SAINT-PETERSBURG STATE UNIVERSITY
SVERDLOVSK REGIONAL CLINICAL HOSPITAL № 1

As a manuscript

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IMPROVING THE SYSTEM OF ORGANIZATION OF PROVISION OF PAID MEDICAL SERVICES IN STATE MULTI-SPECIALTY HEALTH INSTITUTIONS
(using the example of the Sverdlovsk region)

3.2.3. Public health and healthcare administration, sociology and history of medicine, medical and social examination.

Thesis
for Doctor of Medical science degree
Translation from Russian

Academic adviser:
Doctor of Medical Sciences,
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St-Petersburg
2024

CONTENTS

INTRODUCTION

Relevance of the research

The Constitution of the Russian Federation guarantees every citizen the right to health care and free medical care (Article 41). In accordance with the law, paid medical services are also available to citizens of the Russian Federation. Today, the national project «Healthcare» outlines the main requirements for the healthcare system, namely: increasing life expectancy, reducing mortality in the working age population and increasing population satisfaction with the quality of medical care [13, 142, 243, 275].

The healthcare system must undergo transformation due to rapid changes in the market, and medical institutions must master new strategies for survival and successful development in conditions of economic instability [29, 229, 345].

The creation of a new organizational and legal model for the work of clinics, the introduction of innovative medical technologies, and the development of international competition are the key aspects of the health care reform program [28, 239, 262].

The relevance of research in the field of development of paid medical services is also due to the current socio-economic situation in the country. Extra-budgetary sources of financing are becoming increasingly important in the structure of financing the social sphere.

State funding of medicine, intended to provide the population with free medical care, turns out to be insufficient to cover all the costs of medical institutions [209, 223, 345].

This forces them to look for additional sources of income, in particular, to increase the volume of paid services provided. Income received from paid services can be used to significantly improve the material and technical base: purchase new medical equipment and transport, modernize fixed assets, increase the salaries of medical personnel, as well as expand the range of medical services available to the population [134, 140, 209].

On the other hand, the active development of the private sector in healthcare and the experience it has accumulated represent a valuable resource for public medical institutions. Private clinics can serve as the basis for the development of new methods and approaches in the provision of paid medical services, which, in turn, will help improve the quality and accessibility of medical care for the population [82, 131].

Scientific works focusing on aspects of the development of paid medical services in the Russian public health sector are rare. Most existing research focuses on economic and marketing aspects, while the integration of paid medical care into the system of state guarantees, the availability of qualified specialists, as well as the views of patients, medical professionals and managers on commercial services remain poorly understood. Also, no attention is paid to strategies for strengthening the position of public medical institutions in the market and developing methods for providing paid services [26, 34, 209].

The extent of prior research on the subject

Currently, the topic of the development of paid medical services in public medical institutions remains poorly researched. In the context of this issue, key tasks have been identified that, in our opinion, require special attention.

These challenges include a shortage of qualified medical specialists, unstable public interest in paid medical services, disparities in the availability of medical services in different regions of the Russian Federation, as well as the need to strengthen cooperation between medical institutions and authorities at different levels [13, 315, 234].

Research on the attitude of the population and healthcare system employees to the development of paid medical services still remains incompletely studied. Representatives of the administration of medical institutions continue to face disagreements regarding the effective use of strategic approaches to strengthen their position in the market for paid services, as well as regarding their development within the walls of government institutions. At the same time, current legislative barriers

prevent the heads of medical institutions at any level - from regional to federal - from introducing innovative and effective methods of providing paid services, without violating the rights of citizens to receive free medical care in the Russian Federation [58, 268, 300].

In the modern world, where paid medicine is gaining momentum, there is an important task - to develop and implement a number of measures that would improve the system of providing paid medical services in the public health care system. This task stands at the intersection of the interests of science and practical healthcare and is recognized as extremely important for both areas [194, 380].

The aim of the study is a scientific basis for improving the organization of paid medical services in state multidisciplinary medical institutions at the regional level.

Research objectives

1. Analyze the level and structure of morbidity among the population, study the main indicators of the healthcare system of the Sverdlovsk region for 2017-2021.
2. Assess the state, level and dynamics of the market for paid medical services in the Sverdlovsk region.
3. 3. To assess the opinion of the population and medical personnel on the organization of the provision of paid medical services in healthcare institutions of the Sverdlovsk region.
4. To assess the opinion of medical personnel on the organization of the provision of paid medical services in healthcare institutions of the Sverdlovsk region.
5. To identify the need to revise management approaches in healthcare institutions based on a survey of heads of medical institutions in the Sverdlovsk region.
6. To determine the medical, social and economic efficiency of paid medical services in medical institutions providing medical care under the territorial program of state guarantees.

7. To prove the effectiveness of an integrated approach to organizing the provision of paid medical services, including effective marketing tools, strategic development and medical care.

8. Develop and implement proposals to improve the organization of the provision of paid medical services in state multidisciplinary healthcare institutions at the regional level.

Subject of study. System for organizing the provision of paid medical services in the Sverdlovsk region.

Object of study. Paid medical services in multidisciplinary medical organizations providing medical care in accordance with the territorial program of state guarantees for the provision of medical care.

Study boundaries. The study was conducted on the basis of studying and comparing the results of the activities of medical organizations in the Sverdlovsk region for the period from 2017 to 2021.

Scientific novelty of the research

The scientific novelty of the study lies in solving the scientific problem of developing mechanisms for implementing directions for the development of paid medical services provided in public health care institutions.

During the study:

For the first time, a comparative analysis of the main key indicators of the healthcare system of the Sverdlovsk region was carried out.

An assessment was made of the relationship between morbidity rates and medical staffing levels in the Sverdlovsk region, and new data was obtained on the volume of paid medical services provided by doctors of various specialties.

The state and development trends of the market for paid medical services in the Sverdlovsk region are determined.

An assessment is made of the readiness of patients, doctors and healthcare system managers for the development of paid medical services in public healthcare institutions.

The effectiveness of a comparative analysis of the population's appeal for paid medical services and medical care within the framework of the territorial program of state guarantees of medical care has been proven.

A comprehensive model of scientifically based management decisions has been developed to improve the system of provision of paid medical services in public health care institutions with the goal of a qualitatively new level of organization of medical care on a paid basis. Such tools for improving the organization of the provision of paid services in healthcare as public-private partnerships have been scientifically substantiated and proposed for use.

Theoretical and practical significance of the work

The conducted research made it possible to analyze the healthcare of the Sverdlovsk region as an example of a regional system in the Russian Federation. The analysis revealed that the development of paid medical services in the region has significant medical, social and economic benefits.

Based on data obtained from a survey of patients and doctors, key aspects were identified that influence the conditions for the provision of paid medical services, and the main strategic directions for their further development were identified, especially in outpatient and inpatient settings, in the current socio-economic situation.

In order to successfully and optimally organize the provision of paid medical services, a model of a three-level system for the provision of paid medical services in a constituent entity of the Russian Federation was proposed. This initiative has found its application in the routine work of many institutions in the Sverdlovsk region, including the Ministry of Health, insurance companies, as well as medical institutions in Yekaterinburg, which provide medical care both on an outpatient basis and in a hospital setting. As a result, certificates of implementation and acceptance for use of dissertation research materials were obtained.

The basic provisions for the thesis defence:

1. Using data on the level of morbidity in the population, medical staffing levels, and the competitive environment of regional healthcare makes it possible to estimate the planned volumes and types of medical care provided on a paid basis.

2. A significant volume of the “shadow market” of paid medical services, the negative attitude of patients, including medical workers, towards them proves the population’s readiness for legal paid medical services on the basis of public medical institutions, without significant damage to the quality of life of citizens.

3. The development of paid medical services in the Russian Federation requires the choice of a rational and effective model for its implementation, based on unified organizational and management approaches to functioning.

4. Analysis of existing forms of public-private partnership has shown the ineffectiveness of currently existing options. The low percentage of completed projects demonstrates the existing high risks for investors, which lead to refusal of cooperation by the private partner. The creation of a quasi-concession form of public-private partnership for healthcare institutions allows to reduce investment risks when involving private partnerships.

5. Paid medical services provided in public health care institutions, based on a unified organizational and management approach to their implementation, compliance with the principles of continuity with the compulsory health insurance system, correspond to the goals and objectives of the formation of the national health care system.

Degree of reliability and approbation of research results

The degree of reliability of the results obtained is confirmed by the general population in the evaluation study and content analysis, sufficient volumes of

representative samples in sociological, empirical and experimental research, the use of adequate and modern methods of analysis and statistical data processing.

The main results of the dissertation in the form of oral reports and speeches were reported, discussed and approved at various public scientific and practical events at the Russian and international levels, including at: the 12th international exhibition «Healthcare of the Urals» (Ekaterinburg, 2022); 13th international exhibition «Healthcare of the Urals» (Ekaterinburg, 2023); conference «Medicine and Law in the 21st Century» (St. Petersburg, 2023), «2nd International Conference on Nursing Care and Patient Safety» (Bangkok, Thailand, 2024).

Personal contribution of the author

The author personally put forward research hypotheses, goals, objectives and provisions submitted for defense. A research program has been developed. Sources of information and statistical data are proposed. The results of the study were summarized, compared and analyzed. The research findings are scientifically substantiated and practical recommendations are developed. The author's participation in obtaining and further statistical processing of research materials is 97%. Assessing the state of the healthcare system of the Sverdlovsk region, the market for paid medical services, conducting a sociological research program, processing the results of the survey and the results of our own research, developing a model of a regional system for the provision of paid medical services, formulating conclusions and practical recommendations were carried out by the author personally 100%.

Publications

On the topic of the dissertation, 10 printed works were published in publications included in the List of leading peer-reviewed scientific journals and publications recommended by the Higher Attestation Commission under the Ministry of Science and

Higher Education of the Russian Federation, and 1 certificate of state registration of the database was received.

The structure and scope of the thesis

The dissertation consists of an introduction, eight chapters, a conclusion and an appendix, and is presented on 365 pages of typewritten text. Its structure contains 63 tables, 38 Pictures. The bibliography consists of 465 sources.

The main scientific findings

During the dissertation research, a number of scientifically significant theoretical and practical results were obtained.

1. Based on the analysis of statistical indicators of the activities of institutions in the Sverdlovsk region, the need was identified to improve primary health care by increasing the interest of health care institutions in intensifying their activities, optimizing the activities of primary care, as well as developing a network of day hospitals, in accordance with current changes principles of organization and financing of the healthcare system, depending on the needs of the attached population in the volume of medical care provided, as well as competent routing of patients in the system of healthcare institutions in the region [111].

1. A decrease in hospitalized morbidity rates was revealed due to: a reduction in bed capacity, a decrease in the number of hospitalizations, a shorter bed day, which should be considered as a possibility of reorienting patients to the outpatient department, with its subsequent expansion, and repurposing the surplus of bed capacity for the provision of paid medical services. services in a hospital setting [7]

2. Based on the correlation analysis, the dependence of primary and general morbidity indicators in the region on the level of medical staffing has been proven. The results we obtained are necessary for analyzing the personnel situation in the region

with the subsequent adoption of management decisions in carrying out systemic measures aimed at eliminating the shortage of medical personnel [112].

4. The opinion of doctors on the provision of paid services in healthcare was studied, it was revealed that medical personnel support the existence of paid medicine, and are ready to provide them both in private medical institutions and in public ones, without limiting the right of the population to receive free medical care [109].

5. The results of the patient survey allowed us to conclude that citizens have a positive attitude towards seeking paid medical care, without reducing their quality of life, which is an incentive to expand the range and possibilities of providing paid medical services in medical institutions [110].

6. Based on the analysis of data, business projects were developed to organize independent paid departments of surgical and ophthalmological profiles on the basis of multidisciplinary hospital institutions. It has been proven that the implementation of these projects will ensure the availability of medical care to patients who wish to receive it in this institution, without compromising the planned indicators within the compulsory medical insurance in specialized departments, through the organization of a separate bed fund. The project is economically feasible and financially sound. The development of this project, when analyzing organizational data, costs and economic feasibility, proves its effectiveness and subsequent financial stability [10, 11].

7. Developed and put into practice, comprehensive check-up programs have proven themselves to be successfully used marketing tools in healthcare, while simultaneously ensuring medical and social efficiency, being an economically beneficial strategy for the development of a public healthcare institution [12].

8. A new organizational model for the provision of paid medical services has been developed, proposed and put into practice in order to develop this area in the region, improve the quality of services provided, as well as to effectively develop new markets, expand the client base and increase the competitiveness of public health care institutions compared to private ones clinics [306].

Compliance of the dissertation with the passport of the scientific specialty

The scientific provisions of the dissertation correspond to the passport of the scientific specialty 3.2.3. Public health, organization and sociology of healthcare, in particular: clause 1. «Historical approach to the study and analysis of population health indicators and its conditionality, to the formation of the healthcare system in Russia...»; paragraph 2. «Scientific analysis of the theories of medicine and healthcare, the basic principles of the organization of healthcare in Russia...» paragraph 3. «Research of theoretical and practical problems of protecting public health...»; clause 4. «Medical and social research of demographic processes and determination of the role of demographic indicators for the analysis and planning of the activities of health authorities and institutions...»; paragraph 5. «Medical and social study of population morbidity indicators, determination of patterns of their changes...»; clause 8. «Studying the role of social and hygienic factors in the formation of the health of individual homogeneous population groups in order to develop health programs...»; paragraph 9. «Lifestyle of certain groups of the population and its importance in shaping the health of the population...»; paragraph 10. «Research and analysis of the opinions of various professional and age-sex groups of the population on health and illness...»; clause 12. «Analysis of the scientific foundations and directions for improving state policy and legislation on issues of protecting the health of citizens and providing medical care...»; paragraph 13. «Research into the problems of organizing medical care and health care management...»; clause 14. «Research of the resource base of medical organizations of various forms of ownership in order to develop models of their development, taking into account regional and subregional characteristics...»; clause 15. «Study of staffing of bodies and institutions of the health care system...»; paragraph 16. «Research of medical, social and ethical aspects of the activities of medical personnel...»; clause 17. «Development of theoretical and methodological foundations for ensuring accessibility, quality and safety of medical care for the population...»; paragraph 18. «Study of the mechanisms, sources and volumes of financing of medical care and healthcare...»;

paragraph 20. «Study of healthcare abroad, the activities of WHO and other international medical and public organizations...».

CHAPTER 1. MODERN VIEW OF THE STATE OF HEALTHCARE IN THE RF. CHARACTERISTICS, TRENDS AND CONDITIONS FOR THE DEVELOPMENT OF PAID MEDICAL SERVICES COMPARED WITH THE EXPERIENCE OF FOREIGN COUNTRIES (LITERATURE REVIEW)

1.1. The main problems and directions for the development of healthcare in Russia at the present stage, taking into account the priority of types and forms and state guarantees of medical care

In recent years, the healthcare industry has faced significant challenges, including a growing population with chronic diseases, a global pandemic, funding shortfalls, and growing public dissatisfaction with the quality of care. These factors significantly increase the burden on the healthcare system and encourage the search for new ways of development, including through the development of new strategic solutions to ensure the sustainability of the system in uncertain socio-economic conditions [53, 449].

The global transformation of the healthcare system and improving the level of health of the population in Russia requires radical innovative solutions. This is not possible without investment in large-scale research, technology development, as well as in areas such as prevention and patient care. It is also important to appreciate the need for healthcare strategies to be adaptable so that they can adapt to dynamic conditions. The successful implementation of advanced developments and technologies in medical practice and scientific research will contribute to the opening of new horizons, which in turn will lead to an improvement in the overall state of health care [333].

Innovative approaches in personalized medical practice are focused on improving personal health, disease prevention, early detection, treatment, rehabilitation, palliative care and long-term care [456].

As a result of government regulation of the healthcare sector, significant obstacles have appeared for new players to enter the medical services market. This helps to

increase the social significance of medical services and establish strict criteria for their quality [376].

Health care facilities play a key role in the functioning of the health care system. They actively use scarce resources, including financial ones, which constitutes a significant share of costs in the healthcare system. In this regard, to improve the performance of healthcare institutions, it is important to stimulate competitive processes within the industry [60, 387, 419, 450].

In the context of healthcare reform in Russia, experts point to the significant potential that the development of the private healthcare sector represents to improve the overall availability and quality of healthcare [193, 225].

Access to healthcare is determined by several key factors: ease of use and speed in obtaining medical care, minimizing patient costs, proximity to medical facilities, availability of the necessary equipment and professional staff to provide quality treatment, and the absence of a direct link between receiving services and the financial burden for patients. In such a health care system, patients are expected to receive accurate diagnoses and receive up-to-date treatment procedures [164]

Access to health care must be managed in such a way that costs do not create financial hardship for citizens, forcing them to skimp on basic needs such as food and essential goods and services. This does not imply that health care services will always be free, but rather emphasizes the importance of preventing financial burden on the population as a result of health care costs [250, 350].

The healthcare model that has currently emerged in Russia is a hybrid social-market or transitional budget-insurance model. While the government encourages the development of voluntary health insurance and paid medical services, it also supports a system of state guarantees that ensure free access to medical services for citizens. However, this model is controversial. Issues of balance between government guarantees and access to quality medical care remain unresolved. Market governance mechanisms in healthcare financing show low efficiency. Medical institutions do not show sufficient interest in improving their work and optimizing the use of resources. In addition, there

is a significant lack of attention to improving the quality of medical services, caring for public health and rational spending of finances [157, 158, 189, 389, 455].

In Russia, healthcare financing per person is one of the lowest by world standards. In the years preceding the Covid-19 pandemic, it was planned to allocate for these purposes in 2020 - 2022. only 2.9% of total domestic product (GDP), which is significantly lower than in countries with developed economies [296].

