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Current state of the labor system in healthcare

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Abstract

The publication presents an analysis of the modern regulatory framework for labor, shows controversial positions on each component of the labor rationing system in healthcare. The amount of normative time spent on visits to outpatient doctors, established by orders of the Ministry of Health of Russia, in the main medical specialties: doctors-therapists district, pediatricians district and general practitioners (family doctors), does not coincide with the data of the territorial program. Approved more than 20 years ago and currently in force standards for laboratory and instrumental examinations do not correspond to the modern equipment of medical organizations. The numbers of health workers providing primary health care to the population, established by the orders on Procedures and Regulations, for the majority of medical personnel have different meanings in the simultaneously valid regulatory documents for the provision of medical care to both adults and children. The planned and normative volume of work on outpatient care has not been reported since 2013, either in visits or in appeals about diseases. The planned and normative indicators for the amount of hospital care are characterized by sharp annual changes that are not justified either by the morbidity of the population or by the technologies of the medical process, do not correspond to the actual development of the bed stock and are not reflected by healthcare practice. Based on the analysis of time standards, norms of number and planned volume of work, the authors make a reasonable conclusion about serious problems in the system of labor rationing in healthcare. The authors identified the necessary measures for its restoration and revision of the entire labor regulatory framework, which are the need to include labor rationing issues in the program of diploma and postgraduate training of doctors in a healthcare organization; advanced training of developers of staff standards and specialists approving these documents; mandatory expert assessment of documents on labor standards prior to their approval by qualified specialists on labor standardization in health care.

Keywords: labor rationing, time norms, number of employees, volume of work.

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Labor standards in the health care system are used in drawing up the staffing schedule of a medical organization and its financial support [1–5], its pricing policy [6–8], and in the economic analysis of the health care institution efficiency [9, 10], including when organizing entrepreneurial activities [11].

By the orders of the Ministry of Labor of the Russian Federation, organizational technologies of labor rationing are set out in an intersectoral nature to create the basis for labor rationing system development [12, 13]. As shown in Figure 1, the labor rationing in the health care system consists of the following main components:

– time norms for visits, laboratory and instrumental studies, procedures, manipulations performed by subsidiary medical and diagnostic service healthcare professionals;

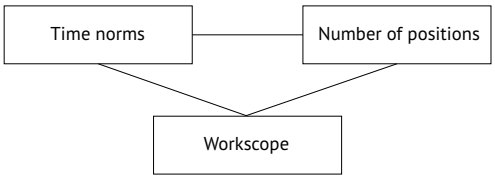

Fig. 1. Components of the labor rationing system

– standards for the number of healthcare professionals;

– and workscope.

The time norms for a visit, individual examinations, procedures, and manipulations performed by subsidiary medical and diagnostic service healthcare professionals, are established, as a rule, by means of timing [14–17].

The orders of Russia's Ministry of Health approved the time standards for visits for a number

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of positions of outpatient doctors in 2015–2016 [18,19].

These documents were formulated, based on timing materials, as a result of regulatory research work performed at the Central Research Institute for Organization and Informatization of Healthcare of the Ministry of Health of the Russian Federation. The main disadvantages of the order are as follows:

1. There are no time limits for a doctor's home visit. The estimated time norm for a doctor's home visit depends on both the time for direct medical and diagnostic work and (to a greater extent) on the time of movement to and along the service district. The compactness of the district, transport availability, elevators in serviced houses, and other conditions are different at each health care district; however, determining the approximate figures of this indicator in a centralized manner is necessary, and these data must be refined in each institution at each healthcare district.

2. When referring to a visit's time norm with a preventive purpose, the application conditions of these norms are not defined. The fact is that an appointment with a doctor is made regardless of the visit's purpose, and if a preventive visit is performed at a regular visit to the doctor, then the time norms are not differentiated by the purpose of the visit (because of a disease or for preventive purpose). Consequently, the following clarification must be made in the orders: a visit with a preventive purpose, performed on specially designated days or hours.

3. The orders contain correction coefficients, which, in our opinion, are more applicable to the planned and normative number of visits and not to the time norms. It is difficult to imagine that medical organizations will change industry indicators by 1–2 min. This is exactly the "cost" of such an adjustment in most cases, where each coefficient is equal to 0.05.

More than 30 yrs. ago, the overwhelming majority of documents on time norms for diagnostic studies and medical procedures and manipulations were approved. They were developed when medical and preventive treatment facilities (MPTF) were equipped with the instrumentation appropriate at that time. The lack of instructions in the vast majority of documents (except for functional diagnostics) for equipment used is the main drawback of orders on time norms for examinations, procedures, and manipulations performed by subsidiary medical and diagnostic service personnel [20–23].

