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THE MAIN INDICATORS OF ACTIVITY OF CAPITAL HEALTH CARE AND NEW
METHODS OF MANAGEMENT IN PRIMARY LINK OF HEALTH CARE OF YAKUTSK AT
THE TRANSITION TO PER CAPITA FINANCING

Summary. Now within modernization of health care the new model of branch based on the principles of receiving the maximum medical, social and economic effect on a unit of cost is formed. The main directions in improvement of the organization of rendering medical care there is a priority development of primary medical and sanitary help, removal of volumes of the help with stationary on out-patient level. Cooptation has to be carried out in the light of adoption of new federal laws in the health care sphere, taking into account a transition period on new forms of financing.

Keywords: per capita financing, optimization, three-level system of medical care.

Now the main sector of national system is the health care of primary link in which the most part of personnel and material resources is concentrated. The branch represents extremely difficult, non-uniform system, differing a considerable originality of elements making it, and also high degree of autonomy from higher bodies of management.

The city of Yakutsk is an administrative center of the Republic of Sakha (Yakutia) occupies the territory with a total area of 3,6 thousand sq.km. As of 01.01.2012 in health system of the city of Yakutsk there was a network from 14 separate legal entities - medical institutions of health care: 7 hospitals (in structure 2 from which 4 medical assistants and obstetric points), 4 polyclinics, State Budgetary Institution RS (Y) "Emergency medical service station", State Budgetary Institution RS (Y) "City specialized children's home", State Budgetary Institution RS (Y) Yakutskmedtrans.

The general power of the medical organizations makes 890 round-the-clock beds in a hospital and 311 beds of the hospital-replacing help, of them 118 beds of a day hospital at the round-the-clock hospitals and 193 at out-patient and polyclinic establishments, 3536 visits per shift in polyclinics.

For qualitative medical care of the population along with other factors important value has optimum placement, sufficiency and a condition of material base. Of 40 medical buildings of city health care only 16 (40%) are constructed according to standard projects (the "Soviet" period), the others 24 (60%) settle down in the adapted buildings. Physical wear of buildings of hospitals makes 43% of the total balance cost. Deficiency of floor spaces on city health care makes on out-patient and polyclinic institutions 12 667,4 of sq.m, on hospitals of 1200,0 sq.m.

The park of medical equipment in healthcare institutions of the city of Yakutsk is presented more than 1600 units of the large equipment, thus 27% of medical equipment are used over an operation established period.

The capital is characterized by steady dynamics of growth of the main socio-economic indexes. From year to year the increase in number of inhabitants of the capital is observed. According to Territorial body of Federal service state statistics on RS(Y) for the end of 2012 the number of resident population made 286691 persons, from them 99,7% are served in the medical organizations of primary link of state budgetary institutions of Yakutsk that is 25798 people more, than in 2010 (260 893). Growth rate in the ratio 2010 by the beginning made 2013 9,9%. Persons of able-bodied age in the city 113 348 people (49,2% of the total number of inhabitants) that is higher in comparison with last year on 11 187 people are. The children's population makes 70 233 people (2011 – 69385).

The demographic situation in RS(Y) for the last years favourably differs from other subjects of Russia a high rate of birth rate, steadily low mortality and positive dynamics of coefficient of a natural increase of the population of the republic, including in Yakutsk. Thus, the annual natural increase of the population increases on the average by 2%, and in 2012 made 14, 5. Thus it is necessary to consider and migratory streams of the population, so, only in 2012 the increase made 4695 people.



Tendencies of mortality of the population, features are of great importance from positions of demographic and social and economic development. The indicator of the general mortality in Yakutsk in 2012 made 8,4 on 1000 population. The population leading causes of death didn't undergo in recent years essential changes. Almost every second dies of diseases of system of blood circulation, every fifth - of accidents, poisonings and injuries. The indicator of an one-year lethality from malignant new growths from 20, 2% in 2011 continues to increase to 28,1% in 2012.