Experts say that to overcome shortcomings in the healthcare sector by 2024, it is necessary to increase spending to 5% of GDP, bringing it to the level adopted in Eastern European countries. In addition, within the country there is a significant difference in the amount of government funding for medical services between different regions, and the difference can exceed twofold.

It is not possible to eliminate these inequalities by redirecting resources between regions, as this will only worsen the already limited access to health services in the areas from which the funds will be allocated [190, 387].

The importance of regular analysis of personal spending on health is key to understanding the effectiveness of the health care system, even in states with effective management of the health care industry. Such personal expenses, which patients bear independently due to the lack of full insurance coverage of medical services and goods, occupy a significant share of the total healthcare financing not only in Russia, but also in countries with different income levels [238, 414, 428, 437].

In the structure of Russian consumer spending, healthcare costs account for approximately 3.8%, which is twice as much as personal spending on medical services in the United States, where medicine is considered the most expensive [185].

Compared to many countries such as the USA, Germany, France, Sweden, Switzerland, Australia and Norway, Russia is experiencing a shortage of medical personnel. However, most of the routine functions are taken on by nursing staff. Despite this, in Russia the number of doctors per ten thousand population is comparable to that of many European countries and even exceeds similar Pictures in such developed countries as the USA, Japan and Canada. Despite the actions taken to improve the quality and accessibility of medical care, in certain regions of the Russian Federation

there remain significant differences in the ability to obtain quality medical services[162, 229].

A study conducted by the Center for Health Policy at the Higher School of Economics found that between 2012 and 2017, the gap in medical staffing between different regions of the country widened. In particular, it is noted that the Chechen Republic, Sverdlovsk, Pskov regions and Primorsky Krai are experiencing an acute shortage of medical workers, thereby becoming the least secure territories in this regard. In contrast, remote and hard-to-reach areas, such as the Republic of Tyva, Magadan Region, Chukotka Autonomous Okrug, Yakutia and Khanty-Mansiysk Autonomous Okrug, demonstrate better results in recruiting and retaining medical personnel due to the application of special staffing measures to them [165, 267].

In private medical institutions in Russia, there is a significant optimization of aspects not directly related to treatment, such as waiting times for medical care and the level of service. In particular, when compared with government institutions, where patients can wait an average of 129 days for a scheduled operation, in private clinics this period is reduced to 15 days when performing similar surgical interventions. Despite this, the quality of medical services in both types of institutions is assessed as equally high, and there are also no differences in the incidence of postoperative complications. However, higher levels of satisfaction with services are observed among patients visiting private clinics[138, 347, 406, 418].

Research shows differences between private and public health care providers in terms of patient demographics and health. More older people and people with disabilities, as well as those with lower socioeconomic status, are seeking care at public hospitals. Patients with serious chronic diseases, including cardiovascular pathology, are also more common there. In private clinics, on the contrary, the number of such patients is much smaller [27, 324, 448].

Reforms of the healthcare system in the Russian Federation, which have taken place over the past few years, are aimed at solving such problems as decentralization, increasing the efficiency of medical care, and searching for new methods of financing healthcare to reduce the burden on the budget [331].

The importance of quality health care is undeniable given its role in ensuring the health and well-being of society. This is due to the responsibility of the medical sector for vital aspects of human existence. However, although quality control is necessary, it should not become an obstacle to the effective functioning of health care management. This opinion is supported by some researchers, believing that excessive control can limit the flexibility and dynamism of management processes [188, 384, 453].

In the context of reforming governance at the state and local levels, the key principles are: distribution of powers, mutual assistance and the desire for cooperation between different levels of government and intersectoral interaction. This implies the need for deeper collaboration and partnership as a basis for more effective governance and the well-being of society [182].

In the Russian Federation, compulsory medical insurance is state and universal for the population. This suggests that the state, through legislative and executive bodies, identifies the basic principles of organizing compulsory health insurance, determines the circle of insurers, determines the rates of insurance premiums and creates special state funds for collecting contributions for compulsory health insurance [293].

The Russian Federal Compulsory Medical Insurance Fund (MHIF) operates as a non-state financial institution that provides guarantees of free medical care for the population. The fund's activities are subject to the rules established in the country's Budget Code and Federal Law No. 326-FZ of November 29, 2010, as well as other legislative acts that are aimed at regulating compulsory health insurance operations. The MHIF plays a key role in the implementation of the basic principles of the compulsory health insurance program [395].

Functions of the Federal Compulsory Medical Insurance Fund of the Russian Federation: 1) ensuring financial stability and sustainability of the compulsory medical insurance system; 2) implementation of financial support for citizens’ rights to medical care at the expense of compulsory medical insurance funds; 3) creating conditions for monitoring the volume and quality of medical care. The budget of the Compulsory Medical Insurance Fund of the Russian Federation is formed on the basis of the Budget Code of the Russian Federation in terms of compulsory health insurance. The main

directions of the MHIF budget policy are planned and approved on the basis of macroeconomic indicators [20].

The formation and approval of the budget of the Federal Compulsory Medical Insurance Fund of the Russian Federation is based on the basic version of the forecast of socio-economic development of the Russian Federation. The Fund's budget indicators are calculated in accordance with the requirements of the legislation of the Russian Federation [74].

The focus of the reform of the Russian healthcare system is to reduce the costs of providing medical services by stimulating competition and providing a wider range of services to the population by medical institutions. This, in turn, is expected to lead to increased efficiency of the system, as well as a reduction in the level of bureaucracy in it. Key areas of change are presented in the form of maintaining the public sector in the healthcare sector, increasing the availability of high-tech medical services, optimizing the mechanisms of compulsory health insurance, as well as the development of private medical institutions [189, 256].

An example of increasing the availability of services is a public-private partnership, when private clinics receive preferential construction conditions and have the opportunity to participate in the compulsory medical insurance system in centers remote from regional areas [273].

The best efforts of the Ministry of Health and regional authorities have not yet led to a rush of private companies to cooperate with the state, largely due to the lack of transparent rules of the game [273]. To date, features of the implementation of PPP projects in healthcare and typical mistakes of potential investors have been identified:

− superficial risk assessment;

− poor assessment of the potential flow of commercial patients;

− incorrect assessment of capital costs at the investment stage;

− lack of clear agreements with the government partner;

− unreasonably optimistic investor expectations regarding
public authorities;

− inattention to opportunities to attract investment [9, 31, 54].

Existing forms of public-private partnership:

I. Institutional

II. Contract form

1. Concession

2. Leasing, government order

3. Contracts for public services and works financed by the private sector

4. Quasi – form, contract for the provision of paid medical services, outsourcing.

Due to limited funding, medical institutions, both state and municipal, are faced with the need to find additional financial sources and expand the range of services on a paid basis. At the same time, it is important for private medical institutions to ensure a reliable, stable flow of clients. Effective implementation of paid medical services, taking into account the interests of both users and service providers, within medical institutions of all forms of ownership, will be the key to achieving goals in the healthcare sector [9, 273].

Based on the analysis of the situation in the provision of high-tech medical care in Russia, it is obvious that additional efforts are required to improve its accessibility and quality. This can be achieved through the adoption of management decisions at the state level, which will contribute to a more productive use of the capabilities of federal medical institutions, especially in the context of the full functioning of the compulsory health insurance system. In addition, it is important to strive for standardization of all procedures and the creation of disease registries in order to improve the process of providing high-tech medical care. The priority areas of development are the types of medical care most in demand by the population, such as cardiovascular surgery, neurosurgery, traumatology and orthopedics, ophthalmology and oncology. Concentrating resources in these areas provides the greatest medical and social effect and contributes to a significant reduction in cases of disability and mortality, as well as improving the standard of living of the population.

1.2. The main problems and directions of development of healthcare in the world at the present stage

The modern approach to the definition of «health», proposed by the World Health Organization in the mid-20th century, which includes mental, physical and social well-being, today requires revision. Many researchers from around the world emphasize that ongoing changes in healthcare and the ongoing economic crisis are stimulating a critical look at the existing model of healthcare delivery. The realities of the modern health care system determine how the effectiveness of health care is assessed and what methods are used to measure competitiveness in this area. Thus, there is a need to develop a new, more appropriate healthcare model based on the values of both patients and healthcare workers [228, 261].

A review of international research in the context of the dissertation work revealed the following results.

In the context of economic turmoil, global health systems were unable to cope with the crisis, which stimulated the need for their transformation in all developed countries [271, 307, 411].

Currently, two main models of healthcare organization can be distinguished: «Budget» and «Market». Countries such as Italy, Spain, Sweden, the UK and Portugal lean towards the budget model, while Switzerland, France, Germany, Japan, Belgium and the USA prefer the market model. However, most states have chosen to integrate both systems, creating hybrid healthcare models [416].

In different countries, the private sector has a different position in the healthcare system and affects the degree of accessibility of medical services for the population [175].

In the US context, despite significant public investment in healthcare, amounting to 18% of GDP, the results obtained from treatment and diagnosis do not always meet expectations. However, these costs cannot be assessed as excessive. In turn, the attempt to reduce the cost of health care through the ACA leads to the opposite effect:

increasing the financial burden on the government and potentially deteriorating the quality of care provided. However, the availability of medical care cannot ensure high quality of its provision. In the United States, an innovative «triple aim» project was introduced, focused on disease prevention and improving the overall efficiency of the health care system, which, in turn, helps reduce unnecessary government spending in this area. In the context of the pursuit of efficiency, Congress decided to repeal the ACA by a majority vote [308, 410, 430, 441].

At the same time, in the European Union, national health care systems vary, they usually rely on public and non-profit medicine, which can be supplemented by private sector services [49].

Research into the impact of the ownership of health care institutions on the efficiency and quality of their work in the national health care markets of EU countries has not led to definitive results regarding the advantages of the private or public sector [225, 226].

Private medical institutions face a lack of motivation to achieve high performance. Unlike public health facilities, which operate under more flexible financial conditions, private hospitals do not experience the same level of accountability to owners or shareholders, which may result in them operating at suboptimal levels [64].

This reduces external pressure on their desire for improvement, innovation and technological progress. In contrast, private institutions must continually strive to improve efficiency and streamline their operations to remain competitive. The involvement of private companies in the medical industry helps stimulate competition with government agencies, which, in turn, can lead to increased efficiency and quality of medical services [84, 326].

The last decade has seen a significant increase in the share of private medical institutions in Germany, their number has increased fivefold and they now make up more than a fifth of the country's entire medical system. In Australia, the private healthcare sector dominates the healthcare workforce and manages two-thirds of beds in general hospitals, without restricting access to public hospital treatment for patients who prefer private services. Meanwhile, in Romania, the privatization process covered all

outpatient dialysis centers and eight public hospitals, which entailed their complete renovation and provision of modern equipment. In France, the social protection structure for health care is supported by contributions from both employers and employees, as well as through public funding. The private sector plays a significant role, providing approximately a third of all hospital beds, while most outpatient services are provided by physicians in private practice [24, 225, 433].

There are studies that indicate that the quality of health care in public hospitals may be superior to private ones. For example, the findings of B. Hollingsworth confirm this. An analysis of the German healthcare system also did not find a direct link between private clinics and increased efficiency compared to public institutions. However, most studies did not find significant differences [431, 457].

Health care researchers, analyzing the Italian system, suggested that the economic efficiency of health care organizations is influenced not so much by the type of ownership as by the political conditions that exist in a given country [408].

It is noted that in countries with low incomes and problems in healthcare, where there is no clear political strategy, the private sector of medicine strives to maximize its profits, often acting separately from the public sector. For example, in Bosnia and Herzegovina, the health care system is divided between private and public organizations. However, problems with the quality of service, insufficient motivation of healthcare workers, unsatisfactory working conditions, and a geographical imbalance in the location of medical institutions overshadow the situation in public healthcare. Private medical institutions, although they exist, do not demonstrate the desire or ability to take on the opportunity to level out the weak aspects of public medicine, especially in conditions of the passive role of the state [202, 399, 459].

For a long time, Australia has practiced a policy of government support for citizens through subsidies for the purchase of VHI policies. However, a study by T. Cheng and colleagues found this strategy to be ineffective, indicating the need to reduce subsidies and strengthen control over benefits [272, 416].

In the United States, a new law was introduced in 2010 that eased access to health insurance for young people by making the purchase of private health insurance

mandatory (under penalty of fines) for all people in the country who are not covered by government insurance programs. In parallel, it expanded the availability of insurance policies for the elderly and those with chronic diseases, which led to increased financial risks for insurance companies and an increase in their workload [385, 417, 438].

Recently, throughout Europe there has been a trend towards the involvement of private companies in the provision of medical services at the expense of the public sector. The advantage of this approach is that funding for public health institutions can be redirected from financing capital construction and investment to direct service delivery. It also encourages government agencies to improve their efficiency and effectiveness due to increasing competition with the private sector [125, 404].

A study of the practices of European countries demonstrates that privatization in the healthcare sector, as well as the introduction of a voluntary health insurance system based on business initiatives, successfully contributes to the renewal of the medical industry. This creates barriers to the monopolization of medical activities and forms the basis for the established competitive and legitimate medical environment. Such measures increase the flow of taxes into government coffers and spur innovation in the search for cost-effective medical technologies that harmoniously combine cost and quality for consumers. In addition, this has a positive effect on the regional labor market, improving its condition [48, 355, 432, 462].

In economic terms, individuals from high per capita income countries incur higher out-of-pocket health care costs in absolute terms. However, if we look at their personal spending as a part of the total budget allocated for health, then this share turns out to be relatively smaller [463].

The private sector approach to primary health care has proven positive, as shown by research by M. Nachtnebel and colleagues. These studies highlight the importance of contextual factors, service mechanism selection, and strategic management mechanisms [149].

In India, which has the largest private healthcare sector in the world, only a small proportion of doctors, namely 10% of the total (14 million people), work in public health facilities. Other doctors prefer to practice in the private sector. The country

spends about 3.9% of its gross domestic product (GDP) on health, of which public investment in this area accounts for 1.3% of GDP or 30% of total expenditure. The remaining amount, that is, 70%, is paid directly by patients, with insurance payments taking up only 5% of this share, and a huge 95% of the costs falling on the personal accounts of citizens. This leads to the fact that, due to the relatively low income of the population, many are faced with excessive expenses for treatment, which has a devastating impact on their financial condition. The economic well-being of citizens is at serious risk, especially for the poorest sections of society, who are forced to spend up to 20% of their income on medical services. Despite this, India's healthcare system demonstrates a level of development comparable to that of advanced countries in the world. India stands out from other emerging markets due to the largest number of medical graduates, highly qualified medical professionals and modern private clinics that attract patients from developed countries. In addition, the country ranks fourth in the world in terms of pharmaceutical production and is one of its largest exporters [258, 435, 445].

India has become a case study in the rise of private healthcare providers after the government reduced its investment in the healthcare system to make way for private investment. In response to reduced government funding, the authorities decided to stimulate private clinics with various financial preferences: from the provision of land at reduced rates to tax deductions and reduced customs duties. Additionally, private blades enjoy preferential loans from state banks and can even take over the management of institutions that were previously owned by the state. In addition, in situations where there is insufficient occupancy of beds in private clinics, the state refers patients to them for treatment, reimbursing the latter for the costs of services at current market prices, which contributes to the financial sustainability of these clinics [103, 362, 451].

These days, many high-end private medical centers have grown into global medical institutions that provide medical services to clients from all corners of the globe. This was the result of government actions and lack of regulation of the industry, which ultimately led to a deep crisis in the healthcare system, especially worsened during the pandemic.

At the same time, in China, the national health care system is mainly controlled by the state, which provides its undoubted advantages in terms of equipment and professionalism of medical personnel [160, 242].

The medical sector suffers from inefficient spending of funds and imbalance in the distribution of resources, which leads to a disproportion between the needs and availability of medical services. This results in decreased overall system performance. Funding of public health facilities is often accompanied by inappropriate prescribing of drugs and unnecessary medical procedures, which poses a threat to health care consumers. The introduction of a public-private partnership model into the Chinese health care system has been proposed as a strategy to overcome resource constraints and improve the efficiency of health care facilities, which is necessary to ensure patient safety [322, 421].

The issues facing healthcare today are driven by both global economic disruption and a variety of social challenges. In this context, the growth of fee-for-service healthcare may offer a solution to these issues, reducing social discontent and improving the quality of healthcare delivery [51, 407, 466].

1.3. Analysis of the state of the sector of specialized, including high-tech medical care in the Russian Federation at the present stage; vector of development of primary health care as the basis of the medical care system in the Russian Federation

Progress in medicine, due to the development of new modern technologies, significantly increases the population's need for quality medical care. Among others, the need for high-tech medical care (HTMC), which represents a special segment of specialized medical care, stands out. VMP involves the use of innovative, complex or unique treatment approaches, as well as methods that require significant resources, but at the same time have proven scientific effectiveness. Such methods include cellular technologies, robotic technologies, information technologies and genetic engineering, which are developed based on the latest advances in medicine and related fields of

science and technology. A special feature of VMP is its funding from the federal budget, which distinguishes institutions providing this kind of care from other medical organizations [284, 136, 247, 291, 279, 282].

By its nature, high-tech medical care is a unique phenomenon. The concept itself requires constant scientific, innovative, high-tech treatment and diagnostic activities of healthcare institutions [280, 166].

Increasing the accessibility and quality of high-tech medical care (HTMC) for the population of the Russian Federation is one of the main objectives of state policy in the field of healthcare [89].

Improving the quality and accessibility to high-tech medical care in Russia are among the priority areas of state policy in the field of healthcare. The study, based on a study of orders from the Ministry of Health and other key federal documents, revealed shortcomings in the system of planning, regulation and control over the provision of high-tech medical care, especially in light of its financing through the compulsory health insurance system. The main problems were found in approaches to determining the volume of medical services at the local level, in procedures for selecting and referring patients, as well as in the system for monitoring their implementation [6, 39, 207, 285, 289].