To date, the provision of medical organizations with equipment has changed significantly; there have been changes in the technologies of diagnostic processes associated with an increase in equipment resolution capacity. All these determine the need for appropriate regulatory research at the federal level [24,25]. In our opinion, the most acute issue is the revision of time norms in one of the most massive studies, namely the time norms for laboratory research [26]. These indicators were developed based on laboratory equipment at the time when research technology was mainly associated with the use of microscopes. The equipment of laboratories with modern instrumentation using an automated research system was not accompanied by labor revision standards at the sectoral level, and the development of these data at the local level with necessary timing measurements was practically impossible because of the large number of cases.

The development of time norms for laboratory examinations should be performed, in our opinion, on the basis of a preliminary solution of the following tasks:

– examinations grouped not by individual types, as is customary in order No. 380, but depending on the technology of their conduct, with a mandatory indication of the equipment type used;

– determination of the frequency of manually conducting examinations to clarify dubious data on the time spent because of automated systems use;

– and the need and expediency of the participation of a clinical laboratory diagnostics doctor and a laboratory assistant at each stage of research with a general summary of the results within a certain time period (working day, month, or year).

Time standards clarification for computed tomography is no less important [27]. Such studies are performed in almost all patients with COVID-19, even more than once, and the development of this data must be performed according to the equipment type used.

Number of positions

In recent years, the standard number of positions of healthcare professionals is stipulated in the procedures for the provision of medical care and the regulations on the organization of the provision of primary health care to adults, children, and palliative care. In these simultaneously valid legal and regulatory documents, different standard indicator values for the same specialties of outpatient doctors are given, which has been repeatedly discussed at conferences, lectures, and seminars on labor rationing in recent years. Systemic errors of current normative legal documents on the norms of the number of positions can be conditionally divided into two groups.

Although they are inadmissible in this kind of documents, Group 1 includes editorial errors as follows:

– unreasonable change in the presentation format of labor standards;

– violations in the medical organizations' nomenclature, healthcare professionals' specialties and positions, and hospital stock;

– unreasonable introduction of new indicators for labor rationing;

– and the lack of normative support for a number of MPTF departments, positions, and so forth.

These errors can be corrected by comparing with the previously existing regulatory with the legal documents, including those approved by the USSR Ministry of Health, checks of job titles, units with modern nomenclatures of medical organizations, specialties, positions, professional standards, and so forth.

The group also consists of the following semantic errors:

– inconsistency in labor standard values in different, simultaneously valid documents;

– and the economic groundlessness of most new labor standards.

The active approval of orders on Procedures, containing the recommended staffing standards as an integral part, refers to 2009. A total of more than 100 orders on procedures were approved, some of which were canceled or revised and some were transferred into documents of a different kind; for example, the regulation of provision organization in this type of care was approved instead of orders on procedures for palliative care. As of August 2020, 67 orders on the procedures for the provision of medical care from the Ministry of Health are in force.

At the same time, there are also orders that approve the regulation of provision organization of primary healthcare on adult [28] and pediatric population [29]. In these two groups of documents (orders on Procedure and Regulations), labor standards are given and the value of which contradicts each other.

We have compared this data. To illustrate, Table 1 presents the standards for the positions of outpatient doctors in the provision of medical care to the adult population, specified in the order on the Regulation and in the orders on the Procedures.

Table 1 does not include the positions for which the normative indicator specified in order No. 543n coincides with orders on procedures. These positions include only four job titles, namely urologist, cardiologist, coloproctologist, and psychotherapist.

These differences are clearly presented in Figure 2 using the four positions as example.

Figure 2 shows the multidirectional ratios of normative labor indicators. For neurologists and infectious disease doctors, the population per position under the order of Regulations is greater compared with Procedures, and for others (rheumatologist and gastroenterologist), on the contrary, it is less.

The inconsistency in the size of normative number of positions of outpatient doctors in the orders of Procedure and Regulations illustrated in Figure 3 is also typical for documents on the provision of medical care to children.

The paramedical and nursing staff activity of medical care provision in an outpatient setting is closely related to a doctor's work. Most positions of polyclinic nurses and ward attendants are established according to the coefficient of the ratio of outpatient doctor positions. For this reason, all conflicts in the normative number of doctors indicated in the Orders and Regulations directly affect the planning of the number of paramedical and nursing staff job titles.

