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## EFFICIENCY OF COSTS FOR HEALTH CARE: PROBLEMS AND WAYS OF SOLUTION

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The research results of infection rate and medical personnel provision in whole along Russian Federation, regions of North Caucasian federal district and Republic of North Ossetia-Alaniya are brought in the article. The conducted comparative analysis allowed estimating expenditure facilities efficiency to the health service, educing a row of regional problems and marking the ways of their solving. The author made a row of conclusions: 1) over a period of на 2005–2014 sickness rate of Russians in whole increased on 5,8%, along the regions of NCFD and the population infection rate on the contrary decreased on 4,6%, and in RNO-Alaniya - one of the seven subjects of NCFD - population sickness rate increased in 3,1 times in comparison with all-Russian indice, and in comparison with average district indice practically in 4 times; 2) under the higher sickness rate in the Republic of North Ossetia-Alaniya doctors provision in the region is significantly higher: thus in 2014 it comprised 70,3 of doctors per 10 000 of population, and in 2015 – 63,9 of doctors per 10 000 of population that is practically in 1,5 times more than along RF (48,9 and 48,1 accordingly) and in whole in the regions of NCFD (41,6, and 39,6 accordingly); 3) under the significantly higher doctors provision their average salary appeared to be lower than that of neighboring regions and more distant but demographically comparable subjects of the Russian Federation. The author made a conclusion on the need to optimize the staff of medical and preventive institutions in the Republic of North Ossetia-Alaniya in order to create a more efficient system for providing medical services, the types, quality and volumes of which will correspond to the level, structure of morbidity and population needs, with maintaining of beds optimal number and staff size of medical personnel.

**Key words:** health service, region, efficiency, doctors provision, socioeconomic development.

Providing the population with available medical care is the most important problem for any country, regardless of the management model and the financial system development. The level of birth rate and death rate, population growth, mobility, working efficiency mainly depend on health service. RF Ministry of Health confirmed methodological recommendations for state agencies subjects of Russian Federation, concerning indice of effective activity of health care facilities, and also work performance evaluation of their managers and separate workers in 2013. On the basis of these recommendations to the basic indice of health care facilities effective functioning the next indice can be reffered:

- fulfilment level of governmental task;
- the part of polyclinic patients visits with prophylactic aim from the general number of visits;
- the average terms of a patient residence in hospital (the number of 24-hour period at the bed);
- the number of valid complaints;
- satisfaction with medical treatment quality [1,2,3].

The subjects of RF expand the indice number, specified in Methodological recommendations in their regulatory documents. The following indice groups, regulating effective estimation of health care facilities activity should be emphasized:

- indice, estimating basic activity efficiency of health care facilities;
- indice, estimating efficiency of activity, aimed to the work with human resources;

– indice, estimating efficiency of financial and economic activity of health care facilities.

Together with this the represented indice, unfortunately, only in some degree characterize efficiency of health care facility activity, as the presented approach to the estimation of health care facilities activity has a row of disadvantages:

1. The specified list of indice does not allow giving the correct estimation to financial resources management quality in health care facilities;

2. The index of salary relation to all categories of medical workers to the average salary in the concrete subject of RF also enters into the given list, however normative achievement does not always depend from the activity of a chief doctor or other institution manager.

In this regard, the question arises about the need to develop a methodology for analyzing the activity of health care institutions, eliminating the abovementioned disadvantages and permitting to realize a competent and correct estimation procedure. The death rate is considered to be rather precise index from the statistical point of view, for an objective estimation of effective facilities expenditure to health service, as has a high veracity and objectivity that allows realizing of interregional comparisons. However, the death rates cannot reflect the condition of population health, and, besides, do not consider health situation, which cardinally deteriorate person's health, but not lead to his death. The successes in diseases fight, not leading to fatal case, in majority of cases are not reflected in death rates, assuming that from medical point of view, preservation of life and ability is the most significant aim. In connection with this, one can say that events, preserving person's life, are always considered to be priority in front of all other events.

According to statistical materials data of Ministry of Health and social development of Russian Federation, the diseases indice dynamics in Russian Federation, regions of the North-Caucasian regions of federal district (NCFD) and the Republic of North Ossetia-Alania (RNO-Alaniya) has various trends and dynamics. Thus, in whole along the Russian Federation, in the period from 2005 to 2014, the sickness rate increased by 5.8%, in general, in the regions of the NCFD the population sickness rate decreased by 4.6%, while in the RNO-Alania - one of the seven subjects of the NCFD - the sickness rate of the population increased in comparison with all-Russian indicators in 3,1 times, and in comparison with average district indicators almost in 4 times.

For the sake of justice, it should be noted that according to 2014 the sickness rate of the Republic of North Ossetia-Alania population is 10% lower than in the Russian Federation, but it is 6% higher than in the neighboring regions of NCFD. (table1).