The following areas are leading in the provision of high medical care: cardiovascular surgery, traumatology and orthopedics (including endoprosthetics), oncology and neurosurgery [153].

To date, 919 medical organizations provide high-tech medical care, of which only 15.5% are federally subordinate. At the same time, federal centers provide more than 70% of all types of complex medical care and 21% of high-tech care included in the basic compulsory medical insurance program. There are quite a few medical institutions that provide high-tech care at the expense of budget funds subject to quotas. Most of them (64 institutions - 48.5%) are located in Moscow and the Moscow region (45) and St. Petersburg (19). VMP at the expense of the budget is provided in 40 regions of the country, and 7 of them have two institutions, and 22 have one [199].

Work by Kasapova V.I. showed that regional institutions play a fairly significant role in the provision of high-tech medical care, which contribute to the approach of high-tech types of medical care for the population [124].

Large multidisciplinary hospitals have great opportunities to introduce modern diagnostic methods and improve the quality and efficiency of treatment and rehabilitation. These institutions have all the conditions for providing high-tech types of medical care. A study conducted by Kudryasheva et al. states an increase in the provision of high-tech medical care to varying degrees, depending on regions and cities. Thus, in the city of Moscow from 2010 to 2017, the volumes of high-tech medical care provided increased by 3.8 times, and in the Astrakhan region by 2.2 times. At the same time, in medical organizations of the state healthcare system of the city of Moscow the increase was 33.8 times, and in similar institutions in the Astrakhan region 24 times [38, 150, 198, 260].

It is noteworthy that other scientists also consider this problem as one of the most important factors in the organization of high-powered medical care: I.B. Embankment, D.A. Zakharov, Zh.B. Embankment, E.N. Surkhaeva [218, 311,332, 386].

In the field of providing high-tech types of medical care to the population, there are two main categories: those that are included in the basic compulsory health insurance program, and those that are not included in this list [276].

According to Federal Law No. 286-FZ, in order to determine the volume of high-tech medical care not covered by the basic compulsory medical insurance plan, approval is required from the founder of the federal state healthcare institution, carried out in agreement with the Russian Ministry of Health. While in many countries outside of Russia, insurance payments serve as a key financial resource for the healthcare system [353].

In the example of Norway, the system of financing health services is based on targeted taxes levied on the income of citizens. These payroll taxes can account for up to half of income. As a result, health professionals, whose average salary reaches around 3500 euros per month, face mandatory high contributions to the health care system, supported by strict tax rules [169, 336].

Russia lacks strict control over household income, spending, and taxation, partly due to the high share of cash in the country's financial system, which is about 25%, in contrast to the European Union, where this Picture is 9%, and the United States, where it reaches only 7% [280].

In 2020, in Russia, the number of medical appointments provided in the public sector reached 195.5 million. Compared to the level of the previous year, the Picture increased by 8.1%. Average annual costs per consumer of medical services made from budgetary allocations increased by 18.4% compared to 2019 and amounted to 18.7 thousand rubles. [100].

According to experts, in 2021 this Picture decreased by 13.2% and amounted to 16.2 thousand rubles per patient per year, the turnover of the public sector of medicine in Russia decreased by 17.8% and amounted to 766.4 billion rubles. After the epidemic situation stabilized, the share of expensive inpatient services in the structure of costs per patient in the public sector decreased again [187].

According to forecasts, in 2022-2025. the volume of the public sector will decrease by 1.0-2.1% annually, and in 2025 will amount to 173.6 million appointments, and the number of consumers of the public sector of medicine in Russia will gradually decrease by 0.6-1.1% annually. However, these funds will not be enough to finance «free» medicine, so the public sector will continue to be partially financed through budgetary allocations. The number of consumers in the sector by 2025 will be 45.7 million people, which will approximately correspond to the level of 2019, the average annual costs of the public sector in Russia per patient will grow by 1.8-2.5% per year and by at the end of the period will amount to 17.7 thousand rubles, exceeding the value of 2019 by 12.0%. In turn, the turnover of the budget sector will steadily grow by 1.2-1.4% per year and by the end of the period will amount to 808.8 billion rubles. The growth of the indicator will be ensured by the annual increase in the average price of admission in the public sector [33, 148].

Today, the development of healthcare is in the direction of accessibility for the population. From this position, the creation of private clinics that have the opportunity to serve the population, including in the high-tech segment of services, is welcomed.

However, the quality of medical care provided by private clinics will not be guaranteed [199].

The most popular types of high-tech medical care are included in the basic compulsory medical insurance program. This model has practically proven its effectiveness and has led to a significant increase in the volume and availability of high-tech medical devices. To obtain a quota, compelling reasons are required. The Ministry of Health has issued a document containing a list of diseases that can be treated at public expense. The list contains about 140 different diseases [76].

At the level of primary health care, we have identified a whole range of shortcomings: from long queues and excessive waiting time for appointments necessary to complete all stages of diagnosis and treatment, to insufficiently efficient clinic infrastructure and problems with separating the flow of paid patients and those receiving medical care. services within the framework of compulsory health insurance [20].

At the same time, the level of economic development of the region is not an obstacle to obtaining high-quality and affordable medical care. We found that in the Sverdlovsk region the level of per capita income of citizens, which averages 1.7 thousand rubles, does not affect the popularity of paid medical services, the volume of which reaches 35 thousand rubles per person [274].

The lack of specialists in certain areas of medicine, the lack of balance between different categories of medical personnel, as well as the decline in the quality of education among doctors and nurses are largely due to the ineffective distribution of personnel. This, in turn, reflects deep problems in human resource management strategies throughout the field, which have failed to adapt to changes and new challenges in the health care system [37, 389].

In the healthcare sector, there is competition for medical personnel between the public and private healthcare sectors.

Merger and franchising strategies can help reduce the shortage of qualified healthcare executives at the local level.

As part of the modernization of healthcare and strengthening the position of public medical institutions, technical updating and improvement of the service and quality of paid medical services, which are traditionally offered by private medical institutions, can strengthen their position in the market for the provision of paid services in the outpatient care segment.

The shortage of qualified specialists in the Russian healthcare system leads to long waiting times for medical care. The population expresses dissatisfaction with a number of issues: opacity in the formation of queues for hospitalization and diagnostics, the lack of a standardized procedure for making appointments with specialists, extended waiting times for help, as well as the lack of a unified information system in the healthcare sector. While in countries with developed medicine, including Russia, clear regulations have been established on the maximum allowable waiting times for various types of medical services.

Unfortunately, the Russian healthcare system lacks effective monitoring of compliance with established deadlines, which puts it at a disadvantage compared to Western countries. This allows medical staff and hospital administrators to adjust waiting times in accordance with official requirements, without always respecting the interests of patients [335, 390].

The increasing burden on medical personnel, arising from a shortage of personnel caused by insufficient funding of the system, limits the population’s access to quality medical care, which together causes an increase in disability and mortality among the working age population. The resulting indicators of the effectiveness of the healthcare system are indicators of health and life expectancy; their low quality is one of the weaknesses of the Russian economy [44, 324].

In modern medicine, digital technologies are widely used, such as remote monitoring of patients’ health indicators, as well as platforms for online consultations and video conferencing.

The use of modern methods of remote monitoring and monitoring of the patient’s health status at the pre-hospital stage in a medical institution contributes to more efficient provision of medical care to patients of various profiles

In addition, the possibility of timely and early detection of serious diseases encourages the use of telemedicine. No less significant is progress in the field of digital technology, which opens up new opportunities for storing and exchanging medical information. This, in turn, speeds up the process of consultation between specialists and making prompt medical decisions necessary for the treatment and rehabilitation of patients.

Patients often point to convenience and simplicity as a significant incentive to use paid healthcare in general, and gaining even easier access to virtual medical services will reduce the number of dangerous cases.

In order to improve the functioning of medical institutions and increase the accessibility of primary health care for the population, it is necessary to introduce telemedicine technologies that help strengthen interaction both within the clinic itself and between different health care institutions («vertical» and «horizontal» connections).

An online consultation between medical specialists via the doctor-doctor channel is an interactive process where health workers of various qualifications, whether doctors or nurses, exchange important information about the patient. This helps in analyzing diagnostic results, clarifying clinical diagnoses, planning further examination and choosing treatment methods. This approach may also include decisions about the need to transfer the patient to a highly specialized medical facility to receive more qualified care. All this contributes to making optimal medical decisions.

Increasing the accessibility and efficiency of medical care can be achieved through improving the organizational mechanisms for the provision of medical services. This includes providing easier and faster access to needed health care professionals when illness or deterioration occurs, allowing patients to receive quality care even when a physician with the same specialty is not available or in situations where the nearest health center is located far away. In addition, patients have the opportunity to choose the most suitable medical facility for diagnosis and treatment, which helps reduce their time and financial costs without compromising the quality of the medical care they receive.

Consultations through the patient-doctor channel are one of the key innovations in the healthcare system, allowing doctors to monitor the health of their patients from a distance. This is achieved through the use of advanced technologies and electronic means that provide doctors with the ability to monitor patients without requiring their physical presence in the medical facility. Such services are usually provided through online clinic platforms or specialized telemedicine services.

The remote health monitoring service is available to every patient, but it is especially relevant for people in high-risk areas. Such individuals include, in particular, people with chronic diseases who require continuous medical monitoring in order to timely identify signs of deterioration or complications, which facilitates prompt and adequate medical care and lifestyle adjustments to prevent future problems, possibly throughout their entire life. life. In addition, the service is addressed to those who have undergone surgery and need medical support during the recovery phase. The advantage of such a system is that it allows patients to recover in the comfort of their own home, while remaining under the supervision of doctors.

Patients can monitor their vital signs themselves, or with the help of automated systems, as recommended by the doctor. This data is then sent directly to the healthcare system of the relevant medical institution through the use of Internet-connected devices or computer technology.

It is important that the healthcare system in Russia not only treats existing diseases, but also actively works to prevent them. A key aspect of the effectiveness of the medical system is the ability to provide quality medical services to the population, without compromising their financial well-being [191, 193, 225].

1.4. Features and specifics of the development of the health insurance sector, taking into account the ratio of compulsory health insurance and voluntary health insurance, insurance programs in modern conditions, the reasons for the stagnation of the voluntary health insurance sector

Population health is a fundamental element determining the progress and well-being of society [383].

In this context, effective management and development of the health care market has an impact on every individual, emphasizing the need for guaranteed and quality access to health care for all segments of the population. Thus, the main task facing healthcare reform in Russia is to improve access to medical services. In this aspect, the compulsory health insurance system acts as a cornerstone aimed at achieving these goals, as defined in the third article of the Federal Law «On Compulsory Health Insurance in the Russian Federation» [61, 86, 284].

Compulsory health insurance as one of the types of social insurance is understood as a system of legal, economic and organizational measures created by the state to provide free medical care to the insured person, at the expense of the Compulsory Health Insurance Fund, in the event of insured events [395].

The right to health care is not fully realized, leading to increased health care costs without any visible improvement in public health. As a result, the gap in access and quality of healthcare continues to widen, highlighting the critical need to reform the national healthcare system. Research into international healthcare models has revealed the lack of a universal system that can function perfectly in all aspects. Various methods are used in different countries: insurance models used in countries such as Austria and Germany; government systems typical of the Scandinavian countries and Great Britain; as well as market mechanisms implemented in the USA and South Africa. Each of these systems has its own advantages and disadvantages due to differences in funding, population, socio-economic conditions, geographical location, political system and national legislation [245, 368].

Market relations dictate the need for certain changes in the organization of healthcare [208].

The compulsory health insurance program is financed from the compulsory medical insurance fund through insurance companies. The transfer of funds by the insurance organization occurs after patients seek medical care. Starting from 2021, financing of medical care provided in federal medical organizations is provided directly from the Compulsory Medical Insurance Fund, bypassing insurance companies. At the same time, people with different income levels have equal rights - each of them has the right to the same package of medical care [35, 74].

Financing of medical services for working citizens is carried out through contributions made by employers in the form of insurance payments since 2010, while medical care for pensioners and unemployed people is covered by funds allocated from local budgets. In this financing system, situations may arise when residents of certain regions do not receive all the required medical services within the framework of state guarantees [217, 233].

Stability is ensured by the fact that about 40-42% of citizens are covered by insurance through contributions paid by their employers, while approximately 34% of total insurance premiums are for health insurance [81].

Insufficient funding for compulsory medical insurance programs entails incomplete coverage of services within the framework of basic programs, which, in turn, reduces the quality of insurance protection in this sector [157].

The compulsory health insurance system provides fairly reliable statistics on the consumption of medical services, which can be used in current calculations in other types of insurance and in building long-term perspective models for the development of the medical industry [72, 283].

Compulsory health insurance in Russia is based on a structure that includes the Federal Compulsory Medical Insurance Fund and 86 territorial funds. The compulsory medical insurance market in Russia is controlled by a small number of major insurance companies. The existing monopolization was a consequence of measures of an exclusively administrative nature [21, 104].

A key aspect is assessing the quality of the medical services provided. According to Roszdravnadzor, almost half of the population (44.8%) expresses dissatisfaction with the level of medical care provided under compulsory medical insurance, while no official analysis of the level of population satisfaction with services in public medical institutions has been carried out. In this regard, the Ministry of Health began to implement a patient-oriented healthcare model, the purpose of which was to increase patient loyalty to public medical institutions [138].

Problems with providing health insurance for non-working citizens are largely due to two key factors. Firstly, there is no clear legislative regulation determining the amount of contributions for such citizens. Secondly, regional authorities often ignore their obligations to finance health insurance established by law. These problems lead to insufficient funds to insure the non-working segment of the population in the compulsory health insurance system.

At present, regulations have not yet been introduced that would establish criteria for determining contribution standards. These contributions are typically calculated based on the difference between the total cost of the area program and the amount businesses contribute, equal to 3.1% of their payroll budget. As a result, the more businesses pay into the compulsory health insurance system for their workers, the less local authorities contribute for those who do not work. This leads to the fact that insurance of citizens who do not participate in work accounts for only a little more than 30% of all funds, although such persons make up 55% of the total population of Russia.

Problems in financing the compulsory health insurance system are caused by a lack of funds to support regional health programs. This is due to the gap between the financial capabilities of the compulsory medical insurance system and the medical services provided. In addition, the multichannel sources of financing for medical institutions, including compulsory medical insurance, voluntary health insurance (VHI), the state budget and patient payments for services, makes it difficult to effectively control the expenditure of funds. Variation and lack of standardization in billing methods for care offered in both inpatient and outpatient settings is also a significant complication in the health care system [359].

Currently, the pricing structure for medical services under the compulsory health insurance system is determined based on pre-planned volumes of services and the available budget, rather than taking into account the actual cost of procedures. This results in relatively low payments for health care services [117]. В первичной медико-санитарной помощи необходимо сочетание подушевого метода финансирования прикрепленного населения с ориентацией на заинтересованность медицинских работников в улучшении показателей здоровья населения, доступности и результативности амбулаторно-поликлинической и стационарной медицинской помощи [104, 229].

Major changes in medicine are occurring due to changes in its financing. Previously, the state financed healthcare from three sources: compulsory medical insurance, federal and regional budgets. Regional budgets financed emergency care, expenses for the maintenance of institutions and the treatment of socially significant diseases, and the federal budget financed high-tech care and drug provision for beneficiaries [36, 401].

The transition to a predominantly single-channel financing model using compulsory health insurance funds is considered a progressive direction in health care reform, but a number of problems in its further development should be taken into account, aimed at smoothing out the shortcomings of this model [264].

At the beginning of 2022, a significant part of the compulsory health insurance (CHI) market in Russia was controlled by several large players, with more than 80% of all compulsory medical insurance policies concentrated among the ten leading companies. The SOGAZ-Med company, in particular, maintains a leading position, occupying more than 16% of this segment. This concentration of power in the market is the result of administrative decisions, and not a reflection of citizens' dissatisfaction with the quality of insurance services provided [314].

Current legislation places significant restrictions on the ability of insurance companies to compete in the health insurance industry. Basically, they strive to increase their customer base, but do not have the opportunity to compete on aspects such as the uniqueness of insurance products, the cost of premiums, the level of medical services

provided, or the choice of medical institutions to serve. In addition, offering insurance plans with variable premium costs is also beyond their capabilities. There is a trend in the compulsory health insurance market in which the share of large insurers is increasing due to the displacement or absorption of small companies [220, 251].

The role of insurers in this model was assigned to medical insurance organizations, which could be created in any legal form, including as private commercial organizations. Citizens were given the right to choose an insurer, but not directly, but through employers and authorities, who enter into insurance contracts with medical insurance organizations, respectively, for their employees and non-working residents on their territory [370]. Even changing the insurance organization, which has become possible for the population, does not directly provide any advantages.

In the improved system of compulsory health insurance, there are a number of pressing problems that require special attention and immediate solutions. Today, experts identify a number of key problems [359].

Based on this, problems such as a shortage of personnel, including qualified young specialists in the regions, are also identified. Thus, the average age of medical workers in district hospitals is 47-48 years, with only half the staffing [69].

Problems with calculating the cost of medical services lead to significant regional differences. But unlike federal institutions, where the cost of high-tech medical care is approved by order, regions set tariffs independently in the absence of federal regulation [147, 182, 267].

Another problem is the distribution of medical care between organizations. Cases of groundless overestimation and underestimation have been identified [147].

Compulsory health insurance programs are divided into basic and territorial. The basic compulsory medical insurance program is part of the state guarantee program for free provision of medical care to citizens

It involves the provision of primary health care, emergency medical care (with the exception of services related to air ambulance evacuation), as well as specialized and high-tech medical care [57].

On the other hand, the territorial program determines the volume of medical care depending on the region, including determining what medical services are provided and in what volume, regulates insurance cases and sets standards both for the volume of care provided and for financial expenses for each insured person [1, 335].