Thus the indicator of the general mortality of the man's population is 1,6 times higher, than female, distinctions of tendencies of mortality of the population at able-bodied age are especially essential. In the comparative analysis it is revealed that life expectancy of the population of the city of Yakutsk is less, than as a whole on the Republic of Sakha (Yakutia) - practically for 1 year, men on the average live 60,2 years, women - 72,3 years

One of the indicators characterizing health of the population, incidence is. In 2012 level of the general incidence of adult population increased for 11, 7% and made 1778,0 on 1000 population (2011 – 1592,2). In structure still, leading places remain behind diseases of system of blood circulation – 15,5% (2011 - 16,1%; 2010 – 15,6%), thus it should be noted the increase for the first time the registered diseases of system of blood circulation from 7856 cases in 2011 to 8948 in 2012, of them diseases being characterized increase of arterial pressure is made by 23,8% that is 18,2% higher in comparison with previous year. And diseases of respiratory organs, generally at the expense of the children's population – 14,8% (2011 - 15,0%; 2010 - 14,8%). So, for the last five years incidence of diseases of respiratory organs increased by 1,2 times, including. growth of incidence by bronchial asthma increased by 1,3 times, chronic obstructive diseases of lungs by 1,2 times. On the dispensary account on treatment-and-prophylactic establishments of Yakutsk 31,3% of all population consist, from them about 86% look annually round and revitalized. Patients make 9,4% of an illness of respiratory organs, 7,3% of an illness of bone and muscular system of 18,4% consisting on the dispensary account with diseases of system of blood circulation.

The main indicator reflecting quality of work of primary link, the indicator of primary exit to disability is. Among the population of Yakutsk this indicator with 56,4 on 10 000 population in 2011, increased in 2012 to 68,4, exceeding republican figures – 64,7 on 10 000 population.

Despite this developed tendency, in the analysis of these visits of specialists doctors, it isn't traced correlations between structure of visits and structure of incidence, mortality: on the first place – visits of the doctor-endocrinologist (37 289), on the second – the physiotherapist (22 598). Visit of the cardiologist only on the third place (18 876), on the fourth – the gastroenterologist (13 226), on the fifth – the urologist (12 023) and on the sixth place – visit of the oncologist (11 297). That is caused, first of all, by deficiency of established posts and natural persons among narrow experts of an out-patient link of city health care (5 cardiologists, at the standard-14; 2 oncologists at the standard – 7,9; 1 gastroenterologist at the standard - 4).

A large number of visits of certain experts is caused them by participation in carrying out additional medical examination and medical examinations of the adult and children's population. Taking second place around the city visits of the physiotherapist for 48-51% are provided respectively with activity of only one hospital, i.e. today the head of the medical organization defines not only priorities when providing with medical care of the population, but also the strategic direction of development of the medical organization.

Now, when control of financial expenses for rendering medical care is the most important function of the head of healthcare institution, as the main tool providing not only a choice of the most effective and qualitative models of medical strategy, but also the analysis of results of application of these or those techniques, technical and economic methods act. With introduction of new funding mechanisms and introductions in the market relations, for preservation of competitiveness of the medical organization there is a need of concentration of an expensive high-informative and difficult technique for the interterritorial out-patient diagnostic centers and special profile offices of out-patient service.

Upon transition to per capita financing the chief physician has to be, first of all, a manager, carry out the analysis of incidence of the attached population, it is correct to choose routes of treatment of patients rationally to use financial means.

Despite carried-out reforms in health system, increase in financing of branch, serious problems which interfere with achievement of the objectives directed, first of all, on increase of availability and quality of rendering medical care, improvement of health of the population and satisfaction of patients with medical services continue to remain.

The key role in development of branch belongs to personnel resources, providing with the qualified medical workers, first of all primary link of health care. Thus indicators of security with medical shots in Yakutsk where it is concentrated 1/3 population of the republic, sharply differ from republican figures and tend to decrease, including due to active development of private medicine. So, security with the medical personnel following the results of 2012 on 10 000 assigned population in Yakutsk made 35,2 (in 2010 - 37,8, 2011 - 37,2), on RS(Y) in 2012 – 50,7, the average medical personnel – 52,7 (in 2010 - 57,6, 2011 – 56,5), on RS(Y) in 2012 – 119,2.

