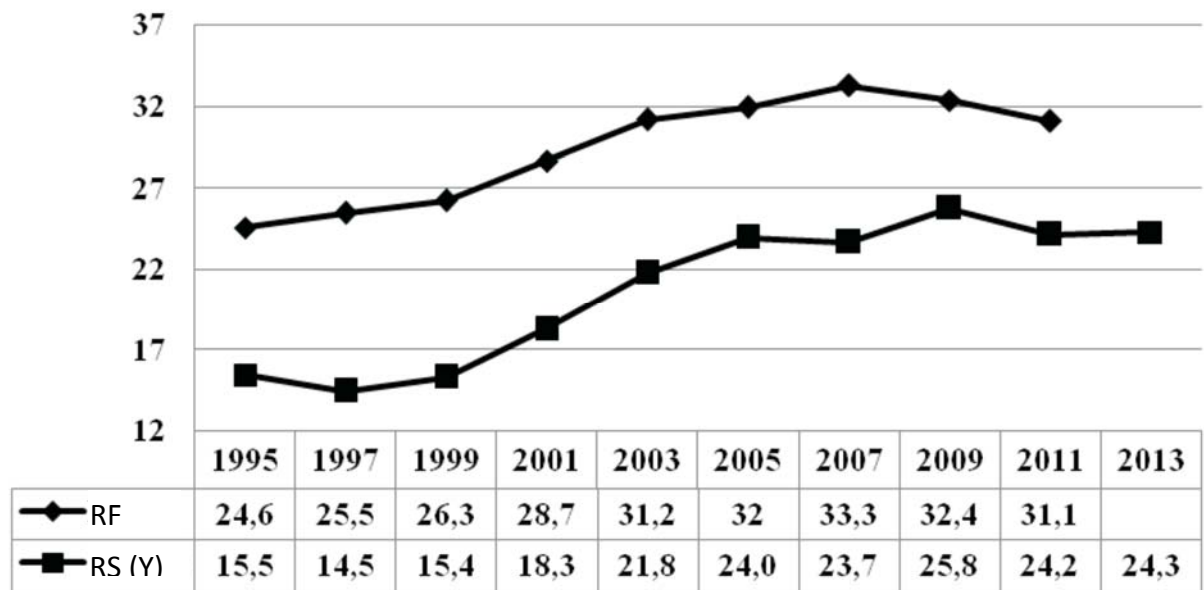


Fig. 2. Staff of pediatric physicians considering pediatric surgeons, pediatric endocrinologists, pediatric oncologists per 10 000 population (according to Rosstat, in 2013 - according to the GBU RS(Y) YARMIATS).

In general, the RS(Y) for the period 1995-2013 there is an increase of security of the child population pediatric physicians from 15.5 to 24.3 per 10,000 child population, which amounted to 56.7%.

In 2013, in health institutions of the RS(Y) 427 pediatricians and neonatologists operate. However, there are significant differences in the groups in the areas of security of pediatrics and neonatology (Fig. 3).