In 2020, there were significant changes in the mechanism for financing medical institutions from the federal budget of compulsory health insurance (CHI). Unlike previous practice, when hospitals and clinics were able to receive the entire annual budget in advance, the innovations limited this opportunity by introducing a monthly advance of one twelfth of the total annual funding. This change was introduced against the backdrop of growing epidemiological risks, which also led to an increase in per capita funding for medical institutions and the establishment of specific tariffs for the diagnosis and treatment of COVID-19, taking into account the need to combat the spread of the virus [334, 367].

Strategic goals for the development of the healthcare system in Russia are set through the state program «Health Development». This program provides for the implementation of many areas, including the provision of primary health care, the fight against heart and vascular diseases, the prevention of cancer, improving the conditions for providing medical care in pediatrics, improving the qualifications of medical personnel, the use of innovative approaches and technologies, and the integration of digital solutions in the field of healthcare, expanding the export potential of medical services, stimulating the population to maintain a healthy lifestyle and improving the living conditions of older citizens [75].

It is worth noting that in the compulsory health insurance sector there is a lack of cooperation between different levels of medical care: diagnostic centers, clinics, hospitals, rehabilitation services, which reduces the effectiveness of patient treatment.

In 2021 in Russia, the number of appointments provided under compulsory medical insurance policies increased by 15.8% compared to 2020 and amounted to 1.60 billion appointments. This was facilitated by the stabilization of the epidemic situation and the provision of planned medical care in public medical institutions resumed [92, 300].

In 2022-2025 the number of appointments provided will increase and in 2025 will amount to 1.64 billion appointments. For 2021-2025 the Picture will increase by 2.7%. The following factors will contribute to the increase in the number of admissions:

- improving the system of training and retraining of medical personnel;
- changes in the remuneration system for medical workers;
- attracting citizens to undergo preventive medical examinations;
- implementation of the «New model of a medical organization providing primary health care» provided for by the federal project «Development of the primary health care system»;
- implementation of federal projects aimed at combating cancer and cardiovascular diseases;
- improving the dispensary observation of children, updating the material and technical base of children's clinics;
- redistribution of certain types of services from the public sector to the compulsory medical insurance sector;
- leasing of medical equipment at the expense of compulsory medical insurance funds;
- further informatization of healthcare;
- use of the services of medical experts through the introduction of telemedicine consultations as a result of the implementation of the law on telemedicine;
- construction and reconstruction of medical institutions, updating the material and technical base [92, 300].

Paying attention to the prospects for the development of the healthcare system, a key aspect may be strengthening the role of private clinics in the field of compulsory health insurance and stimulating competition among healthcare institutions. This approach can serve as an effective mechanism for optimizing the health insurance system in the Russian Federation [181].

Conceptually, important steps to eliminate current problems in the medical service delivery system are: increasing the level of state financing of healthcare, strengthening the financial base for medical care within the framework of compulsory

medical insurance, increasing the volume of disease prevention programs, increasing the income of healthcare workers, introducing measures to create a competitive environment in the healthcare sector. the health insurance market, and the creation of a codified regulatory act regulating public relations in the field of compulsory health insurance.

Voluntary health insurance is a form of insurance in which the employer assumes the responsibility to pay for medical care provided to an employee. The VHI policy includes not only an initial examination by specialists, but also appropriate services. There are also cases where the volume of services included in the policy is commensurate with the employee's labor success [102].

The main goal of voluntary health insurance can be called the emergence of economic interest on the part of the state and employers in the process of improving the health of the population. At the same time, the main principle of activity in this direction can be called the possibility of economic benefit for all participants, which, in essence, contributes to the independent regulation of the system of interaction between its direct subjects [178].

Despite the 30-year existence of the voluntary health insurance system in Russia, the problem of developing a regulatory framework regulating this issue continues to exist. For its further development, it is necessary at the state level to prepare a set of measures to reduce the cost and increase the availability of this policy for the population of the Russian Federation. At the same time, another factor that has a negative impact on the development of the voluntary insurance system is the low level of income of the majority of Russian citizens [73, 172].

In 2019, there was an unprecedented surge in the volume of voluntary health insurance (VHI) premiums, which became a record for the entire observation period. This growth was noted in both the corporate and retail segments due to the diversity of insurance product offerings, which led to an expanded audience and an increase in the number of insurance company client bases. In particular, the volume of insurance premiums increased by 19.0%, reaching 180.8 billion rubles. The main driver of the development of the segment was a change in its structure: traditional VHI programs that

cover all risks began to give way to more affordable insurance programs that offer a limited list of services or include a deductible. Previously, the continued growth of interest in VHI was largely due to the revision of tariffs in response to the increase in the cost of medical services [9, 442].

Increased interest in affordable health insurance products has led to increased interest in voluntary health insurance (VHI) and a decrease in the average cost of insurance premium. This, in turn, led to an increase in the number of insurance agreements by 38.5%, reaching 17.1 million [422].

Over the past year, there has been a sharp increase in the number of contracts concluded for voluntary health insurance (VHI) with organizations (more than 40.6%). At the same time, the average amount of payments under such agreements decreased by almost 20%, amounting to 53.1 thousand rubles. This trend indicates an expansion of the client base, including not only large companies, but also small and medium-sized businesses, which in the past were less likely to be able to afford a full set of VHI services for their employees. Insurance companies are also actively offering new products that are interesting to a new target audience: legal entities and individuals. As a result, the share of individuals in the total amount of VHI contributions increased to 19.9%, while the number of signed agreements with individuals increased by 38.1% [33, 393].

Due to an increase in insurance premiums by 13.1% during the year, there was an increase in the volume of payments under voluntary health insurance (VHI) contracts. However, despite this increase, the average insurance payment remained low and did not exceed 3,000 rubles. At the same time, the number of successfully resolved insurance cases has increased significantly. This growth is partly due to the growing popularity of cost-effective insurance plans that cover a limited range of risks, as well as the active development of telemedicine. Therefore, further focusing the efforts of market participants on the development and improvement of VHI conditions can contribute to sustainable growth in the insurance industry in Russia [70].

Almost half of all financial resources involved in the field of compulsory health insurance in Russia belong to the sector of paid medical services, including services

provided under voluntary health insurance contracts, reaching an amount of about one trillion rubles. There is an idea to reform the current system by proposing the inclusion of these finances in the co-payment mechanism, which will allow the use of the entire range of medical institutions on the basis of uniform insurance standards and principles, thereby giving the system a truly risky nature [227].

In light of this, voluntary health insurance and paid services can be considered as additional or expanded elements of the state guarantee program, provided under the terms of an agreement between consumers of medical services and medical organizations, with payment from the consumer, insurance company, employer or other financial agents [97].

Researchers such as: Shilov D.V. in 2013, Geraskina O.A. in 2016, as well as L.M. Panosyan. and Vasilchenko E.I. in 2017, analyzed in detail the problems accompanying the voluntary health insurance (VHI) system. Their work identified key disadvantages of VHI, including the high cost of insurance policies, which is formed taking into account the commission of the insurance company, the lack of incentives for carrying out preventive campaigns among insured persons due to rising costs, the exclusion of expensive procedures and treatments from insurance, as well as increased rates for those who most often seek medical care [97, 227].

Access to medical services is becoming more convenient and wider for users of voluntary health insurance, which also gives the right to choose a medical institution and reduces waiting times. Patients with VHI can enjoy more pleasant hospital conditions [54].

Due to the fact that compulsory health insurance (CHI) is generally available to residents of Russia by law, insurance companies win when applying for VHI. After all, they can effectively use compulsory medical insurance resources to reduce their costs by providing insured persons with medical services within the framework of state guarantees and thereby minimizing the volume of medical care paid for under VHI [143].

In this case, the best option is to legalize the use of two channels of healthcare financing, where one part of the services is covered by compulsory health insurance in

accordance with the current state program, and the other is financed through voluntary health insurance. In this context, the primary beneficiary should be the patient [269].

At the moment, there are no established procedures that would guarantee continuity in the provision of medical care to patients when moving from one health insurance system to another, in particular, between compulsory health insurance (CHI) and voluntary health insurance (VHI). One of the reasons for this is that VHI coverage often does not extend to persons with chronic diseases that require constant medical attention, and if such diseases are detected, patients are referred to public medical institutions operating under the compulsory medical insurance. This is due to the nature of voluntary health insurance, which implies the risk of an insured event.

In the voluntary health insurance (VHI) system, when patients independently seek help, insurance companies are faced with the need to integrate preventive measures into their programs. This differs from state prevention programs, where the initiative comes primarily from the state. In order to comply with licensing requirements and not violate the terms of the insurance business, insurers frame these preventive measures in the form of advisory services, thereby introducing an element of probability into seeking medical help [259].

It is surprising that restrictions are applied to insurance companies, given that prevention and risk management are at the core of their activities. One of the possible solutions is the development and implementation of a state initiative aimed at improving the health of the nation, which will not only reduce overall healthcare costs both within the framework of compulsory and voluntary health insurance, but will also facilitate access to medical services for socially vulnerable groups of the population, including children, the elderly, pensioners and people with disabilities. In addition, this could encourage the population to invest more actively in voluntary health insurance, thereby reducing pressure on compulsory health insurance and helping to improve the availability and quality of health services [178].

A study of the organizational aspects of the work of clinics revealed many difficulties, among which the issue of tariffing of services stands out. In the context of voluntary health insurance, the extent of coverage and cost of insurance programs vary,

allowing employers to tailor insurance packages for their employees individually. These packages can be either with extended coverage of services (including VIP-class services) or with a limited set of options. However, it is important that each insurance contract clearly indicates the conditions and scope of medical services [97].

It is important to emphasize that in an effort to minimize costs and prevent planned losses for the year, insurance companies often prefer to cooperate with medical institutions that offer the lowest prices for services. These are institutions that are usually owned by the private sector, often part of extensive voluntary health insurance programs, but offer a limited range of services due to their low fees. Large regional medical centers, on the contrary, are rarely used by insurers in primary care, and then mainly in large cities. The often used methodology of the «risk attachment program» is based on an analysis of the frequency of applications from insured persons. This approach may lead health care providers to limit the number of patient visits to avoid unnecessary costs. After all, uncontrolled visits for trivial reasons can negatively affect the financial position of the organization [70].

VHI insurance is limited in duration: in the event of dismissal, refusal of the policyholder, or dismissal of the patient due to a diagnosed chronic disease. In this case, the patient can stay and receive care under compulsory medical insurance or at his own expense in the same health care institutions for life [227].

When concluding a contract for voluntary health insurance, a citizen can be fully confident that he will be able to receive medical care in a larger volume, in the shortest possible time and at the same time of optimal quality [259, 339].

To date, the Institute of Voluntary Health Insurance does not contain a specific regulatory framework regulating its activities. There is no definition of the VHI agreement, there is no specific list of basic conditions, and there is also no distinction between the scope of compulsory health insurance and VHI. The content of services is determined either by a specific contract concluded, or in accordance with the rules developed by insurance organizations [442].

Thus, the health insurance system plays an important role in both the social and economic well-being of the population. At the same time, certain types of problems

exist in the functioning and financing of each of these forms separately, and in their interaction within the entire system, in general. Features of insurance and the procedure for providing services for compulsory health insurance are enshrined in the legislation of the Russian Federation. VHI does not have separate legislative regulation in Russia, except for the general norms of insurance legislation. When implementing voluntary health insurance activities, a medical insurance organization acts as an insurer with responsibilities and rights that distinguish insurance as a separate structure of the financial system. This type of insurance can be called promising, which in itself is confirmed by the number of concluded contracts and the total number of insured persons [94, 102].

1.5. Analysis of the state and current trends in the development of the paid medical services sector, reasons, factors and conditions for the existence of the paid shadow market in the Russian Federation

In many countries around the world, a hybrid model of the healthcare system prevails, which combines both private and public medical institutions. Managing such a mixed system differs from a purely state model and requires the state to develop and implement effective mechanisms for monitoring the private sector. When the regulation of private health care providers and the overall management strategy on the part of the government are at the proper level, the hybrid system can successfully realize public interests in the field of health care. However, in situations where the private sector is underdeveloped or where government regulatory capacity is weak, health goals may not be achieved, resulting in private and public sector actions inconsistent with government health strategy [456].

Recently, many countries are facing a number of serious challenges, including slowing economic growth, an increase in the number of migrants, increasing instability in both the political and economic spheres, problems associated with demography, and the spread of chronic diseases. These challenges require the health system to engage more actively with the private sector and strengthen its ability to effectively manage the

overall effort. Thus, both public and private health care institutions have a key role to play in achieving national goals aimed at achieving universal access to health services [458].

The problem of conflicts of interest between the public and private sectors is widespread, and there are no universal methods for resolving such conflicts. In addition, it should not be forgotten that the private sector is a complex structure with various functions within the health care system [457].

In the 1990s, with the beginning of Russia's transition to a market economy, there was a significant strengthening of the private medicine sector, accompanied by the emergence and development of legal commercial medical services. Then, with the advent of the 2000s and an increase in the standard of living of citizens, the need for high-quality medical care and service increased, which naturally led to a further expansion of the market for paid medical services and the strengthening of the role of private medical organizations. These dynamics underscored the importance of conducting in-depth research and analysis of this market [352].

It is generally believed that several key factors are behind the emergence and growth of the for-profit healthcare sector. Among them are limited budgets allocated for the needs of public health care institutions, difficulties in accessing necessary medical care, as well as the emergence and development of voluntary health insurance, which offered an alternative to compulsory health insurance and other reasons. These factors together contributed to the formation and strengthening of the market for paid medical services at various stages of its development.

M. Najafova emphasizes that public medical institutions are not able to fully satisfy all the needs of society for medical care, especially when it comes to complex and high-tech treatment methods. This, along with raising the quality standards of medical services that certain segments of the population require, contributes to growing interest in private medicine services. S. Belyaev adds that the increase in demand for paid medical services not only demonstrates their popularity among the population, but also shows the willingness of medical organizations to provide them, which indicates the development of the private medicine sector [41, 200].

Paid medical services are becoming increasingly important in the healthcare of the Russian Federation, including in connection with the adoption of the Federal Law of 05/08/2010 No. 83-FZ «On amendments to certain legislative acts of the Russian Federation in connection with the improvement of the legal status of state and municipal institutions» in order to attract extra-budgetary funds. With the adoption of Federal Law No. 323-FZ of November 21, 2011 «On the fundamentals of protecting the health of citizens of the Russian Federation» (hereinafter Federal Law No. 323-FZ), the legal field for the provision of paid medical services has expanded, which allows, on the one hand, to develop extra-budgetary activities of medical organizations, and on the other hand, through competition between them, improve the quality of medical care. In the context of increasing legislative regulation of commercial activities in the healthcare sector, government agencies are able to monitor the development of paid healthcare services and verify the correctness of their provision [22, 222, 264, 337].

In accordance with paragraph 7 of the «Rules for the provision of paid medical services by medical organizations», approved by Decree of the Government of the Russian Federation of May 11, 2023 No. 736, the concept of «other conditions» is disclosed in more detail. This means that conditions other than state guarantees may serve as a prerequisite for the introduction of paid medical services. For example, improving the quality of care and improving the conditions of stay in medical institutions may become a reason for the introduction of paid services in the health sector [115, 222, 290].

In accordance with the fourth paragraph of Article 84 of Federal Law No. 323, Russian citizens can independently choose the scope of medical services on a paid basis, be it a full set of stipulated standards or exclusively certain procedures and consultations, at their personal request. Medical institutions, in turn, have the right to limit the provision of services to partial implementation of standard activities. This indication of legal norms implies that Russian patients can take advantage of both state-guaranteed free medical care and additional paid services [223].

The introduction of the possibility of paying for medical services in public health care institutions opens up additional financial flows to support free medical care, which

is guaranteed by the state, contributing to its expansion and improvement [98, 220, 308].

This allows not only to expand opportunities for patients in choosing specialists and medical institutions, but also significantly increases the flow of funds to public medical institutions, which in turn helps to increase their competitiveness and expand the range of services offered. However, the use of paid services in public health care is associated with a set of issues and challenges. As the experience of Russia has shown, where this practice has led to significant changes in the medical services market, including diversification and improvement in the quality of service [65, 151, 247].

The main problems in the field of paid medical services include the following aspects:

- imbalance between the requirements and expectations of service providers and their recipients;

- lack of clear instructions and methodological recommendations for public medical institutions on how to organize the provision of paid services, including the delimitation of patient flows and financial resources;

- lack of detailed professional recommendations for the formation of an effective market for medical services, especially those that are not covered by the state guarantee program.

In public medical institutions, there is a lack of developed methods for providing paid medical services, and the process of determining the cost of these services is not well thought out. In addition, the pricing system does not have the necessary flexibility to adapt to changes in the economy. It should be emphasized that the provision of paid medical care in these institutions does not limit the rights of citizens to free treatment and does not oblige them to pay for services in public medical organizations [68].

The possibility of receiving medical services on a paid basis is presented in medical institutions with different organizational and legal forms of ownership. These services can be classified into several main categories:

1. Services offered by private medical organizations, which may belong to different forms of ownership and specialize in different areas of healthcare;

2. Services provided by doctors in private practice – shadow payments;

3. Services offered by government agencies on a paid basis [241].

The shadow economy attacks the financial well-being of the state, since illegal financial transactions reduce the amount of tax deductions. For example, in the field of paid medical services, shady transactions occupy 6-7% of the market. This is partly explained by a reduction in the number of people insured under voluntary health insurance, as well as a decrease in the real income of the population that citizens can dispose of. Due to the low costs of informal services compared to formal medical and commercial services, people often prefer informal payments. Since 2016, there has been growth of the private sector in this market.

By 2019, the share of private spending on health care reached 19%, while the share of the shadow economy was estimated at 23%. Differences in data provided by Rosstat and the World Health Organization (WHO) on private financing of health care are largely due to underestimation of the size of the informal sector. This highlights the importance of organizing regional studies aimed at analyzing residents' spending on health services [174, 317].