Completeness shots makes - 84% (2011 - 82%), the lowest completeness among average medical staff – 80%, druggists and pharmacists – 50%, during 10 months 2013 the completeness indicator medical staff decreases again.

The number of the decreased doctors in 2012 made 138 people, average medics – 184, thus young specialists there arrived only 33 persons, including 20 doctors, 13 average medical personnel, thus the requirement makes: therapists local – 14, pediatricians local – 27, general practitioners – 31, nurses - 222.

Also the personnel disproportion connected with a high share of medical workers of retirement and pre-retirement age is noted: 38% among doctors, 40% among the average medical personnel.

At the same time at available deficiency of regular number, taking into account introduction of orders of rendering medical care in Yakutsk it is necessary to 1404 pieces of unit, including doctors of experts – 414, the average medical personnel – 594, the younger medical personnel – 396 pieces of unit.

Many authors note that one of the main reasons of low level of health of the population of Russia still has an inefficiency of domestic health care which doesn't answer realities of market economy. Problems in health protection of citizens of the country collect. Considerably they are connected with a condition of medical shots [2,3].

The ratio of number of doctors and average medical workers doesn't meet the modern requirements. Even for general practitioners (family) it makes 1:1,5 instead of 1:2 - 3.

The disproportion of a ratio of number of experts of a medical profile and the diagnostic block, and also doctors of primary link of service of patients and specialists doctors remains.

The standard and legal base of staffing of health care is imperfect. Level of training and qualification examinations isn't fulfilled. Paper work borrows to 30 - 40% of working hours of the doctor.

As a result availability of adequate medical care decreased for the majority of citizens of the capital. Quality of medical care worsens despite growth of positions of the medical personnel and costs of provided services.

Timing of use of working hours of doctors of polyclinic shows that actually the doctor is overloaded, works for 1,5 rates, thus doesn't carry out FMP (function of a medical position) since physically he can't examine demanded number of patients, filling thus a set of obligatory medical documents. Approved function of a medical position isn't confirmed by calculations, doesn't coordinate with an incidence of the population and requirements of expansion of volumes of scheduled maintenance and medical examination of the efficient population. As a result of such standards the doctor practically doesn't manage to give high-quality medical help, and patients suffer from it, first of all. A part is played by high percent of combining jobs, upon transition to new funding mechanisms plan execution by doctors will be determined by FVD performance. Thus the high risk of non-



performance of FVD, according to decrease in volumes of the medical care, conducting to reduction of wages of work of workers and financings of medical institution, exists in stomatologic polyclinic, where the highest coefficient of combining jobs – 2,33. As of 1.01.12 at the staff list of 39,5 established posts, 15 natural persons, completeness of 42,8% actually work that considerably influences availability and quality of given help. Across the Russian Federation in the next five years the deficiency of medical shots connected, first of all, with new system of post degree education, and with low compensation which is on the average 22% lower than an average salary across the Russian Federation is predicted.

One of the important points influencing high-quality development of any branch, competent management of the branch including need of application of strategic planning, increase of responsibility of heads of all levels for achievement of the planned results, uniform for all branch, instead of at desire and level of certain heads is[1].

For today primary link of health care is characterized by low efficiency, extensive development of hospitals, expensive system of rendering an emergency medical service, a formal priority of prevention and early identification of diseases.

Distinctive feature is advancing development of a standard and legal and methodical basis at preservation of the material base which has remained since the Soviet period.

The methodology of the solution of problems of management in medical institutions is defined by traditional ineffective ways of the organization and management. Management of quality of medical services is bureaucratized and has no system character.

The considerable part of problems of rendering medical care can and has to be solved by introduction of modern administrative technologies and a regrouping of the internal resources providing stimulation of the most effective use of means received from society [4].