In addition, the labor standard ratios of paramedical and nursing staff and the norms of medical personnel indicated in different regulatory documents is contradicting.

For example, by order No. 543n, 1.5 district nurse positions are established per one primary care physician position; however, by order of Procedure, one position and per one surgeon position, there are 2 and 1 nurse positions, respectively (Figure 4).

Moreover, significant differences were found in the normative number of nursing positions. So, one position of a medical orderly according to order No. 543n is planned per one surgeon position, and three surgeon positions according to the order of Procedures.

Workscope

In recent years, the general planned and normative workscope is determined by the Programs of State Guarantees for the Provision of Free Medical Care, for individual specialties and fields of medical care, and by territorial programs by the population's age composition (adults and children). Actual indicators in the amount of assistance are presented in the medical organizations' accounting and reporting documentation. Unfortunately, these data are not presented in statistical compilations and are not published in print media, which makes it difficult to make comparisons with planned and normative data.

The amount of outpatient care is traditionally expressed in the number of visits. Since 2013, a transition has been made to a new financial and planned and normative indicator, such as the number of references due to diseases; and since this period, the planned and normative indicators are given, either in the number of visits or in the number of references. The number of visits was used only to characterize preventive care; however, in the last two years, these indicators have not been

Table 1. Normative number of positions of outpatient doctors in providing medical care to the adult population

No.	Job title	Order on the Regulation	Orders on the Procedure
1	Primary care physician	1 position per 1,700 adults aged 18 and over (cl. 11)	1 per 1,700 people of the registered adult population. 1 per 1,300 people of the registered adult population [for the regions of the Far North and equivalent areas, high-mountainous, desert, waterless and other areas (locations) with severe climatic conditions, with prolonged seasonal isolation, as well as areas with a low population density] (cl. 2 Appendix 2 of the Order dated 15.11.2012 No. 923n)
2	Surgeon	0.65 positions per 10 thousand of the adult population registered in the clinic (cl. 12)	1 per 10 thousand registered adult population (cl. 1 of Appendix 2 to order No. 922n of 15.11.2012)
3	Otorhinolaryngologist	1 position for 20 thousand people of the registered population (cl. 15)	0.85 per 10 thousand of the registered adult population (cl. 1 of Appendix 2 of the order of 12.11.2012 No. 905n)
4	Neurologist	1 position per 20 thousand registered population (cl. 17)	1 for 15 thousand of the registered adult population (cl. 1 of Appendix 2 of the order of 15.11.2012 No. 926n)
5	Ophthalmologist	0.6 positions per 10 thousand people of the registered population (cl. 16)	1 per 10 thousand people of the registered population (cl. 1 of Appendix 5 of the order of 12.11.2012 No. 902n)
6	Endocrinologist (diabetologist)	1 position per 20 thousand registered population (cl. 19)	1 per 20 thousand adults (urban area). 1 per 15 thousand of the adult population (rural area) (clause 1 of Appendix 2 of the order of 12.11.2012 No. 899n)
7	Infectious disease specialist	1 position per 50 thousand people of the registered population (cl. 20)	1 per 20 thousand population (cl. 2 of Appendix 2 of the order of 31.01.2012 No. 69n)
8	Trauma orthopaedist	1 position for admitting adult patients with injuries and diseases of the musculoskeletal system per 20.5 thousand adults, 1 round-the-clock post per 100 thousand registered population for providing round-the-clock outpatient trauma care (p. 13)	1 per 15 thousand of the adult population (cl. 1 of Appendix 2 of the order of 12.11.2012 No. 901n)
9	Rheumatologist	1 position per 30 thousand people of the registered population (cl. 12)	1 per 50 thousand of the registered population (cl. 1 of Appendix 2 of the order of 12.11.2012 No. 900n)
10	Gastroenterologist	1 position per 50 thousand of the adult population (cl. 34)	1 per 70 thousand of the registered adult population (cl. 1 of Appendix 2 of the order of 12.11.2012 No. 906n)
11	Psychiatrist-narcologist	1 position per 30 thousand of registered population (cl. 33)	1 per 40 thousand of population; 1 per 15 thousand rural population; 1 per 1,000 rural population of the Far North and equivalent areas (cl. 1 of Appendix 5 of order No. 1034n dated 30.12.2015)
12	Oncologist	1 position per 500 people of the contingent of dispensary oncological patients (cl. 32)	1 position per 25 thousand people (cl. 1 of Appendix 2 and cl. 1 of Appendix 5 of order No. 915n of 15.11.2012)

established. An analysis of the dynamics in the change of planned and normative number of visits indicated that in both the first territorial program and in the last one, where these data are given, the indicators have decreased by 4%–5% in the vast majority of medical specialties (Table 2).