Currently, there is an increase in demand for paid medical services. In 2020, the volume of the market for paid services in Russia reached 811 billion rubles, taking into account both the official and shadow spheres, as well as voluntary medical insurance. At the same time, despite the fact that the Russian federal budget for healthcare is increasing, the annual increase in the volume of medical services provided on a paid basis remains at the level of 1.3% [52, 113, 186, 357].

From 2012 to 2016, significant changes were observed that contributed to the growth in demand for paid medical services. Changes have occurred in the healthcare sector financed through the consolidated budget. In particular, the role of voluntary health insurance (VHI) within paid medical services has decreased, which indicates the saturation of this segment. Corporate clients currently prefer insurance packages with a more modest range of services, which does not contribute to the growth of demand on their part. At the same time, a potential increase in interest in paid services in medicine may occur due to employees of small and medium-sized businesses who have lost

access to VHI. The self-employed may become an additional source of increased demand for commercial medical services, especially if their access to compulsory health insurance worsens [98, 220, 308].

In the field of medical services, each constituent entity of the Russian Federation usually operates several large clinics, each of which strives to serve a similar audience of patients. In this context, the main goal for these medical institutions is not only to maintain their presence in the market, but also to strive to expand it. This creates conditions for competition, where the success of one organization often involves losses for others. In response to these challenges, clinics are turning to two key strategies for managing their services: duplication and differentiation of services to maintain or increase their market share. Based on the first approach, clinics may find themselves in a situation of economic confrontation, where winning or losing is determined by price indicators. However, by choosing the second path, they can specialize in offering high-tech solutions that are not only unique and difficult to duplicate, but also generate more income compared to basic services, thereby confirming their more impressive expertise and professional level. At the same time, the desire of clinics to stand out in the market through unique offers can lead to the introduction of services that are not economically profitable [459].

In today's business environment, financial results alone do not reflect the full picture of success. Instead, a comprehensive approach is proposed that includes four key elements: economic performance, customer satisfaction, optimization of business operations, and employee education and development [434].

From the point of view of those who adhere to a resource-based development strategy, the presence of unique resources in a company, characterized as valuable, rare, non-replaceable and non-copyable, contributes to the creation of its competitive advantages [409].

In response to current trends, private companies are actively looking for new ways to increase their income, focusing on cooperation with the government through public-private partnership mechanisms, including participating in the compulsory health insurance program. In this regard, it was expected that from 2019 the growth of the

market for legal commercial medical services will grow steadily at an average of 6% annually [126, 301, 339].

However, despite these trends, the private medical sector in Russia is still developing separately from the national healthcare system, experiencing difficulties with integration into the national market of medical services [339].

In 2019, the average cost of official medical services reached 4,500 rubles, and this Picture is the same for both public and private medical institutions. However, in commercial medical centers, treatment costs were significantly higher, reaching 18,500 rubles, while in public medical institutions this Picture was only 6,400 rubles. There was an increase in trust in private medical institutions: if in 2018 36.2% of patients chose them, then by 2011 this Picture increased to 44.8%. Outpatient care costs ranked second among health care costs [211, 223].

The British audit and consulting company Ernst & Young carried out an extensive analysis of the commercial healthcare sector in Russia for the period 2018-2019. The study revealed that citizens began to save more on medical services, which affected the decline in effective demand. At the same time, almost a quarter of the surveyed specialists expressed the opinion that the medical services market could be facilitated by an increase in socio-demographic indicators. And 30% of the experts surveyed associated the potential increase in the market with an increase in the level of real incomes of the population [113].

In 2018, the All-Russian Popular Front organized a survey covering 4 thousand healthcare workers in all 85 regions of the country, the majority of whom, 3.5 thousand, were doctors. The study revealed that a quarter of participants (24.5%) confirmed that they had encountered unofficial instructions from the management of their medical institutions regarding the focus on development and the priority of paid medical services. The results varied depending on the region: in the Lipetsk region there were 50% of these, and in the Murmansk and Vologda regions - 40%. Moreover, the majority of respondents, 57.6%, noticed an increase in the share of paid services in public medical institutions over the same year [62, 120, 201].

Today in Russia, more than fifty-four different medical specialties are available to patients, provided as part of paid medical services. Experts highlight that the largest volume in the private medical market is occupied by dental services, accounting for 60% of the total, followed by gynecological services (20%), diagnostic services (10%) and cosmetology, occupying 6% of the market. Currently, there is a growing trend of interest and development in areas such as gene therapy, molecular genetic diagnostics and regenerative medicine. At the same time, very few private medical institutions, less than 3%, provide services such as geriatrics and emergency medical care. Other popular areas also include ophthalmology, manual therapy, psychiatry, narcology and cosmetology [25, 88, 397].

Surveys conducted as part of the Russian Study of the Economic Condition and Health of Citizens revealed that only 27% of private medical institutions specialize in providing services in one area. The predominant specialized clinics are dental (60%) and ophthalmological (10%). Patients' responses indicate that private clinics outperform public clinics by providing quality service, which is put first when choosing a medical institution. Thus, the private sector of medical services in Russia successfully competes with government institutions, attracting a significant share of patients with average incomes.

The question of how to improve the system of providing paid medical services has attracted considerable attention, especially through studying the level of satisfaction of clients using paid medical care. The importance of introducing provisions on the provision of paid services into the charters of state medical institutions is emphasized. Clients paying for medical services are classified into those who have entered into personal contracts and those who are covered by voluntary health insurance policies.

It was revealed that for a certain category of patients, the requirements for the level of service, the competence of health workers and the high level of medical services provided prevail over the cost of treatment. In addition, they show a greater degree of trust in public medical institutions compared to private ones. To improve their market position, health care providers should be more proactive in informing patients about available treatments, both paid and free [123, 232, 316].

The issue of pricing for medical services in public medical institutions remains complex, especially in the context of the lack of unified legislative regulation in Russia. Order of the Ministry of Health of the Russian Federation dated December 29, 2012 No. 1631n gives the right to medical organizations subordinate to the Ministry of Health to independently set tariffs for medical services with a recommended profitability of no more than 20%. The temporary instruction of the Ministry of Health of the Russian Federation on calculating the cost of medical services (1999) establishes a methodological approach to calculating their cost and is purely economic, but not social in nature. The analysis examined the impact of pricing on the income of institutions providing paid medical services. Significant differences have been identified in the cost of similar services, for example, in medical institutions in Moscow. Interestingly, some healthcare providers have been able to increase their gross margins by lowering prices due to increased volume of services provided. An in-depth analysis of the client base using the «holistic marketing» model was also presented. This approach takes into account medical, social and demographic data about patients to analyze and predict their behavior and preferences, which in turn helps healthcare organizations more accurately predict demand for paid services [96, 144, 223, 288, 294].

Sometimes increased fees for services in private medical practice can bring unexpected benefits, such as limiting excessive consumption of health care services by filtering out those who use the availability of services for the purpose of personal enrichment by suing health care providers for their poor performance, which is sometimes called «patient extremism» [118, 304, 372].

However, there are still a number of unresolved problems in this area, including the lack of uniform legislative regulation that would cover the responsibility of private clinics for the quality of the services they provide. In addition, there is a shortage of tax incentives that could support medical institutions in updating expensive medical equipment, as well as leasing it, and so on.

Also, there is the question of how the establishment of low tariffs for paid services by state and municipal health care institutions, with the participation of government authorities, leads to an unintentional decrease in prices on the market.

Organizational and personnel contradictions, when medical workers of state and municipal medical organizations work in parallel in private medical institutions and a high rate of part-time work negatively affects the quality of medical care [223, 394].

Table 1 – Characteristics of three channels of financing medical services

Index	**Compulsory medical insurance**	**Voluntary health insurance**	**Paid services**
1	**2**	**3**	**4**
Payer	Executive authorities and employers	In most cases, the employer is the policyholder, although sometimes an individual can take on this role	Individual
Sources of funds for payment	Making payments from insured persons to the federal compulsory health insurance fund, which is not included in the national budget	Financing is provided from the resources of companies or individual entrepreneurs, as well as from personal funds in the case of personal insurance	Personal funds of the patient/payer
Patient payment terms	When visiting a medical facility, the patient is provided with services without payment	When a patient comes to a medical institution, services are provided to him without charging a fee	Health services are financed by the client or other interested party
Scope of medical care	Within the framework of the state compulsory medical insurance program	As part of the contract, the voluntary health insurance program establishes conditions between the insurer and the policyholder	Determined by the patient
Patient participation in determining the required volume of care provided	Not participating	Not participating	The ability to pay for medical services lies with the patient when he himself chooses the medical care provided to him.

Table continuation 1

1	2	3	4
Reasons for providing medical services	The occurrence of an insured event, causing the need to apply to insurance (this may be a situation of a random nature), or preventive programs (for example, medical examinations or dispensary observation)	The occurrence of an insured event provided for in a voluntary health insurance contract and characterized as a possible event requires treatment. Regular preventive examinations are also covered by this agreement	The client can independently make a decision on the issue of seeking paid medical care if he feels such a need
Carrying out preventive measures	Mandatory	Annually as planned.	Upon patient's request
Providing clinical observation for chronic diseases	Necessarily	As a rule, it is not provided	At the patient's request.
Tariffs relative to average market prices for relevant types of medical care	The cost of services takes into account their cost.	According to the prices offered on the market for similar health care services	Based on average market costs of medical services
The load on the doctor in accordance with the performance indicators of the labor function	High	Variable	Variable
Duration of a doctor’s appointment relative to the standards recommended by the Russian Ministry of Health	According to established standards recommended by the Ministry of Health of the Russian Federation for a certain medical specialty	According to the contract or in accordance with the rules defined in the medical organization	According to established procedures in this medical institution
Terms of medical care	In accordance with the provisions of the territorial program of state guarantees for the provision of medical care	At the time of applying for medical services, in accordance with the current schedule of the medical institution	At the time of applying for medical services, in accordance with the current schedule of the medical institution

Table continuation 1

1	2	3	4
The need for prior approval of medical services with the insurer/payer	Not required.	Required	All medical services planned for implementation are agreed upon with the patient (payer)
Comfortable conditions for providing medical care	Standard	Usually high	Usually high

The question of how to improve the performance remuneration system for health workers providing services on a paid basis deserves special attention. According to Article 60.2 of the Labor Code of the Russian Federation, «with the written consent of the employee, he may be entrusted with performing, during the established duration of the working day (shift), along with the work specified in the employment contract, additional work in a different or the same profession (position) for additional pay» [19].

In the context of human resource management, employers have flexibility in task allocation, allowing their employees to take on additional responsibilities. These could even be tasks for which additional rewards are expected. For example, in health care settings, it is entirely acceptable for a doctor to temporarily act as a nurse when she is unavailable, even if this involves providing services for which a fee is charged. The article does not emphasize that additional work cannot be paid. In addition, medical workers who receive wages from compulsory health insurance (CHI) also have the right to perform paid services outside of their standard work schedule, including normal working hours. These rules apply not only to medical institutions, emphasizing the universality of the approach to the distribution of work tasks and opportunities for additional income [19, 222].

To ensure the possibility of jointly performing various functions and positions in the structure of a medical institution, it is necessary to provide for the availability of vacant positions for combinations. This requirement is due to the need for proper organization of work within medical organizations. As indicated by the legislation of the Russian Federation, in particular the Labor Code, a health worker may take on

additional responsibilities, which implies an increase in the scope of his responsibility for the quality of medical care provided [109].

At the same time, it is extremely important to maintain a balance between ensuring the rights of patients to receive free medical care and respecting the labor rights of employees of healthcare institutions. In no case should the interests of any of the parties be infringed [224].

In light of the desire to develop the sphere of paid services in medical institutions, a key aspect for management is to regularly study the needs of their employees and the opportunities that the administration of the institution can offer. However, sociological studies of the satisfaction of medical workers with the system of remuneration for their work, in particular, doctors who also provide paid medical services, could not be identified. This fact emphasizes the importance of organizing comprehensive sociological research aimed at analyzing the perception of quality, accessibility and organization of paid medical services both on the part of consumers and on the part of medical organizations [14].

Continued monitoring of out-of-pocket health care expenditures is an important part of assessing system performance, even in countries with well-managed health care services. Out-of-pocket expenses are a major component of health care costs. In Russia, and in countries with low and middle income levels, including [414, 428, 464].

The concept of «shadow economy» appeared only at the beginning of 1970 of the last century and was intended to indicate hidden income and ways to conceal it. Contemporary literature uses this concept as an attempt to analyze the surge in economic activity in the shadow sector after disclosure. Characteristic features of the shadow economy are the deliberate evasion of official registration of enterprises (as a form of business) and their agreements, as well as the distorted implementation of these agreements [414, 428, 464].

Today, the shadow sector of the economy has perfectly adapted to the economic situation in Russia and is therefore able to compete with the official economy.

The non-cash payment sector includes patient appointments that are accompanied by payment in person to the doctor. These funds are not reflected either in the internal reporting of medical institutions or in official tax reporting.

Informal financial transactions refer to situations where patients or individuals acting on their behalf personally provide funds or gifts to health care staff. Such activities also include the provision of services to health care providers and their institutions. In addition, this category includes the costs of patients for the purchase of medications and necessary materials for outpatient or inpatient treatment, as well as their expenses for food. This is contrary to established norms, according to which these costs should be covered by the state, and patients have the right to receive medicines and food free of charge [378].

Due to the lack of official reporting, the parameters of the shadow sector are calculated by sociological methods - through surveys of doctors and patients. Accordingly, information about the shadow sector is the least accurate compared to other sectors of medicine. Большой объем ресурсов, находящихся вне официальной экономики, может стимулировать экономическое развитие при их интеграции в легальный сектор. Важность борьбы с неформальной экономикой подтверждается на уровне государственной политики, что отражено в обращениях Президента Российской Федерации к Федеральному Собранию и в решениях, принятых Правительством РФ [152, 340].

The shadow sector compensates for the shortcomings of Russian medicine. Informal payments provide clients with quality medical services and compensate doctors for low wages. In addition, in the situation of paying the doctor «in hand» the client receives a high level of personalized medical care.

The shortage of qualified personnel, the low quality of equipment and services in the public health care system and the discrepancy between the cost of services in commercial medical organizations and their quality force patients to resort to informal payments in order to receive medical services on time and with acceptable quality.

The highest level of shadow payments is observed in inpatient medical institutions that provide specialized care, including high-tech care.

During the survey in 2017, it turned out that less than half of the respondents, namely 49.7%, made payments for outpatient care services directly through the cash register. Moreover, about 55.8% resorted to the practice of directly transferring money to health care workers or giving gifts. In terms of inpatient treatment, the situation also left much to be desired: only 65.3% of respondents made payments through the cash register, while 51.3% continued the practice of giving gifts to medical workers. Additionally, it was found that two-thirds of visitors to public clinics indicated that additional costs for treatment were inevitable, and half of these costs were associated with unofficial payments.

For a certain percentage of residents, ranging from 5 to 80% depending on the type of medical service, it was necessary to pay for medical care out of pocket. Specifically, 80% of the population paid for dental services, 44% required paid diagnostic procedures, 37% of patients financed their hospitalization, and 5-20% paid for outpatient treatment. The cost of services, including various tests and procedures, which people paid directly to medical professionals, reached half of the tariffs established by the medical institution [40].

Attempts to present unofficial payments in the medical sector in a positive light sometimes describe them as a mechanism that helps smooth over the rough edges arising from medical reforms. However, it is important to recognize that activities beyond the law in the health care system cannot and should not serve as a substitute for established public and legitimate private health care providers. In fact, underground financial flows that arise in the medical industry often inappropriately substitute for official funding, and this phenomenon requires careful analysis and regulation [121, 130].

In 2021-2025 a further increase in patient care costs in the informal sector is predicted. By the end of the period, the Picture will be 5.5 thousand rubles. Due to the legalization of medicine, the number of patients in the shadow sector will begin to decline annually at a rate of 0.9-1.2%. In 2025, the Picture will be 40.5 million people [90, 130].

In the world of healthcare services, there are a variety of informal payment methods. They can be divided into main categories: cash and non-cash transactions. At the same time, within the medical field, cash payments are more common. This is especially noticeable in large medical centers, where cash payments are the norm. At the same time, in small district hospitals, where informal payments in cash are less common, rewards in kind are more often practiced.

In various medical fields, such as obstetrics-gynecology, urology, surgery, dentistry, traumatology-orthopedics and venereology, unofficial financial payments are common. In therapeutic areas, such payments occur less frequently and are of smaller volume. Doctors of surgical and gynecological specialties usually receive additional funds that exceed their official income by two to three times. While specialists from specialties can count on an increase in their earnings from twenty percent to two hundred. Planned treatment is most often associated with additional payments from patients, in contrast to emergency care.

Clients often pay for: diagnostic examinations out of turn, consultations with a doctor at a time convenient for the patient, physiotherapy procedures, massage and sick leave without medical reasons. Many believe that the root of the problem of unofficial payments lies in insufficient earnings of medical personnel [3, 360].

The previous government strategy aimed at maintaining low wage levels in the public sector, including untimely indexation of minimum wages, significantly undermines staff motivation. As a result, a large number of employees in government agencies do not see a clear connection between their efforts and the amount of remuneration they receive, which leads to a decrease in their performance and an increase in the influence of shadow economic processes. V.V. Kulikov emphasizes that wages, remaining constantly low, lose their effectiveness and cannot fulfill their intended functions, such as stimulating workers or maintaining their standard of living. On the other hand, when considering informal payments, it is critical to recognize both the positive and negative aspects of these practices. This is due to the fact that in the economic and social spheres of any country, citizens strive to identify and use weaknesses in the system to their advantage [173].