For the last 15 years the capital health care of the city of Yakutsk underwent a number of the essential changes connected with transition of branch on system of obligatory medical insurance, the powers twice connected with differentiation between municipal and state power levels, implementation of the priority national Health project, modernization, preparation for transition to the new system of compensation focused on the end result, to introduction of elements of the market relations in health system.

For these years structural reorganization of establishments of municipal health care of Yakutsk, quantity them is carried out decreased with 37 to 14, with increase in number of the complex stationary and polyclinic establishments including in the structure suburban hospitals, the uniform city drugstore due to association of the municipal pharmaceutical enterprises is formed. The structure became more simplified, operated, the management device was considerably reduced.

The first stage of reforming of municipal structure of health care of Yakutsk revealed lack of accurate system of the accounting of the population that resulted in considerable difficulties in determination of number of the population attached to treatment-and-prophylactic establishments and as a result this issue wasn't always objectively resolved, is more often a method of disputes and achievements of a consent between the medical organizations, without appealing by statistical data that reduced interest of heads in increase in number of the served population. Uncertainty in quantity and structure of the population testifies to big problems in obtaining objective characteristics of health and, respectively, to a disorientation of the persons making decisions.

Since the beginning of the pilot project of 2012 together with Territorial fund of obligatory medical insurance (TF compulsory health insurance RS (Y)) for transition to per capita financing work on specification of the actual population attached to medical institutions of Yakutsk is carried out, as of May 1, 2012 number made 312 149 people, thus as of 27.06.2012 is identified and it is accepted without mistakes of 280 767 people that made 90% of the population. It is revealed that duplication of patients inside and between the medical organizations (MO) made from 13,9% to 65-68% that was the main reason of emergence of financial risks.

For example: difference with previously approved RS (Y) compulsory health insurance Territorial

program of the per capita standard of 1730,7 rub and the actual cost per capita (on the average around the city to Yakutsk 1859,58 rub), for 7,44% of percent above the approved standard. In the analysis of comparison of a difference of the approved territorial program of the state guarantees from the settlement amount of financing according to the per capita standard it is predicted that only those establishments at which the actual cost is less than the per capita standard, remain in plus, that is upon transition on per capita they can earn more, than at a present tariff of the territorial program of the state guarantees (TPSG).

Establishments at which the actual cost per capita on approved TPGG is one 2013 higher, than the per capita standard, remain in a minus, that is financing of data of establishments upon transition to per capita financing becomes scarce. Respectively on these establishments there will be financial risks which can result in bankruptcy which it is meant:

- ☐ lack of financing on the maintenance of MTB of the organization;
- ☐ impossibility to pay a salary as to own personnel, and work (services) of specialists of the third-party organizations;
- ☐ by experience of other regions carrying out mutual settlements between the medical organizations can make to 40-50%;
- ☐ emergence of debts to creditors, etc.

Thus, in health care of the city of Yakutsk there was the situation demanding acceptance of a number of organizational measures for prevention of risks, directed on increase of efficiency of use of resources (material, financial, personnel, information).

The leading factors defining problems of health care in the city of Yakutsk are:

- Lack of correlation between services of medical care and structure of incidence and mortality of the population;
- Discrepancy to requirements for the medical care, to actually rendered volumes medical, in the specialized help;
- need of reduction of number of shots to standard indicators;
- advancing development of a standard and legal and methodical basis at preservation of the resources which have remained since the Soviet period;
- upon transition to new funding mechanisms emergence of financial risks which can result in bankruptcy;
- low satisfaction with given medical help according to sociological poll of insurance companies.

One of solutions is carrying out reorganization of infrastructure of health care with reduction in compliance with a number and structure of the population of the city of Yakutsk, taking into account incidence structure in the territory of the city of Yakutsk by integration of structure of healthcare institutions with the organization of interterritorial medical associations, instead of six separate legal entities existing today with various resources.

For increase of availability and quality of provided out-patient medical care in the territory of Yakutsk stage-by-stage formation of three-level system (table 1 takes root) according to operating orders of rendering medical care. For achievement of objectives since January 24, 2013 in the capital "The medical downtown of Yakutsk" by merge of three hospitals is organized.

