

THE ROLE OF MEDICAL CLUSTERS IN REFORMING THE HEALTHCARE SYSTEM

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Abstract: This article discusses consistent reforms in the healthcare system through the creation of modern medical clusters, the purpose of which is to provide specialized medical services to patients, increase the quantity and quality of innovative services and their convenience for the population. Important tasks are considered to be the effective use of state budget funds and state-owned objects.

Keywords: financing, medical cluster, private sector, management, healthcare.

Introduction.

In the world, effective, fair and sustainable financing of health care is a matter of constant attention, which serves to determine priorities and main directions of financing the state social protection system. In addition, among the main tasks facing the state and society is improving the quality of medical services and ensuring equal, convenient and affordable access to medical services for all segments of the population.

To improve the efficiency of financing and ensure the quality of medical services, first of all, it is necessary to attract funds from insurance systems and the private sector in addition to funds allocated from the state budget, develop public and private partnerships, equip medical institutions with modern equipment and inventory, systematically and continuously improve the qualifications of doctors, and to improve the efficiency of the allocated funds, a serious approach to the creation and digitalization of medical information systems is required.

The main conditions for the creation of medical clusters are providing them with modern equipment necessary for the provision of specialized, prompt and innovative medical services, as well as the availability of qualified practical personnel. Also, all types of medical services are provided under one roof, which saves time, money and other resources. The legal basis for the creation of medical clusters in Uzbekistan are the Decrees of the President of the Republic of Uzbekistan No. PF-5590 of December 7, 2018 [1], No. PK-4890 of November 12, 2020 [2] and Resolution of the Cabinet of Ministers No. 318 of May 20, 2021 [3], defining the main tasks and areas of activity of medical clusters.

According to these documents, using international experience, the quality and efficiency of medical services are improved in the regions, international standards are introduced in diagnostics and provision of highly qualified medical consulting care, as well as training, retraining and advanced training of medical and pharmaceutical personnel. The tasks of the clusters include conducting scientific research, creating favorable conditions for training highly specialized doctors, implementing a pilot project for the introduction of state medical insurance

mechanisms and developing scientifically based conclusions on the introduction of insurance mechanisms in practice.

Also conducting scientific research, creating favorable conditions for training doctors of narrow specialties, active participation in the implementation of a pilot project for the introduction of state health insurance mechanisms and the development of scientifically based conclusions on the introduction of insurance mechanisms, providing patients with highly qualified specialized inpatient care in accordance with clinical standards approved by the Ministry of Health, providing advisory and organizational and methodological support to specialists of district (city) medical associations.

In addition, medical organizations conduct an examination of the quality of treatment and preventive processes, analyze cases of general morbidity and mortality, eliminate factors leading to loss of ability to work and disability. Targeted programs for the development of medical care on a contractual basis are developed and implemented.

Analysis of literature on the topic.

The problem of creating clusters has been studied by scientists both foreign Portan M. [4], Tsikhan T. [5], Altenburg T. [6], Granovetter M. [7], Emelyanov S. [8], Mochalnikov V. [9], and domestic Rasulov T. [10], Urdushev H., Eshankulov S. [11], Ochilov I. [12] with an emphasis on the formation of their structure, the use of existing technologies, maintaining statistics, accounting for income and expenses, planning costs and achieving economic efficiency.

Although these studies have played an important role in forming the theoretical foundations of economic efficiency in the country's economic life and production system, scientific research on social protection of the population, the advantages of medical clusters, the targeted use of funds through their organization, saving funds by distributing the necessary funds to regions with a high incidence rate, and achieving economic efficiency in the fight against unexpected infectious diseases has not been carried out.

The economic aspect of creating medical clusters in the healthcare system is to improve the availability and convenience of medical services, improve their quality, effectively use budget funds and centralize medical services, optimize duplicate functions and areas of activity to save money and direct it to the treatment of patients. Also, the introduction of a self-control mechanism in the healthcare sector contributes to achieving positive results.