At the same time, the planned number of visits in specialties responsible for the medical provision of socially significant diseases has increased significantly, namely by 2.2 times in psychiatry and phthisiology, by 2.6 times in psychiatry and narcology, and by 2.7 times in dermatovenerology (visits

Table 2. Planned and normative number of visits (per 1,000 population)

Specialty	Number of visits		Ratio of 2012 to 1998 data,%
	As of 1998	As of 2012	
Cardiology and Rheumatology	245.0	234.4	95.7
Therapy	2850	2727.1	95.7
Endocrinology	107	102.4	95.7
Allergology	9	8.6	95.6
Neurology	536	512.8	95.7
Infectious diseases	15	14.4	96.0
Surgery	963	919.4	95.5
Urology	129	123.5	95.7
Dentistry	1769	1639.4	92.7
Obstetrics and gynecology	890	851.4	95.7
Otorhinolaryngology	492	470.8	95.7
Ophthalmology	492	470.8	95.7
Dermatology	487	466.0	95.7
Psychiatry	141	312.7	221.8
Narcology	67	176.3	263.1
Phthisiology	96	214.6	223.5
Venereology	60	163.6	272.7

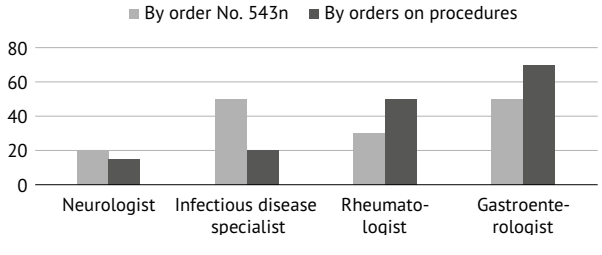

Fig. 2. The number of adult population (thousand) per one doctor's position

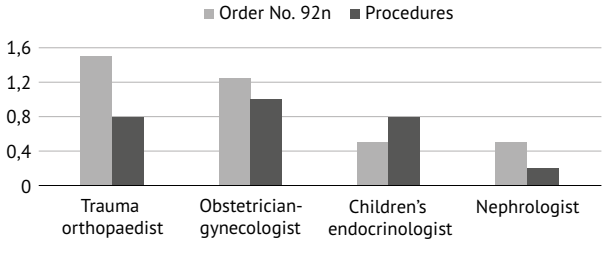

Fig. 3. The normative number of job titles by order No. 92n and by the corresponding orders on Procedures (number of job titles per 10.0 thousand of the child population)

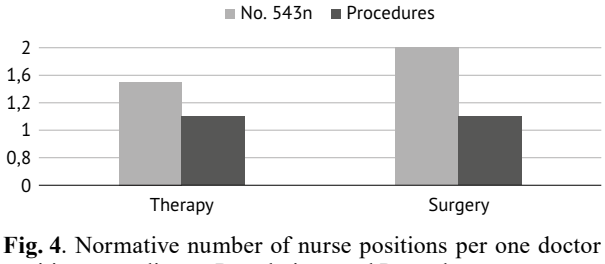

Fig. 4. Normative number of nurse positions per one doctor position according to Regulations and Procedures

on venereology). The validity of these changes can be based either on the dynamics of morbidity rates or on new technologies of treatment and diagnostic process, which enable to shift the center of gravity in treatment from the hospital stage to the outpatient clinic.

In this regard, a morbidity analysis was performed according to the statistical collections data. Indicators are presented in statistics for individual diseases or their groups; however, these data cannot be used to analyze the population's appealability to a doctor of a particular specialty because other factors, such as a particular service's development, resident resettlement, transport accessibility of medical organizations' transport accessibility, and so forth, play a significant role in the formation of visit frequency. Thus, patients with circulatory diseases can be treated not only by a cardiologist, but also by a neurologist, primary care physician, or general practitioner (family doctor). Another example that can be cited is for diseases associated with the endocrine system's pathology. Thus, as a rule, a patient with diabetes mellitus is treated and is registered with an endocrinologist. However, if he lives in a rural area and there is no endocrinologist in the nearest medical facility, then most often, he turns to a district primary care physician

or general practitioner (family doctor) and rare visits to an endocrinologist can be considered as advisory.