Underlying shady financial transactions between patients and healthcare professionals is a mutually beneficial relationship. There are several explanations for why doctors may accept money from their patients directly. Firstly, one of the reasons is the significantly low level of wages in the medical field. Secondly, receiving money directly from the patient often seems more profitable than official earnings through a medical institution. Finally, there is a clear discrepancy between officially set prices for health services and the perception of health care providers about the value of their work, which also contributes to the desire to accept payments directly from patients [31, 219].

Paying the doctor directly from the patient often works out to be better for both parties because the amount paid directly to the doctor is usually less than what the official price list requires. In this context, medical workers pay attention to the financial capabilities of their patients, trying to find a middle ground between insufficient payment for their work and the limited financial resources of the population. Unofficial payments from patients to physicians serve not only as a method for ensuring a decent level of income for qualified specialists, but also as a means for acquiring and maintaining the necessary medical equipment and instruments [219, 238].

It is important to assert that the use of illegal payments by many doctors in Russian healthcare during the period of its transitional changes is, to a greater extent, the result of forced circumstances rather than a conscious choice. The main reasons behind the spread of such practices are the lack of government funding in the healthcare sector and the desire of patients to pay to receive quality care and confidence in treatment. Therefore, it is unfair to blame health care providers for the spread of illegal payments without taking into account the context of the situation [238].

A.B. Luttsev and A.V. Chernyshev put forward the idea of how the income of doctors in the public medical system could be divided into three different categories, based on the method of their earnings and the presence or absence of illegal actions. These categories include the «white», «gray» and «black» sectors. A similar classification is also used in economics, but on other grounds, which are related to the payment of taxes and fees.

In the «white» sector, income consists of official wages, additional earnings and payments for services. The «gray» sector covers unofficial income received from the population both in cash and in kind, without the use of coercion.

The «black» sector of the shadow economy includes activities based on unofficial financial transactions, such as illegal services and extortion, examples of which are obtaining sick leaves, various certificates, obtaining referrals for medical and social examinations, or receiving referrals for treatment in sanatoriums.

Table 2 – Characteristics of services in the white, gray and black sectors of payment for services in the public health care system

Sector	**Service**	**Characteristics of causes and conditions**	**Payment**
White zone	Medical service provided, confirmed in the registry	Compulsory medical insurance, budget, extra-budget	According to the compulsory medical insurance or voluntary medical insurance policy, through the cash desk of a medical institution
Gray zone	The medical service provided is confirmed or not confirmed in the registry	Turns out medical personnel at their workplace, using diagnostic or therapeutic equipment, consumables	It is possible to pay for this service at compulsory medical insurance or voluntary health insurance rates, however, the patient can «pay extra» to the staff for additional attention and provision of the service «out of turn»
Black zone	Medical service for which the patient is not entitled	Obtaining illegal certificates of incapacity for work, referral to ITU. Receiving money for medical products and medicines indicated to the patient free of charge	Payment directly to a health care professional for fulfilling an unreasonable patient request
Black zone	Illegal provision of medical services	Anonymous treatment of sexually transmitted diseases, criminal abortion, drug treatment, psychiatric care, doctors working as freelancers without a license outside of medical institutions	Payment directly to the medical worker providing the medical service

In the healthcare sector, gray medical services stand out for their legitimacy. They operate within the framework of the law, having the necessary permits and meeting established standards and hygiene requirements. However, informal financial interactions have negative consequences, including a decrease in the openness and accessibility of the healthcare system. They lead to provider discrimination against patients based on their ability or inability to pay hidden fees, making it difficult to obtain a decent standard of care [307].

A significant characteristic of the informal segment of medical financing is the implicit government support for private medical practices that provide unregistered medical services. In such cases, medical specialists are freed from the need to cover the costs of renting premises, maintaining equipment, paying taxes and other mandatory payments, receiving all the proceeds as remuneration for their work. Notably, consumables may also be covered in some situations [317].

The desire to receive high-quality medical care leads to the fact that patients tend to turn to institutions recommended to them by friends or former patients. However, in reality, the choice of where to get help without paying is limited for most patients. In particular, citizens living in regional centers are often faced with the need to pay for services or look for alternative ways to receive free treatment in regional clinical hospitals. These hospitals are known to have advanced equipment and qualified specialists and are required to provide free treatment to patients from rural areas referred there from district health facilities [306].

The existence of legal and illegal sectors in the field of medical services directs the interacting parties to achieve profitability, which is socially negative [244].

The main dilemma facing the Russian healthcare system is the confrontation between guaranteed free medical care and the reality that medical services have to be paid for unofficially. In this context, the importance of strengthening the contribution of government measures to improving the quality of health services is emphasized, for example, through the active promotion and implementation of national projects such as «Health». Attention is also focused on expanding the range of officially offered paid

medical services, which should help strengthen the healthcare system and reduce informal payments in the industry.

1.6. Project of the regional association of private clinics

In order to combine the goals of public and private healthcare to improve the quality of medical care provided, continuous medical education of medical workers, and increase the volume of medical services provided, «Associations of private medical organizations» have been organized in the regions of the Russian Federation.

The purpose of the association is to unite medical organizations providing paid medical services in order to consolidate their professionalism, the latest technologies, and provide an individual and attentive approach to each patient.

The unification of highly professional, experienced and established clinics has made it possible to provide patients with a wider range of medical services and confidently guarantee that any, even the most complex medical problems will be successfully resolved.

Members of the association are responsible not only to patients, but also to employees, partners and the state. For clinics that are members of the association, it is very important that patients are satisfied with their visits to its member clinics, and that their attitude towards private medicine is positive.

The Association also lists the priorities of its activities as maintaining an active dialogue with the authorities, participating in the drafting of documents and regulations, because as a self-regulatory organization the Association has the opportunity to actively influence the legislative and regulatory framework on which its members work.

Representatives of the Association actively interact with authorities both within the region and at the Federal level: they are members of the working groups of the regional Ministry of Health, the Public Council under the Ministry of Health of the Russian Federation, and the expert council on the modernization of healthcare of the Public Chamber of the Russian Federation.

Opportunities of the Association:

• Communication with business colleagues, exchange of experience and knowledge with Russian and foreign associations

• Participation in events, conferences, forums, seminars on preferential terms for employees of clinics - members of the Association;

• Legal and information support, obtaining up-to-date information on changes in legislation, media reviews of the industry, market research;

• New opportunities for business development, exchange of information, creation and participation in partnership programs, new opportunities to attract patients, coordination of work with insurance companies;

• Promotion of information in the media, opportunities for promoting each clinic.

Members of the Association can be any legal entity that has a license to provide medical activities, has recognized its Charter, has paid entry fees and meets the selection criteria.

The Association assumes the right to implement its professional and civil position in the interests of Russian healthcare and the professional community; participation in the work of expert councils, forums and conferences, appearances in the media. And also, protection of the rights and interests of the medical business in legislative and executive authorities, assessment of business development (understanding of market development from the point of view of the consumer and from the point of view of the external environment - as a regulator of business in modern conditions). Communication with colleagues, availability of sufficient resources to collect information about the market with subsequent forecasting of the situation. Participation in the development of a healthcare development strategy. Participation in discussion of the current situation of the medical business community and influence on the situation.

SUMMARY

Reduced budget allocations for public health care, entailing its degradation, lead to the growth of the sector of paid medical services, facilitating the transition of more people from the public to the private medical sector. At the same time, changes in the

economic preferences of citizens, observed recently, reveal a decline in the population's ability to pay for medical services, which leads to the adaptation of their consumer habits in the context of the use of paid medical care, this is especially noticeable in the mass segment of paid medicine.

At the center of the competition between private and public health care institutions is the battle over attracting professionals.

As part of the implementation of the state project «Healthcare» to improve and modernize the system of providing medical services, public medical institutions were able to increase their competitiveness. This was achieved by updating the technological base and improving the quality of service, thereby creating more comfortable conditions for patients. As a result, there was a significant influx of patients to public clinics to receive high-tech medical care, including on a paid basis [388].

However, it is worth noting that in some regions the process of modernizing medical institutions lags significantly behind compared to federal medical centers. There is a shortage of highly qualified specialists, which entails long waiting times for medical care. Difficulties with rapid access to diagnostic tests force many patients to seek help from private medical institutions. All this aroused the interest of large clinics in regional expansion.

In conditions of economic difficulties, leading network companies and medical institutions, which are part of large federal financial and industrial associations, are actively expanding their activities by opening new clinics and absorbing less successful competitors, following an extensive growth strategy.

This was made possible by the diversification of income sources and the expansion of the range of medical services by the private sector, especially after they were able to provide high-tech medical care. Among other things, this includes MRI and CT diagnostics, cancer therapy, cardiac surgery, as well as the use of assisted reproductive technologies, traumatology and orthopedics, which ensures high profitability of these services.

The development of effective interaction between private medical institutions and the state, as well as the integration of large private clinics into a unified state healthcare

system, is critical to guaranteeing a high level of medical care to the population of the Russian Federation.

To achieve economic sustainability, it is necessary to solve the most important problems for the institution: eliminate unprofitability and ensure profitability, stable profitable operation, so that the institution not only covers its expenses with income, but is also profitable, i.e. made a profit. With the development of paid medical care, the importance of such economic indicators as profit, profitability, and determination of the break-even threshold increases.

The demand for medical services is directly dependent on the quality of medical care, on the information content of advertising about services, which should be available to the patient, and carried out in various forms.

All this makes it possible to increase the financial and economic stability of a public health care institution.

CHAPTER 2. PROGRAM, MATERIALS AND RESEARCH METHODS

2.1. Basic research concepts

This dissertation research is an analysis of a set of problems, the purpose of which is to develop new principles for organizing paid medical services in public health care institutions. The study is based on an analysis of many literary sources: both domestic and foreign, relating to paid medical services, and includes the application of the results of the developed methodological approaches in the practical activities of healthcare system managers, in order to improve the provision of medical care. In addition, the work is based on the legislative and regulatory acts of the Russian Federation, which establish criteria for the quality of medical care and the rules for the provision of paid medical services.

During the scientific analysis presented in the dissertation, a complex of terms and concepts were analyzed that require detailed explanation for understanding.

Paid medical services are medical services provided on a reimbursable basis at the expense of citizens' personal funds, employers' funds and other funds on the basis of contracts, including voluntary health insurance contracts [290].

Voluntary health insurance is a type of health insurance in which the employer assumes the responsibility to pay for medical care provided to an employee. When applying for medical help, this type of insurance is a guarantor of full reimbursement of expenses; in the case of applying for compulsory medical insurance, it is a means of financing additional medical services. A voluntary health insurance contract is a civil transaction and is regulated by the Civil Code of the Russian Federation.

A consumer of medical services is a citizen who intends to order or purchase, or who orders, purchases or uses goods (work, services) exclusively for personal, family, household or other needs not related to business activities [290].

Public-private partnership (PPP) is a legally formalized for a certain period and based on the pooling of resources, distribution of risks, cooperation between a

public partner, on the one hand, and a private partner, on the other hand, which is carried out on the basis of a public-private partnership agreement, an agreement on municipal-private partnerships concluded in accordance with this Federal Law in order to attract private investment into the economy, ensure public authorities and local governments have access to goods, works, services and improve their quality.

Medical tourism is a direction of tourism whose purpose is to organize treatment of citizens abroad. A term denoting the practice of providing paid medical services outside the region of residence, combining holidays abroad with receiving highly qualified medical care. The development of medical tourism is supported at the state level. An example is the adoption of government programs such as «Development of international relations in the field of health» (implementation period 2013-2020), «Development of export of medical services» (2019), «Development of healthcare» (2017-2024).).

Telemedicine. According to Russian legislation, «telemedicine technologies are information technologies that ensure remote interaction of medical workers among themselves, with patients and (or) their legal representatives, identification and authentication of these persons, documentation of actions they perform during consultations, consultations, remote medical monitoring the patient's health condition.»

Tariffs for medical services in the compulsory medical insurance system are a group of price indicators in monetary terms that determine the level of reimbursement and the composition of expenses of medical institutions compensated from compulsory health insurance funds.

Revenue (also found as turnover and sales volume) is the total amount of claims (including unpaid) presented by an enterprise or entrepreneur to customers as a result of the sale of manufactured products, services, and work for a certain period.

Profit is the positive difference between total income (which includes revenue from the sale of goods and services, fines and compensation received, interest income, etc.) and the costs of production or acquisition, storage, transportation, and sales of these goods and services.

2.2. Research program and its main stages

In order to organize and conduct the dissertation research, we substantiated methodological and methodological approaches, developed: a step-by-step research plan, a methodology for collecting and processing material, an algorithm and research design.

The study was carried out during 2019-2023. The developed comprehensive nature of this work and the correctly selected observation units made it possible to formulate a comprehensive research program (table 3).

Table 3 – Dissertation research program

Stages	Tasks	Research methods	Sources of information and scope of research
1	**2**	**3**	**4**
I	Determining the relevance of the research problem and state	Content analysis Analytical Historical Comparisons	Scientific publications on the topic of dissertation research: 403 - domestic 62 - foreign 11 - dissertations 18 - normative legal acts
II	Research of the medical services market in the Sverdlovsk region	Analytical Statistical Content analysis	Accounting and reporting documentation of the Ministry of Health of the Sverdlovsk Region, State Autonomous Institution SO «Medical - Information - Analytical Center», the Accounts Chamber of the Sverdlovsk Region, the Ministry of Finance of the Sverdlovsk Region, forms of the Federal Statistical Observation for the Russian Federation for 2017-2021.
III	Analysis of the healthcare system of the Sverdlovsk region for 2017 – 2021.	Analytical Statistical Content analysis Matching method	Registration and reporting documentation of the Ministry of Health of the Sverdlovsk Region, State Autonomous Institution SO «Medical - Information - Analytical Center», forms of the Federal Statistical Observation for the Russian Federation for 2017-2021. Form No. 12, form No. 14 – ds, form No. 30

Table continuation 3

1	2	3	4
IV	Market research for paid medical services in the Sverdlovsk region	Analytical Statistical Content analysis Organizational and legal Matching method	Statistical and financial indicators of extra-budgetary activities of the Sverdlovsk Regional Clinical Hospital No. 1 for 2017 - 2021.
V	Sociological survey of the opinions of the population and doctors of the Sverdlovsk region on paid medical services	Expert assessments Sociological Statistical Analytical Matching method SWOT analysis	Questionnaires developed by the author (n = 2) Adult patients (n = 651) Doctors working in public, private, municipal medical organizations (n = 855). Questionnaires to study the opinions of managers of healthcare institutions (8)
VI	Creation of a business project for organizing paid departments on the basis of public health care institutions	Strategic analysis method Porter's value chain model Ansoff matrix Business modeling method	Calculation of economic indicators based on the international financial reporting system (IFRS).
VII	Creation and implementation of a regional model for organizing the provision of paid medical services in public health care institutions	Analytical method Matching method Method of organizational experiment	Materials and results of the study presented in the previous stages

In our scientific research, key attention is paid to a comprehensive analysis of issues related to the management and development strategy of the provision of paid medical services in public health care institutions. Based on a detailed review of literary sources and the need for a holistic study of the topic, a systematic approach was applied in the work. The importance of integrating theoretical knowledge and practical experience, based on the application of modern research methods in the field of health care, determined the successful achievement of the goals set at the beginning of the study.

The work discusses various approaches to studying the problem:

1) analytical - an approach that involves collecting and analyzing information about the healthcare system and issues of organizing paid medical services, with the aim of forming a three-level model for the provision of paid medical services at the regional level;

2) historical – an approach to a detailed analysis of the problem under study, describing the development of paid medical services in Russia over recent years, which, with a detailed analysis, allows us to trace changes in this area and the features of the organization of processes;

3) content - analysis - quantitative analysis of data on public health indicators and the state of the healthcare system in the Sverdlovsk region with their subsequent interpretation and comparison with qualitative indicators;

4) organizational and legal method - one of the tools for studying the regulatory framework that regulates the provision of paid medical services on the territory of the Russian Federation, which is a key element for understanding management and legal processes;

5) sociological approach – a method of surveying patients and doctors in order to determine their attitude towards paid medical services;

6) statistical approach - in the process of analyzing the health status of the population of the Sverdlovsk region and studying aspects of the provision of paid medical services in the region, our research focused on collecting and studying statistical data reflecting these parameters;

7) comparison method - this approach would be used in our work when assessing data from the results of a survey of patients and doctors on the provision of paid medical services, the studied data on health indicators of the population of the Sverdlovsk region;

8) method of scientific generalization - various methods are used as part of the study of paid medical services in the Sverdlovsk region. One of them is to analyze and compare several types of information: statistical data on the provision of paid medical services and medical services within the framework of compulsory medical insurance by the population of the region, the opinions of patients and medical specialists, as well

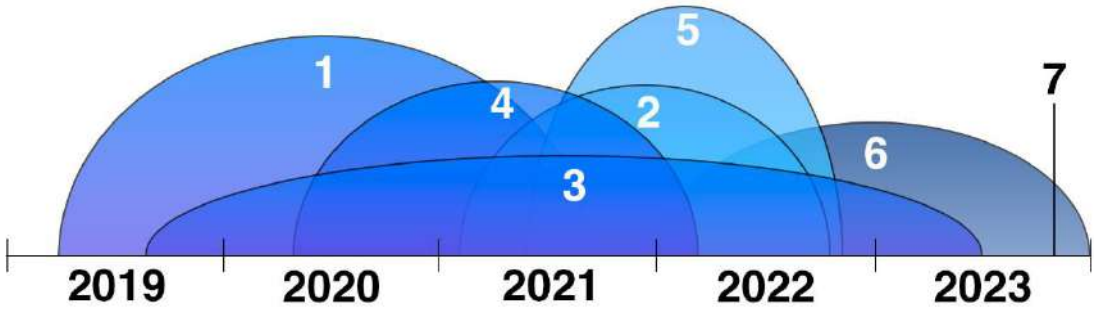
as the current state of the market for paid medical services. This allows for deep scientific generalization and identification of key trends;

9) method of expert assessments - the method includes an expert assessment carried out by the heads of medical institutions. They analyzed the strengths and weaknesses of public medical organizations in the context of providing paid services. They also examined external factors that may pose threats or open up new opportunities for development. This expert assessment aims to formulate strategies to improve the competitiveness of public health institutions;

10) methods of strategic analysis and planning – methods of strategic assessment of competitive advantages and subsequent development strategies of the organization are used;

11) business modeling method - calculation of economic indicators based on the international financial reporting system (IFRS).