Research Methodology

The methodological basis of the study is the goals and objectives provided for in the field of sustainable development for the period up to 2030, through the creation of a network of medical clusters, centralization of medical services, improving their quality, training personnel and providing them with decent wages, with the transition to the principle of distributing funds according to the patient's condition. In the process of scientific research, methods of grouping and comparison, analysis and synthesis, a systems approach to the relationship between economic phenomena and the object of study were used.

Analysis and results.

From the standpoint of international practice, the organization of dwarf multidisciplinary specialized centers is considered irrational from both organizational and economic points of view, since high-tech expensive equipment, highly qualified expensive specialists, as well as a unique and expensive building will stand idle. For this reason, the absolute majority of hospitals in countries with a developed health care system are multidisciplinary and, as a rule, large - more than 500 beds. Of course, it is possible to bring the functionality of the existing 155 regional and

23 republican specialized centers to international standards, but this will require a lot of money and time. And it is unreasonable to do this!

It would be more rational to build one medical cluster in each regional center with 1000-1200 beds in large regions and 700-800 beds in small regions and use them effectively.

As a result of our analysis, we studied the existing opportunities and sources for organizing a medical cluster, which were discussed above, and the following calculations were formed. In Tashkent, 620.0 billion soums (50 million US dollars) were spent on the construction of the National Medical Center with 460 beds, and an additional 200.0 billion soums (15 million US dollars) were spent on modern medical equipment. Thus, about 800.0 billion soums (65-70 million US dollars) will be required to build a modern building (medical cluster) with 500 beds in the regions .

The total amount spent on average per 1 place is 1.8 billion soums (140.4 thousand dollars). It is clear that for the construction of a modern building (medical cluster) with an average of 500 beds in the regions, about 800.0 billion soums (65-70 million dollars) will be required. If we are talking about the necessary large medical cluster, then the funds will increase again and will amount to an average of about 1.5-1.6 trillion soums (120-130 million USD). If similar medical clusters are planned to be created in 14 regions, funds in the amount of 21-22 trillion soums (1.7-1.8 billion USD) will be required.

When studying the issue of covering the costs associated with the creation of medical clusters at the expense of our own capabilities, the following was established: the number of specialized medical centers in the regions is 155 - they are located in 11 state institutions in each region. Based on location (geolocation) and convenience, on average, each building and infrastructure is estimated at approximately 30-40 billion soums. On average, the cost of 155 objects is 4.6-6.2 trillion soums (or \$360-490 million).

In addition, these 155 specialized medical centers spend an average of 3-8 billion soums annually on the maintenance of their buildings and facilities. This shows that from 450 billion soums to 1.2 trillion soums (or \$ 36-97 million) are spent annually.

Since the heating and cooling systems of buildings and structures are not adapted to the modern low-energy type, 2-5 billion soums are spent on each institution, which amounts to 310 billion to 775 billion soums (or 24-61 million US dollars) annually.

At the same time , due to the lack of necessary medical equipment and qualified personnel in 155 specialized medical centers, the population and patients in need of medical care migrate and choose other medical institutions, and ultimately, in specialized medical centers, on average, up to 100 billion soums (or 7-8 million \$) leads to a decrease in income.

Similarly, because each of the 155 specialized medical centers in the regions operates as a separate legal entity, each facility employs, on average, more than 80 full-time support and administrative staff, totaling more than 13,000 people. On average, up to 1.8 trillion soums (or \$140 million) are spent on wages and equivalent payments and deductions from wages per year, with the main funds in the system being spent on management and departmental work, and not on providing medical services to patients.