The first level – the medical organizations giving primary medical and sanitary help, including: local therapeutic service, the ophthalmologist, the surgeon, the neurologist, the endocrinologist, the otorhinolaryngologist, the urologist, office (office) of prevention, including a viewing office, fluorography, a X-ray analysis, an electrocardiography, health schools, laboratory diagnostics (the general analysis of blood, urine, blood sugar), physical therapy, with development of offices of the general practitioner (GP) on the remote sites, sleeping residential districts, at opportunity, removal from territorial polyclinics of VOP, as option to apartments or rooms on the first floors of multi-storey buildings, acquisition of modular systems of VOP in suburbs.

The second level - the interterritorial out-patient centers giving qualified specialized out-patient medical help: the center of out-patient surgery, the health centers, the center of the out-patient



oncology, the centralized laboratories, the respiratory center, the osteoporosis center, etc. Development of hospital-replacing technologies (primary specialized offices as day hospitals, hospitals at home), the rehabilitation help (out-patient, stationary and at home), etc.

The third level is a stage-by-stage formation of the consulting and diagnostic specialized out-patient help on the basis of the existing versatile medical centers or the hospitals having possibilities of rendering the consulting and diagnostic help in an out-patient mode. At the level of Yakutsk this development of the consulting and diagnostic center at children's city hospital where consulting and diagnostic researches on the most demanded profiles on the directions from the out-patient centers will be carried out, experts of primary link, the wide range of diagnostic procedures, including endoscopic researches, ultrasonic diagnostics of the expert class, special radiological researches (including a mammography), etc. will be presented.

Carrying out reforming of a network of establishments of primary link of Yakutsk upon transition to per capita financing of health care is necessary for increase of responsibility of medical workers, first of all, local service. Carrying out reforming assumes professional development of doctors of primary link, expansion of a circle of their functions, growth of responsibility for a state of health of the served population. Continuation of introduction of system of the general practitioner and increase of their qualification, will allow to treat the main part of the most widespread diseases at the first level. Narrow experts will deal with more difficult diseases, relying on diagnostic base which will significantly surpass possibilities of former polyclinics. At the level of primary link priority development of hospital-replacing technologies, with high concentration of the expensive stationary help in the large medical organizations is supposed.

Introduction of this model will allow compensating unevenness of development of out-patient medical care that is necessary for improvement of quality of medical care and availability to the population, mainly on to the territorial principle. Performance of this task in full will allow to use rationally the expensive equipment and medical equipment, and also to reduce terms of expectation of medical care and to compensate deficiency of specialists doctors on a necessary profile. I ripened the moment when it is necessary "to leave from old foundations" and to pursue management policy depending on requirements existing at present.

Table 1

Levels	Medical organizations	Structure, functions
I	Medical organizations giving primary medical and sanitary help	Local pediatric, therapeutic service, VOP. (general analysis of blood, urine, blood sugar), physical therapy, etc. Doctors experts of primary link: the ophthalmologist, the surgeon, the neurologist, the endocrinologist, the otorhinolaryngologist, the urologist, an office (office) of prevention, including a viewing office, Rn - a grafiya, an electrocardiogram, health schools, laboratory diagnostics
II	Inter-territorial out-patient and diagnostic center giving qualified specialized out-patient medical help. Primary specialized offices as day hospitals, hospitals at home. Rehabilitation units.	With referral list of doctors of primary link of the first level. These are the city centers of out-patient surgery, the center of out-patient oncology, fracture clinic, the health centers, the respiratory center, offices of the recovery treatment, the centralized



		laboratories, etc. Rendering specialized medical care in out-patient conditions.
III	Clinics the Consulting and diagnostic specialized out-patient help on the basis of the existing versatile medical centers or the hospitals having possibilities of rendering the consulting and diagnostic help in an out-patient mode. The centers, clinical multidiscipline hospitals.	With referral list of doctors of primary link of the first level and specialists doctors of the second level on the allocated quotas, in strict accordance with the accepted orders of interaction between MO.

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