The main stages and key events of the dissertation research are presented in picture 1.



Picture 1 – Main stages and key events of the dissertation research

At the first stage of scientific research, a research structure was established, including the goal, objectives, object and subject of research, and methods were selected to achieve the goals. The research program was formed on the basis of a detailed study of both domestic and foreign literature describing the issues of providing paid medical services.

Further, in the next part of the dissertation research, attention was paid to the analysis of the sector of paid medical services in the Sverdlovsk region. Here we detailed and approved the objectives of the study, features and key aspects of the objects of study, and also developed sampling parameters to ensure the representativeness and reliability of the data. The final stage was comparing the results obtained and planning the next stages of scientific research.

During the third stage of the study, a detailed analysis of the healthcare system of the Sverdlovsk region was carried out in the period from 2017 to 2021. We considered various aspects of the system, such as: morbidity of the population, medical staffing, capacity of outpatient clinics, bed capacity.

Subsequently, the market for paid medical services was studied using the example of assessing the extra-budgetary activities of the largest medical and preventive institution in the region, which was formulated and described in the fourth stage of the study.

The results obtained at the previous stages emphasized the importance of conducting sociological research. A detailed description of the selected survey methods, as well as approaches to analyzing the collected information, can be found in section «2.5. Program for a sociological study of the opinions of patients and doctors on the conditions and forms of provision of paid medical services».

The results obtained at the previous stages of the study made it possible to develop and formulate a business project for the creation of independent paid departments on the basis of a multidisciplinary hospital (surgical and ophthalmological), which formed the basis of stage 6.

The scientific justification for the creation and implementation of a model for the provision of paid medical services at the regional level was carried out at stage 7 through the development and testing of the methodology. The obtained data is registered as a patent for intellectual property rights. Registration certificate No. 2023624482.

2.3. Program for an empirical study of the conditions for providing medical care to the population of the Sverdlovsk region

The reason for conducting this stage of the study was the need for a comprehensive assessment of the state of the healthcare system in the Sverdlovsk region. The main task was to develop methods for a systematic approach to organizing the provision of paid medical services, to justify the feasibility of creating a unified system of centralized statistical accounting in commercial medical care at the regional level. In preparation for the study, key steps were formulated to highlight the importance of a focused and systematic approach to the provision of health services in the region. The stage lasted from 2021 to 2022 and covered an analysis of the activities of the regional healthcare system for the period from 2017 to 2021.

The purpose of the study is to assess the healthcare system of the Sverdlovsk region.

To achieve the research goal, the following tasks were formulated:

1) assess mortality rates, general and primary morbidity of the adult population of the Sverdlovsk region;

2) assess the medical staffing situation in the region;

3) study the indicators of the outpatient healthcare system;

4) evaluate the performance of the healthcare system when providing medical care in hospitals.

The object of the study was the healthcare system of the Sverdlovsk region.

The subject of the study is the management mechanisms of the healthcare system of the Sverdlovsk region.

In the process of carrying out the study, we studied and analyzed the following official statistical reporting documents of medical organizations in the Sverdlovsk region providing medical care, both in outpatient and inpatient settings:

- mortality of the population of the Sverdlovsk region from main causes for 2017-2021;

- Form No. 12 «Information on the number of diseases registered in patients living in the service area of a medical organization» (2017-2021);

- Form No. 14 – DS «Information on the activities of day hospitals of medical organizations» (2017-2021);

- Form No. 30 «Information about the medical organization» (2017-2021)

- indicators of medical staffing levels in the Sverdlovsk region 2017-2021;

- bulletins for 2017 - 2021, issued by the State Autonomous Institution SO «Medical Information and Analytical Center» of the Ministry of Health of the Sverdlovsk Region.

All analyzed accounting and reporting forms were analyzed for the Sverdlovsk region and according to the data of the Sverdlovsk Regional Clinical Hospital No. 1. Based on the data obtained, an analysis of population morbidity indicators, medical staffing levels was carried out, and key parameters characterizing the region's healthcare system as a whole were identified.

When determining the sample, the basic concepts used and described in the methodological sections of the statistical forms of the Federal State Statistics Service were used. Thus, the number of outpatient clinics included all medical institutions reporting to the Ministry of Health of the Sverdlovsk Region, in which outpatient treatment of patients was organized. Hospital organizations meant organizations of the healthcare system that provide medical care in a hospital setting.

The volume of data for this stage of the study was determined by the statistical indicators of the healthcare system for medical organizations in the Sverdlovsk region. Indicators for all institutions were included.

The general population of medical organizations amounted to 164 units. research and outpatient clinics 38 units. (data as of the end of 2021 from the official website of the Ministry of Health of the Sverdlovsk Region www.minzdrav.midural.ru). Randomization of administrative districts and medical institutions was not carried out.

Picture 2 – Symbols of the Sverdlovsk region

The Sverdlovsk Region is a subject of the Russian Federation and is part of the Ural Federal District. Formed on January 17, 1934, the administrative center is the city of Yekaterinburg. The Sverdlovsk region is located 2000 kilometers east of Moscow, on the border of Europe and Asia, at the intersection of transcontinental flows of raw materials, goods, financial, labor and information resources.

The Sverdlovsk region today is a large economically developed territory of Russia with a high level of business, cultural and social activity, one of the most promising subjects of the Russian Federation. According to most of the main socio-economic development indicators, the Sverdlovsk region is among the top ten regions of the Russian Federation.

General information about the Sverdlovsk region for 2021:

- the total area of the Sverdlovsk region is 194,300 square meters. km;
- population – 4,290,067 million people (90% ethnic Russians; 84% urban residents);
- the capital of the region is Yekaterinburg (land area: 495 sq. km; population: 1.377 million people; straight line distance to Moscow: 1667 km);

- other large cities: Nizhny Tagil (population: 347,200 people), Kamensk-Uralsky (163,990 people) and Pervouralsk (119,365 people);

- The Sverdlovsk region is one of the largest regions of Russia in terms of proven and estimated reserves of various minerals, one of the oldest and largest mining regions of the Russian Federation; The Sverdlovsk region is a supplier of most of what is produced in the country: vanadium, bauxite, chrysotile asbestos, iron ore;

- 35% of regional GDP is industrial production;

- leading industrial sectors of the region: ferrous and non-ferrous metallurgy (production of copper, aluminum and nickel) and mechanical engineering.

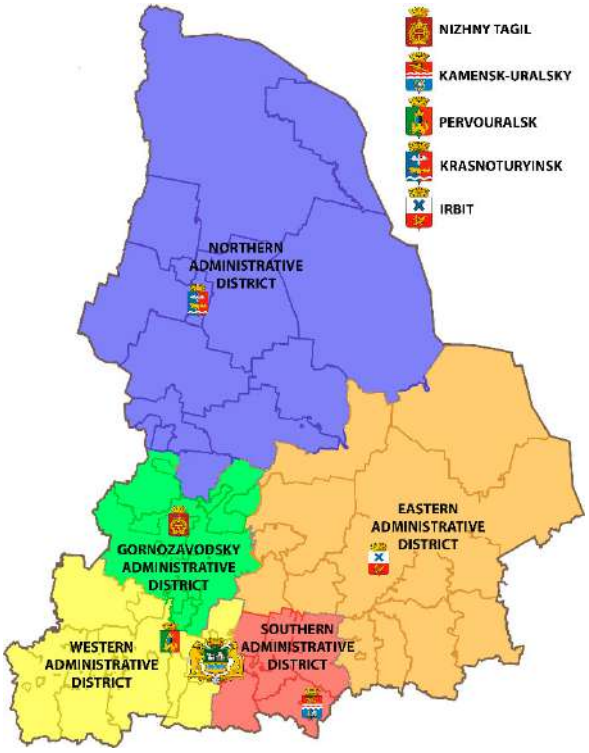
In addition to metallurgy and mechanical engineering, the Sverdlovsk region has developed chemical, forestry, woodworking, textile and asbestos industries, as well as production of Ural semi-precious stones.

The main enterprises organizing the development of the region are: EVRAZ NTMK, VSMPO-AVISMA Corporation, TMK, UMMC, Uralvagonzavod, Uralmashzavod, SINARA Group, Russian Copper Company, IDGC of the Urals, Ural Electromechanical Plant, Sverdlovenergo, Agroservice and Ural Airlines. Internationally recognized scientific schools and industry research institutes were founded in the Sverdlovsk region.

Governor of the Sverdlovsk Region E.E. Rossel, by his Decree No. 12 of September 18, 1995, approved the structure of executive power in the Sverdlovsk region. This structure included the Governor and the Government of the Sverdlovsk region.

The decree determined the composition of administrative districts:

- Eastern administrative district;
- Southern administrative district;
- Gornozavodsky administrative district;
- Western administrative district;
- Northern administrative district.



Picture 3 – Administrative districts of the Sverdlovsk region, where the healthcare system was assessed

Table 4 – Comparative characteristics of the administrative districts of the Sverdlovsk region

Administrative district	**Administrative center**	**Distance to Ekaterinburg**	**Population**
Eastern administrative district	Irbit	174 км.	467931
Gornozavodsk administrative district	Nizhny Tagil	126 км.	665975
Ekaterinburg administrative district	Yekaterinburg city	-	1526384
Western administrative district	Pervouralsk	40 км.	579549
Northern administrative district	Krasnoturinsk	326 км.	460196
Southern administrative district	Kamensk - Uralsky	93 км.	640646

2.4. A project for an empirical study of the provision of paid medical services in the Sverdlovsk Regional Clinical Hospital No. 1, as the main experimental basis for the introduction of a new model for the formation of paid medical services

The reason for carrying out this stage of the dissertation research was the need for a comprehensive assessment of the system for the provision of paid medical services in the Sverdlovsk region, in order to form a regional model for organizing the provision of paid medical services, as well as the lack of centralized statistical recording of the types and volumes of paid medical care provided in the region.

During the development of the research stage, an analysis of various aspects was carried out, which confirmed the importance of using an integrated strategy and a systematic approach to organizing the provision of medical services at the regional level.

The indicators of extra-budgetary activities of the State Autonomous Institution of Social Institution «Sverdlovsk Regional Clinical Hospital No. 1» for 2017-2021 were studied. The stage lasted in the period 2021-2023.

The purpose of the study is to assess the extra-budgetary activities of the Sverdlovsk Regional Clinical Hospital No. 1.

To achieve this goal, we formulated the following tasks:

1) evaluate the indicators of extra-budgetary activities in outpatient clinic settings;

2) evaluate the indicators of extra-budgetary activities in day and 24-hour hospitals.

The object of the study is the extra-budgetary activities of the State Autonomous Institution of Social Institution «Sverdlovsk Regional Clinical Hospital No. 1».

The subject of the study is the mechanisms for organizing the provision of paid medical services at the Sverdlovsk Regional Clinical Hospital No. 1.

The volume of data sample for this stage of the study was determined by the statistical indicators of the State Autonomous Institution of Public Institution SO «SOKB No. 1» for 2017 - 2023.

In the course of the study, we analyzed and studied the following official reporting documents of the Sverdlovsk Regional Clinical Hospital No. 1, which provides medical care both on an outpatient basis and in a hospital setting:

- indicators of extra-budgetary activities in outpatient settings in the period 2017-2021;

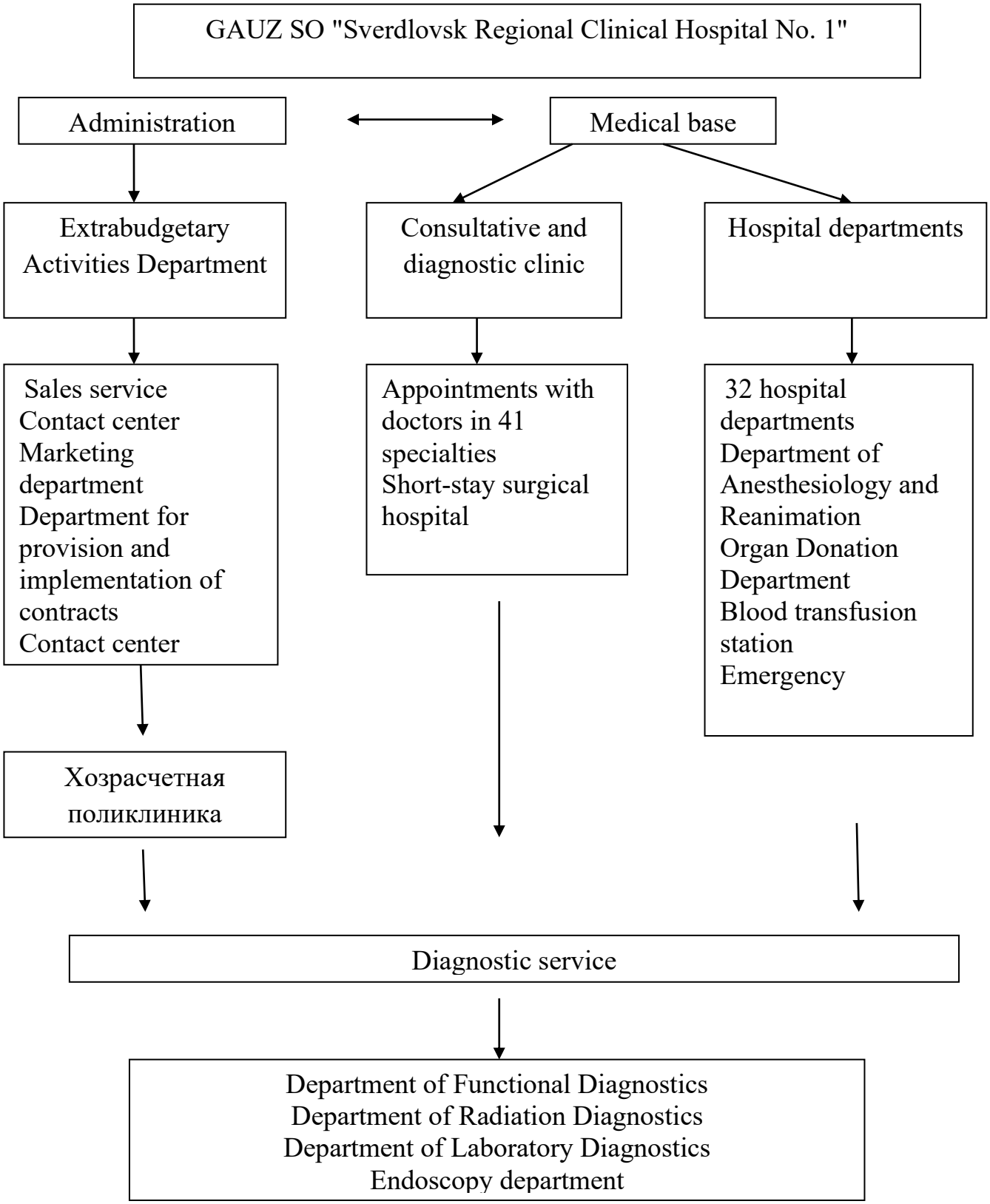
- indicators of extra-budgetary activities in the short-stay surgical hospital at the State Autonomous Institution SO «SOKB No. 1» in 2017 - 2023;

- indicators of extra-budgetary activities in the conditions of the hospital of the State Autonomous Institution SO «SOKB No. 1» for 2017 -2023;

When forming the study sample, the basic terms and concepts used and described in the methodological sections of the statistical forms of the Federal State Statistics Service were used.

GAUZ SO «Sverdlovsk Regional Clinical Hospital No. 1», the largest medical and preventive institution in the Ural Federal District.

The structure of the institution is represented by departments of a multidisciplinary hospital, a consultative and diagnostic clinic, and a diagnostic base. Also, since 2006, in the structure of the State Autonomous Institution SO «SOKB No. 1» there has been a self-supporting clinic that provides medical care to patients on a paid basis.



Picture 4 – Organizational structure of GAUZ SO «SOKB No. 1»

The organizational structure of the Sverdlovsk Regional Clinical Hospital No. 1 consists of main divisions and auxiliary services.

The hospital has 2,200 employees and 596 doctors. Of these, 45 are candidates of medical sciences, 12 doctors of medical sciences, 15 honored doctors of the Russian Federation.

The hospital departments are represented by 32 departments with 1,100 beds. The surgical service is represented by 16 departments of various profiles, and accounts for 60% of the total bed capacity. The therapeutic service is represented by 14 departments of various profiles, 40% of the total bed capacity.

GAUZ SO «Sverdlovsk Regional Clinical Hospital No. 1» is the clinical and scientific base of 19 departments of the Ural State Medical University.

The practical activities of the Sverdlovsk Regional Clinical Hospital No. 1 are aimed at providing high-tech and specialized medical care to the population.

The target base of the study was the subdivision of the State Autonomous Institution of Public Institution «SOKB No. 1» - the department of extra-budgetary activities, which includes the department for the provision of paid medical services to the population «Self-supporting clinic». The provision of paid outpatient medical services is carried out on the basis of the following structural departments: Self-supporting clinic, functional diagnostics department, radiation diagnostics department, laboratory diagnostics department, endoscopic department. Inpatient medical care is provided to patients in all departments of the hospital. For outpatient treatment of patients on a paid basis, there is a separate entrance to the building, a registration desk, convenient waiting areas and fully equipped offices of specialist doctors.