**On funds allocated from the State budget for the healthcare sector in 2016-2024, as well as their ratio to the population and patients
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in billion soums**

Indicators' Name	Year 2016	Year 2017	Year 2018	Year 2019	Year 2020	Year 2021	Year 2022	Year 2023	Year 2024
GDP Volume	1993 25	2491 31	406 64 8,5	511 83 8,1	580 203,2	738 42 5,2	888 34 1,7	1 066 56 9,0	1 301 75 8,8
Total Government Budget Expenditures	3971 4	4934 3,6	79 736, 1	118 00 8,7	144 14 3,0	188 25 7,1	236 69 2,0	281 097, 4	312 920, 7
Total Healthcare Sector Expenditures	4883	7097	9 696,6	14 781, 6	20 752, 9	24 834, 6	26 493, 8	31 196,4	33 480,1
Share of Healthcare Expenditures in GDP	2,4%	2,8%	2,4%	2,9%	3,6%	3,4%	3,0 %	2,9 %	2,6 %
Share of Healthcare Expenditures in Government Budget Expenditures	12,3 %	14,4 %	12,2%	12,5 %	14,4%	13,2%	11,2%	11,1 %	10,7 %
Number of Permanently Registered Individuals (in units)	31 57 5 332	32 38 8 561	32 956 099	33 255 538	34 558 900	35 271 296	36 024 947	36 799 771	37 535 605
Total Morbidity (in	27 54 2 558	27 14 4 368	27 807 028	25 359 730	23 593 967	23 384 819	23 891 583	19 266 460	18 312 460

units)									
Morbidity Rate as a Percentage of the Population	87 %	84%	84 %	76%	68%	66%	66%	52 %	49 %
Government Budget Expenditures per Capita (Amount per Person) in UZS	1 257 754	1 523 488	2 419 464	3 548 543	4 170 937	5 337 402	6 570 225	7 638 564	8 336 637
Healthcare Expenditures per Patient (Amount per One Patient) in UZS	177 289	261 454	348 710	582 877	879 585	1 061 997	1 108 918	1 619 208	1 828 269

As can be seen from the table, although healthcare spending in 2020 amounted to 3.6% of GDP, it declined in subsequent years and dropped to 2.6% in 2024. The funds allocated to healthcare in 2017 and 2020 were high. However, this share has decreased in recent years. The funds allocated per capita have been steadily increasing and reached 8.3 million soums in 2024. The funds allocated per patient have increased 10-fold over 10 years. This indicates an increase in demand for medical services and an increase in funds. **There is a decrease in the share of the state budget in the healthcare sector, which indicates the need to introduce more effective financing mechanisms.**

The creation of modern medical clusters and their integration with district and city medical institutions will allow the elimination of health management bodies, centralization of the management of medical institutions and the use of the saved 100 billion soums (7-8 million US dollars) to improve the quality of medical services. The focus of the medical system and, as a result, savings of up to 100 billion soums (7-8 million US dollars) allows the funds to be directed towards improving the quality of medical services.

The analysis shows that the share of healthcare expenditure in GDP has fluctuated between 2.4% and 3.6% for many years. The peak was reached in 2020 (3.6%), which may be due to the impact of the pandemic. The share of medicine in state budget expenditure in 2017 and 2020 reached 14.4%, then decreased. Although the state budget and funds allocated to the population are growing, the share of GDP is decreasing. Healthcare expenditure is declining as a share of GDP, which leads to a decrease in the sector's impact on the economy. It is necessary to improve the efficiency of funds allocated to healthcare.

Conclusions and suggestions.

Access to qualified medical care is one of the constitutional rights of every person, and ensuring public health should remain the main task of the state. The development of the medical system, improving the quality of medical services and bringing specialized medical care closer to the population should become the main goal.

The best option is to carry out high-tech operations performed in the capital at the regional and district level and to establish services in the area where the population lives. As a result, most citizens living in remote areas will save time and money spent on traveling hundreds of kilometers to the capital for treatment.

Based on the above, in order to provide patients with innovative medical services of specialized quality through the organization of modern type medical clusters, as well as the efficient use of state budget funds and state-owned objects, the following is proposed.

1. Attracting international credit funds for the creation of modern medical clusters and the implementation of construction and repair work using these funds.
2. By selling vacant buildings after new facilities are put into operation, we can partially repay international loans.
3. The remaining loan funds will be distributed according to the schedule for the creation of new medical clusters.

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