Table 1

Sickness rate indice in RF, NCFD and RNO-Alaniya in 2005–2014  
(per 1000 of population)

	2005	2010	2011	2012	2013	2014	2014 к 2005, В %
Russian Federation	743,7	780,0	796,9	793,9	799,4	787,1	105,8
NCFD	701,7	609,4	652,5	662,8	687,1	669,6	95,4
RNO-Alaniya	598,8	646,5	685,5	677,0	698,4	709,6	118,5

Source: calculated on the basis [4, 6].

The revealed difference in morbidity rates in the Russian Federation, NCFD and RNO-Alaniya in 2005-2014 suggests that North Ossetia has the worst indicators of the regional health economy. The conducted analysis of doctors providing and some significant indice of regional health service economy showed that doctors providing in RNO-Alaniya comprised in 2014 70, 3 of doctors per 10 000 of population, and in 2015 – 63,9 of doctors per 10 000 of population that practically isin 1,5 times more than in RF (48,9 and 48, 1 accordingly) and in whole along the regions of NCFD (41,6 and 39,6 accordingly). As one can see from the table 2 under the doctors number along RNO-Alaniya is 5000 in 2014 and 4 536 doctors personnel staff in 2015, being higher average-Russian indice comprised 1510 doctors units in 2014 and 1056 units in 2015. One can conclude from this that labor compensation fund, under the average salary of one doctor of 18664 rubles in 2014 and 20 530 rubles in 2015, comprised in 28,2 mln. rubles in 2014, and 21,7 mln. rubles in 2015. Release of specified facilities would allow to aim them to the best medicated supplience and more advanced curative-diagnostic equipment.

Table 2

Dynamics of doctors number of all specialties in RF, NCFD and RNO-Alaniya in 2005-2015

	2005	2010	2011	2012	2013	2014	2015
The general number of thous.of people							
Russian Federation	690,3	715,8	732,8	703,2	702,6	709,4	673,0
NCFD	33,5	37,8	39,9	39,8	39,5	40,2	38,4
RNO-Alaniya	4,7	5,0	5,3	5,0	5,1	5,0	4,5
Per 10 000 of population, people							
Russian Federation	48,6	50,1	51,2	49,1	48,9	48,9	48,1
NCFD	42,5	40,1	42,1	41,7	41,2	41,6	39,6
RNO-Alaniya	66,1	70,8	74,5	71,0	71,7	70,3	63,9

*Source: calculated on the basis [4,6].*

For the morevisualization of obtained conclusions the indice comparative analysis of compulsory health insurance territorial programs of Republic of North Ossetia-Alaniya and the Pskov Region, having comparable demographic determinants was conducted. Under the practically even number of population and income per capita: the Pskov region – 646 374 of people, RNO-Alaniya – 703 745 of people, –the payments on CHI of economically inactive population are significantly lower in the Pskov region, than in our republic that can be seen from the table 3.

Table 3

The analysis of the basic indice of health service in the Pskov region  
and RNO-Alaniya in 2015

№	Title Index	The Pskov region	RNO-Alaniya
1	Number	646371 of people	703745 of people
2	Economically inactive population	399581 of people	530 414 of people
3	Payments on CHI economically inactive population	2 512 405,5thous.rubles	3 425 069 thous.rubles.
4	Standard per capita	8 438,9 rub.	10 587,7 rub.
5	Functioning of one bed per a year	331 days	331 days
6	The number of doctors	2 206 people	4536 people
7	Averagesalary of a doctor	32 567 rub.	20 530 rub.
8	Tariff per one non-working person	6287,6 руб.	6457,3

*Source: calculated on the basis [4, 6].*

Analyzing the basic indice of health service in the Pskov region and RNO-Alaniya in 2015, the different number of doctors of two regions pays one's attention: the doctors number in the Pskov region on 2 330 of people is lower, than in RNO-Alaniya. Herewith, the average salary of the doctor in the Pskov region comprises 32 567 rubles that in 12 037 higher, than in RNO-Alaniya. Considering the current crises economical situation, by the reason of external-economic and foreign policy factors, the problem of effective facilities use remains to be one of the most topical in Russian economy. And in highly-subsidized regions, to the number of which one can refer RNO-Alaniya, the question about necessity of state participation fortification in socioeconomic processes as for state financing increase of separate economy sectors and social sphere, so for rational using of available resources[7]. On the basis of presented data, considering economic significance of staff number problem optimization of medical and preventive treatment facilities RNO-Alaniya needs efforts coordination of RNO-Alaniya Ministry of Health, Territorial fund of compulsory health insurance to create medical services provision system, types, quality and volumes of which will correspond to the level, disease structure and population demands with preservation of optimal quantity of hospital stock and medical personnel staff size. Considering, imperfection of used control model of budgetary funds usage it is necessary to consider alternative methods of state control function realization, under which state expenditures planning, directed to the development and advance of priority economics branches, will be oriented to result[8,9]. Absence of integral scientifically grounded conception of effective formation and financial resources usage in this sphere, condition the demand in researches of complex medicine financing problems, including regulation of its financial resources, require scientific understanding and practical decision first of all on the regional level.

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