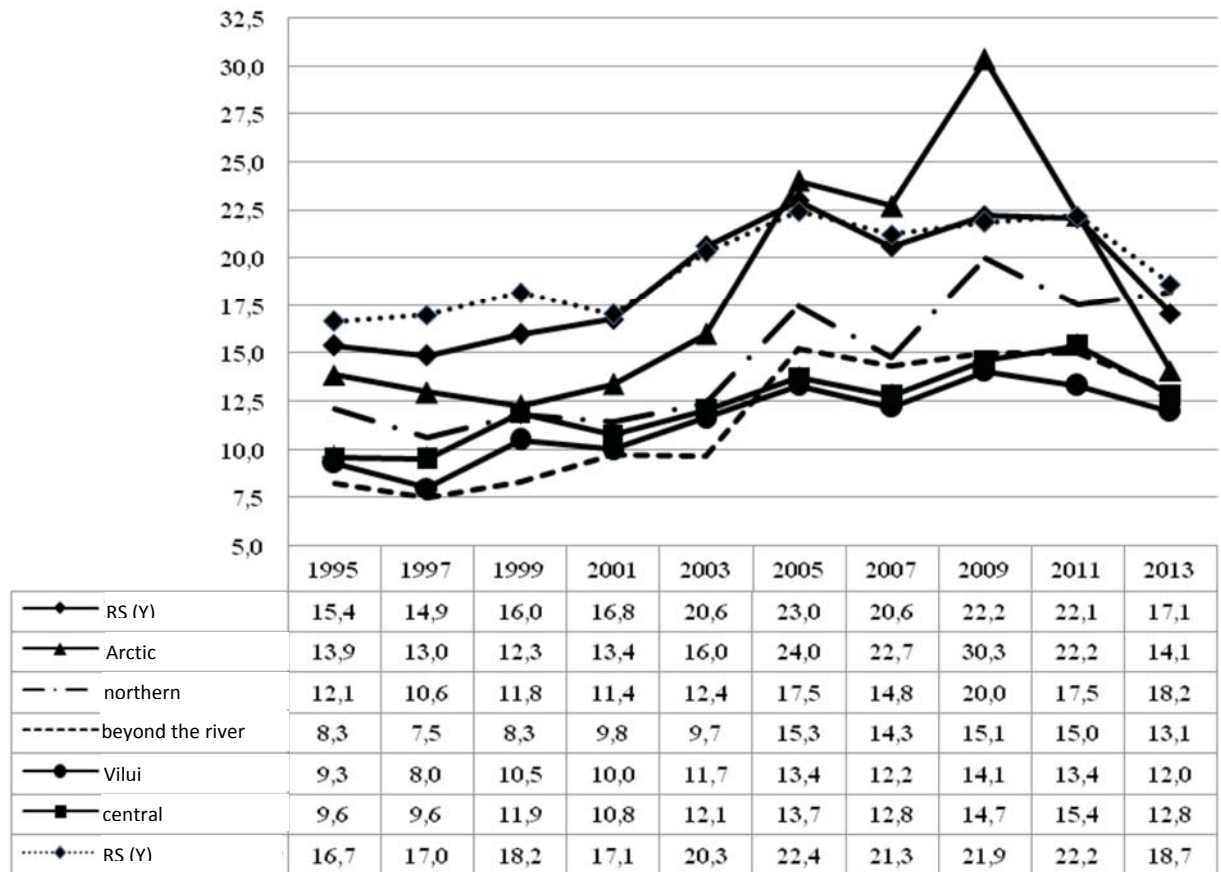


Fig. 3. Staff of pediatricians and neonatologists in the areas by groups per 10 000 population (according to the GBU RS(Y) YARMIATS).

Almost all groups of physicians to population areas pediatrics and neonatology not exceeded the average value of the index and only two it was higher for several years - in the industrial and Arctic groups. The highest rates are found in the unstable northern and arctic regions. In Arctic regions the group in 2009 had the highest security and pediatricians in 1997 - the lowest (30.3 and 13.0 per 10 000 children population, respectively). In the northern group, as there is a jump in the index: maximum security was observed in 2009, the minimum - in 1997 (20.0 and 10.6 per 10 000 population, respectively). In assessing the sufficiency pediatricians and neonatologists in these areas should take into account that the rate of security, calculated per 10 000 population, is uninformative because these groups cover 14 districts with the lowest population density.

Thus, in the arctic group, which includes five areas: Anabarsky, Bulunsky, Ust-Jansky, AllaikhovskiyNizhnekolymsky and, in 2009, there worked 21 doctors, and in 1997 - 15 doctors.

In the northern group of the 9 districts in 2009, 30 physicians were employed in 1997 - 17, while in some areas, we noted the lack of pediatricians.

During the review of 20 years the number of doctors pediatrics and neonatologists in the country increased by 11.0% (from 15.4 in 1995 to 17.1 in 2013). Most of all staffing was observed in 2005 (23.0 per 10 000 population, mostly due to staffing in the arctic regions of the group with an index of 24.0).

The highest growth rates of doctors pediatrics and neonatologists for the 1995-2013 was observed in the group of regions beyond the river: an increase of 57.8% (from 8.3 to 13.1 per 10 000 population, respectively).

The lowest rates observed in the Arctic regions of the group - an increase of 1.4% (from 13.9 to 14.1 per 10 000 population, respectively).

During the 1995-2013 the highest staffing of pediatrics and neonatologists were reported in 2005 in Ust-Maya area (security was 36.4 per 10 000 population worked in the area of 9 pediatricians) and in 2009 in the Allaikhovskiy area (provision totaled 54.6 per 10 000 population in the area worked 4 pediatrician).

Over the 20 years studied the lowest number of doctors pediatrics and neonatologists was reported in 1997 in the Amginsky area - 5.1 per 10 000 population (there worked 2 pediatrician).

CONCLUSION

Personnel shortage of physicians in pediatric rural and remote northern settlements imposes a very unique imprint on the organization of care for children's population. In general, it is organized primarily on a "reception residence", but differs from the urban schemes that patients have immediate access to medical services only paramedic FAP, pediatric specialty physicians do not, that may have the primary first aid, primary medical and emergency care. Help pediatrician, as well as specialized medical care can be obtained, in most cases, only in regional centers. The study revealed a growing number of doctors pediatric only in densely populated areas and the preservation of the unavailability of pediatric care in areas with low population density of Republic Sakha (Yakutia).

REFERENCES

1. Golikov V.E., Slepikh N.I. Osobennosti anesteziologicheskoy sluzhby v territoriyakh s nizkoj plotnost'yu [The characteristics of anaesthesiologic service in territories with low density of population settlement]. Problemy socialnoy gigieny, zdravoochraneniya i istorii mediciny [Problems of social hygiene, health, and medical history], 2010, №3, pp. 21-26.
2. Kagirowa G.V., Repina L.V., Haustova I.V., Chugunova T.N. Osobennosti okazaniya medicinskoj pomoschi detjam v regione s nizkoj plotnost'yu naseleniya [Features of medical care to children in the region with low population density]. Sbornik materialov IX Kongressa pediatrov Rossii "Aktualniye problem pediatrii" [Collected materials IX Congress of Pediatricians of Russia "Actual problems of pediatrics"]. Moscow: 2007, 265 p.
3. [Solomatina T.V.](#) Organizatsiya vyezdnoj medicinskoj pomochy naseleniju severnykh rayonov Sibiri [Organization of traveling health care in the northern regions of Siberia]. Zdravoochranenie Rossiyskoy Federacii [Public health of the Russian Federation], 2007, № 2, pp. 19-21.
4. [Uvarova T.E.](#), [Burtseva T.E.](#) Dynamika osnovnykh pokazatelej medicinskoj obespechennosti naseleniya v rayonakh prozhivaniya korenykh malochislennykh narodov Severa [Dynamics of the basic indexes of medical security of the population in areas of the native small in numbers people of

the North residing] Jakutskij medicinskij zhurnal [Yakut medical journal], 2011, №1, pp. 73-74.

5. Chichakhov D.A., Aprosimov L.A. Detskoje naselenie Respubliki Sakha (Yakutia): problemy sokrachenija predotvratimych poter [Child population of the Republic of Sakha (Yakutia), the problem of reducing preventable losses][pod red. d.m.n. Timofeeva L.F.]. Yakutsk: izdatelsko-poligraficheskiy kompleks SVFU [Publishing and Printing Complex NEFU], 2011, 150 p.

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