However, indicators for socially significant diseases can be directly compared with a particular specialty. Thus, data on the population's incidence of active tuberculosis can be fully attributed to the activities of phthisiatricians; on morbidity due to mental and behavioral disorders can be attributed to the activities of psychiatrists; on the incidence of alcoholism and alcoholic psychosis and drug addiction can be attributed to the activities of psychiatrists-narcologists; and on diseases that are predominantly sexually transmitted can be attributed to dermatovenerologists (attendance on venereology). Morbidity analysis does not give grounds for changes in planned and normative number of visits for socially significant diseases indicated in Table 2.

The hospital care volume is expressed in the number of bed days, starting from the originally approved territorial program. Since 2014, hospitalization cases are the main planning and regulatory and financial indicator, while maintaining other planned and regulatory data, such as bed days, a patient's average duration of stay in the hospital. These indicators enable to calculate the planned number of beds and compare these data with the actual development of the bed capacity. Such comparisons show that planned and normative data are characterized by annual abrupt changes for most of the fields of medical care, whereas the actual indicators are characterized by smoother dynamics. It is quite typical that planning data are not used in the healthcare practice. An example is the differences in the dynamics of changes in the planned indicators in the number of beds in psychiatry-narcology when compared with the actual data, as shown in Figure 5.

Figure 5 shows that a 2.7 time increase in planned indicators in 2011 compared with 2010 did not affect the actual development of the bed capacity. The hospital stock actually implemented tends to decrease and does not react to abrupt changes in planning.

The official statistics data on the volume of medical care are constantly supplemented by the study on population morbidity, based not only on the actual appealability but also on special scientific research [30–33].

Thus, erroneous provisions of normative legal documents are characteristic in all components of the labor rationing system in healthcare. Figure 1 shows that these components are interrelated with each other, and changes in the one of their value inevitably lead to an increase or decrease in other

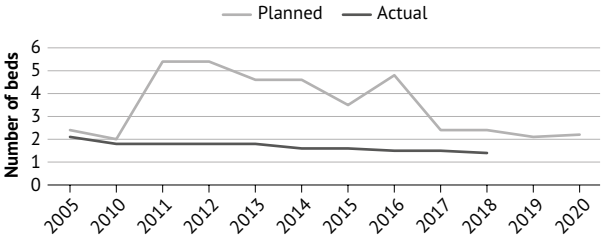

Fig. 5. Dynamics of planned and normative and actual number of beds in psychiatry and narcology (per 10.0 thousand population)

components. The main mistake of the current legal and regulatory framework for labor is the failure to take into account such relationship.

An evidence of the destruction of the labor rationing system in the healthcare system in our time is the inability to respond to the challenges. This is the order of the Ministry of Health of Russia on the Procedure for the provision of medical care, approved in connection with coronavirus infection [34], which is the last in chronological order, but is in the first place in importance. The erroneous recommendations of this document in terms of labor standards, which consist of the absence of a standard for the department head position, recommendations for ensuring round-the-clock work for doctors with one position, and the complete absence of instructions on the need for paramedical and nursing staff round-the-clock work, does not enable the use of these data in healthcare practice. Given the situation's unpredictability in the development of a pandemic, these errors must be urgently eliminated.

Conclusion

Analysis of the legal and regulatory framework's current state for healthcare labor system revealed the following:

– the time norms for visits were approved for 10 specialties, for the main outpatient doctors (primary care physicians, district pediatricians, and general practitioners or family doctors), and these data do not coincide with those specified in the territorial program;

– the time norms for laboratory and instrumental studies approved in the last century do not correspond to the equipment of medical organizations with modern equipment;

– the values of the standards established by orders on procedures and regulations for the number of healthcare professionals providing primary healthcare to the population, with a majority of outpatient doctors, paramedical, and nursing staff, have different meanings in the simultaneously valid regulatory documents;

– planned and normative data on outpatient care have not been established since 2013; planned and normative indicators for the amount of inpatient care are characterized by abrupt annual changes that are not substantiated by either population morbidity or by the technologies of the treatment process, and are not taken into account in healthcare practice.

These positions provide evidence of the complete destruction of the labor rationing system and its management. To restore it, the following measures must be taken by the federal health management body:

– complete revision of the entire regulatory framework for labor;

– inclusion of labor rationing issues in graduate and postgraduate training of doctors in the healthcare organization;

– obligatory expert assessment of documents on labor standards prior to their approval by qualified specialists in the healthcare system.

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