Patients are received on a paid basis every day by 150 doctors of the State Autonomous Institution SO «SOKB No. 1» of various specialties at a designated time, outside of compulsory medical insurance appointments.

The provision of inpatient paid medical services is carried out in hospital departments of various profiles in accordance with the diagnosis and clinical recommendations and in the therapeutic department, which provides only paid medical services.

Also, in the structure of the department of extra-budgetary activities, to increase the efficiency of providing extra-budgetary activities, the following were created:

- a contact center that ensures that patients register for consultations, diagnostic tests, and informs patients about all types of paid services;

- sales service, including: department of marketing and information, department of provision and implementation of contracts.

Among the priority tasks of the division are the expansion of the existing range of both outpatient and inpatient services, the increase and promotion of paid services on the basis of the State Autonomous Institution SO «SOKB No. 1», the development of voluntary health insurance programs, etc.

2.5. Program for a sociological study of the opinions of patients and doctors on the conditions and forms of provision of paid medical services

We initiated the organization of the survey on the basis of the assumptions we identified regarding the existing differences in views between patients and medical specialists on the issue of providing paid services in healthcare [137, 377].

Disagreements between residents of the region and the medical staff of the Sverdlovsk region regarding the advisability of organizing the provision of paid medical care served as a catalyst for initiating a sociological survey.

This study was aimed at studying the attitudes of both groups of the population towards the organization of paid medical services in the region.

The purpose of the sociological study is to identify the attitude of various categories of citizens and doctors in the region towards the organization of paid medical services.

As part of this survey, tasks were developed to achieve the identified initial goals:

1) determine the attitude of patients towards the provision of paid medical services;

2) establish the main reasons for the population seeking paid medical services;

3) identify the views of doctors working in medical institutions of various forms of ownership regarding the organization of the provision of paid medical services;

4) demonstrate the attitude of the population and doctors to the organization of the work process in the provision of paid medical services.

The objects of sociological research were: residents of the Sverdlovsk region living in the territory of the Sverdlovsk region, and doctors working in medical organizations: both private and state-owned [52, 225].

The subject of the study is the attitude of the population and doctors of the Sverdlovsk region towards paid medical services.

Criteria for inclusion in the sociological study: citizens of the Sverdlovsk region who have reached the age of 18 and doctors of the Sverdlovsk region working in medical institutions of all forms of ownership.

Exclusion criteria from the sociological study: doctors providing medical care in the «Pediatrics» profile, citizens of the Sverdlovsk region under 18 years of age, foreign citizens permanently or temporarily residing in the territory of the Russian Federation.

During the development of the sociological research methodology, anonymous questionnaires were developed for two groups of participants: patients and medical specialists.

To collect data from patients, a questionnaire containing 18 different multiple choice questions was used, presented in Appendix No. 1.

The questionnaire for doctors consisted of 19 questions with answer options for the respondents to choose from, presented in detail in Appendix No. 2. Each physician satisfaction measure included several parameters that were rated by respondents on a five-point scale from 1 (totally dissatisfied) to 5 (totally satisfied) based on targeted ranking questions [227].

The survey was conducted in medical organizations located in the Sverdlovsk region.

The selection criteria for participation in the study were: firstly, the possibility of doctors' participation in the study agreed with the administration of the institution; Second, the study covered health care institutions of varying governance types and legal forms, including both public and private organizations. Another important condition was the provision of paid healthcare services by the institution.

The survey was carried out by distributing paper questionnaires directly to medical organizations. A sampling method was used to study a specific portion of the general population representing the characteristics of interest for the study. This approach assumes that analysis of a selected group can provide reliable information about the entire population [224, 227].

When determining the sample size, the method of simple random sampling (SRS) was used, according to which each element of the population has a known and equal probability of selection. Each element is selected independently of every other element, and the sample is drawn by drawing elements at random from the sampling frame. The sample size was calculated using the formula:

$$N = \frac{t^2 * s^2 * N}{\Delta^2_x * N + t^2 * s^2}$$

where

n – sample size,

t – confidence coefficient (Student's test), indicating the specific value of the probability of how much the general average will differ from the sample average.

Δx - maximum error of the average value

S – standard deviation

N - is the volume of the general population [80].

The basis for calculating the volume of the general population is the size of the adult population of the Sverdlovsk region.

With a probability of P = 0.997, the t value is determined according to the Student's table and is equal to 3. With a standard deviation of no more than 25, the maximum error does not exceed 4 units. The required sample size is calculated using the formula.

To process statistical data, 851 questionnaires filled out by patients and 655 provided by medical specialists were used, which reflects the demographic and socio-economic profile of the residents of the Sverdlovsk region. According to the main

gender, age and socio-economic indicators, this population was characterized by a representative sample.

Selection and development of information collection methods

As a source of collecting information about the opinion of the population of the Sverdlovsk region regarding the provision of paid medical services, the results of the survey were taken as a basis. The questionnaire was filled out by patients independently, was anonymous, consisted of introductory, main and final parts, with answer options, the sample was random. Respondents completed the questionnaire in person in writing (direct survey). The study included analysis of comparisons between patient responses across a variety of criteria, including income, sources of payment for health care services, and annual health care spending.

As a source of collecting information about the attitude of doctors in the Sverdlovsk region to paid services, the results of a survey of doctors working in healthcare institutions in the Sverdlovsk region were taken as a basis. The questionnaire was filled out by doctors independently, was anonymous, and consisted of an introductory, main and final part. Respondents completed the questionnaire in person in writing (direct survey).

Doctors' answers were also compared for individual indicators (working in a medical institution depending on the form of ownership).

The study, based on data obtained by questionnaire, made it possible to compare the views of doctors towards their profession and their attitude towards medical services provided on a paid basis.

The survey was conducted using a continuous research method without differentiation by income level, specialty, or conditions for the provision of medical services. Thus, the results of the survey were as objective as possible.

The questionnaire was designed to examine multiple aspects, including employee performance evaluation, the work environment and interpersonal relationships, the effectiveness of management practices and motivational tools, and opportunities for

professional growth and training. It also made it possible to assess the characteristics of corporate culture and communication within a medical organization. Additionally, questions were included aimed at identifying employees' desire to change jobs, as an indicator of their dissatisfaction, and also summarized basic information about the study participants.

2.6. Expert assessment program for heads of healthcare institutions on the opportunities and conditions for the development of organizations in the paid medical services market

Many health care organizations are faced with conflicting management views on what their strengths and weaknesses are and how to determine strategic ways to improve them in a highly competitive environment. These disagreements that exist in the Sverdlovsk region necessitated a specialized analysis.

The purpose of the analysis is to identify internal and external factors that can affect the success of the development of medical organizations, and to formulate ways for their development in a competitive market for paid medical services. All this served as the basis for this expert assessment.

The object of the expert assessment was medical healthcare institutions in the Sverdlovsk region.

The subject of the expert assessment was the strengths and weaknesses of healthcare organizations, possible threats from competing organizations, and conditions for increasing their competitiveness.

The goal is to establish the strengths and weaknesses of healthcare organizations, identify possible external threats, and areas for increasing competitiveness.

Tasks:

1) systematize the possible advantages of organizations;

2) assess external factors: social, economic, political;

3) evaluate the advantages of competitors in the market.

As part of the expert assessment, the terms presented in the description of the SWOT analysis were used as a terminological apparatus.

During the planning of the peer review, the focus was on the following aspects: assessing the key benefits that organizations have; analysis of the influence of environmental factors, including social, economic and political aspects; and analysis of competitive advantages in the market.

In order to assess the key areas for the development of healthcare institution management tools, our study conducted a survey of chief physicians in order to form elements of the institution's strategic development.

Eight chief doctors of healthcare institutions in the Sverdlovsk region took part in the study.

This survey helped formulate strategic elements for the future development of health care facilities. A sampling survey method was used to obtain the most relevant data from healthcare executives.

All respondents were in a single information space and implemented a unified management concept at their level. The parameters assessed were selected based on the organizational and managerial values of the region, and not on the breadth of interests of managers and the level of their position.

Approaches to data collection at the presented stage were developed taking into account a preliminary survey among the heads of medical institutions in the Sverdlovsk region regarding their opinions on strategic management and planning in medical organizations. Each of the managers was invited to independently develop a SWOT analysis for their organization, performed manually and on an individual basis.

SWOT-analysis

In order to develop a strategy for the development and increase the competitiveness of public medical institutions, the SWOT method was used, which made it possible to analyze their internal and external threats.

This method allowed for the assessment of both the strengths and weaknesses of institutions, in addition to the analysis of external factors that may pose both opportunities and threats. To systematize these aspects, special blocks were created that combine four categories: strengths, weaknesses, external opportunities and threats with a list of relevant parameters. Each block contained a number of parameters, with the possibility of expanding them by adding institution-specific characteristics.

The selection of factors with a high impact on medical institutions, which can serve as either opportunities or threats, became the starting point for creating a strategic development plan. We analyzed the advantages and disadvantages of institutions, as well as external factors. Next, these data were integrated into a matrix. This analysis formed the basis for a series of strategic recommendations aimed at enhancing strengths, eliminating weaknesses, avoiding potential threats and making optimal use of strengths to counteract risks (table 5).

Table 5 – SWOT-analysis matrix

	Strengths	**Weak sides**
External Features	Indicators that contribute to the strengthening of advantages are activated in the presence of external favorable conditions, thereby supporting the development and implementation of the strengths of the organization.	Active use of emerging favorable circumstances and opportunities provided in order to level out shortcomings
External threats	Strengths used to eliminate negative situations to prevent external risks.	Strategies that are required to effectively address problems associated with both internal weaknesses and external challenges aimed at overcoming crisis situations.

2.7. Program for the formation of a regional model for organizing the provision of paid medical services in public health care institutions using the example of the Sverdlovsk region

In order to develop options for the development of extra-budgetary activities and the volumes of paid services provided in public health institutions of the Sverdlovsk region, based on the results of sociological surveys, empirical research methods,

analysis of the health care system of the Sverdlovsk region and the State Autonomous Institution SO «Sverdlovsk Regional Clinical Hospital No. 1», it was a decision was made to create a regional model for the provision of paid medical services in multidisciplinary government healthcare institutions.

The program is based on a variety of strategic analysis and economic modeling approaches.

The objective of the model being developed was to develop an algorithm for a three-level system for the provision of paid medical services at the regional level.

Methodologies of strategic analysis

I. Ansoff matrix

At the current stage, one of the most widely used tools for assessing strategic alternatives is the I. Ansoff matrix.

This tool, also known as the product-market matrix, provides key directions for a company's rapid development based on leveraging its core competencies and strategic capabilities in potential growth areas. I. Ansoff proposes four main strategies in his model, which are focused on different combinations of products and markets. These strategies include increasing share in existing markets with established products (market penetration), entering new markets with current products (market exploration), creating new products for familiar markets (product development), and launching new products for new markets (diversification) (table 6) [23].

Table 6 – I. Ansoff Matrix

		Products	
		Existing	**New**
Markets	**Existing**	Market penetration strategy (increasing market share)	Product development (new or improved products)
	New	Market development (new customers, new market segments or new countries for existing products)	Diversification (new products for new markets)

I. Ansoff developed a methodology for classifying the «products» offered by companies into two main groups. This methodology provides that managers of healthcare organizations can determine a development strategy from four available options, based on two key aspects: the type of market in which it is intended to operate, and the type of services, be it medical or non-medical, that are expected to be offered in this market. Among other things, the strategy may include offering medical services that have long been established in medical institutions, such as clinics and clinics, which helps to strengthen the position in an already familiar market.

The second category includes services that are not yet provided by the institution, but are intended to be introduced with the intention of attracting new clients or meeting the increasing needs of an existing clientele - a new market.

By analogy with markets, I. Ansoff divides company products (medical services in this case) into 2 types: an existing product is a medical service actively offered and provided by a medical organization, occupying its long-term niche in the medical services market. A new product is a medical service that is not currently provided in a medical institution, but which is planned to be implemented in order to attract a new target audience or expand an existing group of consumers [23].

Ansoff, analyzing the medical sector in the context of product strategies, divides the services provided by medical organizations into two main categories. The first category covers services that already have a strong presence in the market and are regularly provided to patients, thereby maintaining their market niche. The second category includes services that have not yet been introduced into the practice of the institution, but are in the process of development with the intention of attracting new clients or expanding the circle of existing ones, thereby opening up new horizons for development and strengthening of market positions.

M. Porter's value chain

The concept, developed by Michael Porter, defines healthcare processes as the collection of key services and capabilities provided in a healthcare organization. Within this system, Porter distinguishes two types of activities in the organization: primary and

auxiliary. The hospital's key infrastructure includes administrative aspects such as management processes, strategic planning, accounting, budgeting and monitoring the quality of services offered. Value chain research includes various methodologies, particularly cost-based approaches and service differentiation strategies.

The infrastructure of a medical institution is the structure of the organization and its administrative aspects, management, planning, accounting, financing and quality control of the medical services provided. The value chain includes various methodologies, particularly cost-based approaches and service differentiation strategies.

When analyzing an organization's activities, special attention is paid to the cost-based valuation method. It is first necessary to set cost control objectives for each activity, including both core and support activities. It is important to take into account elements that influence the resource intensity of processes, for example, the duration of tasks, labor intensity, wages and other initial parameters. It is these elements that can significantly increase time and labor costs. The final stage is to establish relationships between the various areas of the organization's work. Thus, heads of institutions must understand that reducing costs in one area can lead to reductions in another. This mechanism allows us to identify opportunities to reduce costs [91].

The advantage of the differentiation method is to focus on the types of health care services that create the most value for customers. These may include the use of different marketing strategies. And subsequently, it is necessary to evaluate the strategies used in order to increase the cost of medical services.

Analysis of the organization's system reveals differences that can be used to significantly improve the quality and cost of services provided. The task of assessing Porter's value chain is as follows: analyze the potential and scope of added value in the context of the entire organization, assessing each stage of the creation of this chain, its composition and potential for development, as well as strategic directions for development both for individual stages and for the entire organization in general [91].

Methodology for calculating a business project

We have developed a financial project for surgical and ophthalmological departments on the basis of multidisciplinary hospital institutions that provide paid medical services.

The business modeling method was used - calculation of economic indicators based on the international financial reporting system (IFRS).

The following indicators were assessed and calculated:

- planned financial indicators of the department;
- depreciation of capital costs;
- depreciation of fixed assets;
- Operating profit;
- a set of receipts (inflows) and payments (outflows) of funds distributed over time;
- return on investment ratio;
- net present value of the project;
- internal rate of return.
- investment payback period

2.8. Description of methods and information analysis scheme

Statistical processing of data obtained during the study was carried out using the Statistica 6.0 application package. The work used statistical methods of parametric and non-parametric analysis: Student's t-test, Fisher's transformed phi test to assess differences for small values (<20%), U test (Wilcoxon Mann-Whitney) and the method of confidence intervals to assess differences between average values. The criterion for statistical significance was considered to be 95% accuracy ($p<0.05$). The relationships between the variables were determined using correlation methods of parametric and nonparametric analysis (Pearson, Spearman, Candell).

CHAPTER 3. MEDICAL-DEMOGRAPHIC CHARACTERISTICS AND ANALYSIS OF MORTALITY (INCLUDING HOSPITALIZED MORTALITY), MORTALITY OF THE ADULT POPULATION OF THE SVERDLOVSK REGION FOR 2017-2021

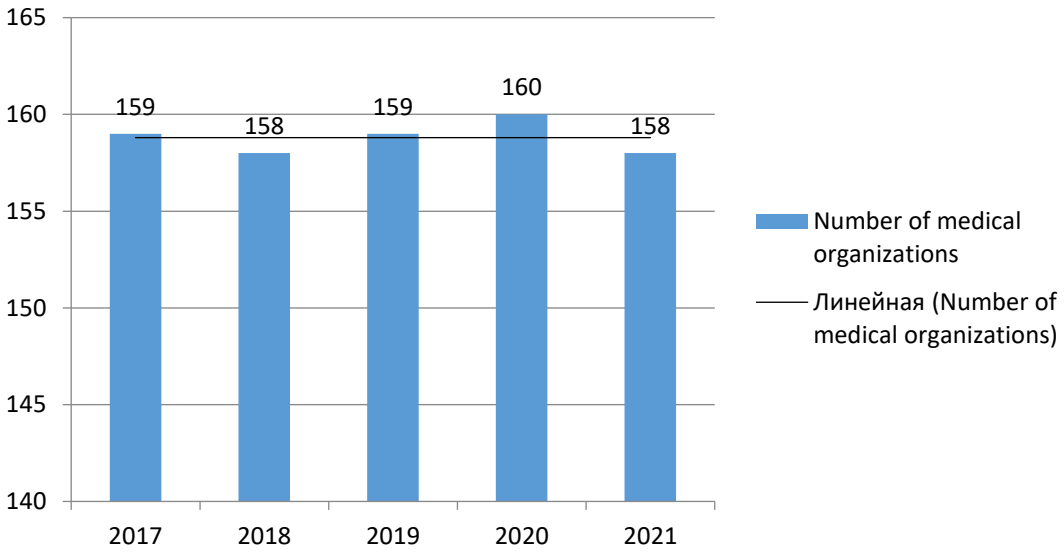
In order to realize the goals and objectives of our study, a comprehensive analysis of the dynamics and structure of the medical and demographic characteristics of the population of the Sverdlovsk region was carried out. Also, the performance indicators of healthcare institutions providing medical care within the framework of the territorial program of state guarantees, based on reporting data from the Ministry of Health of the Sverdlovsk region, were considered [30, 119].

The effectiveness of a health care system is measured using a number of different indicators. The main one is the level of morbidity among the population. Assessing this factor makes it possible to identify problem areas in the system that need to be paid close attention to, develop and evaluate the effectiveness of specific strategic, preventive and therapeutic measures carried out at all levels of medical care, plan staffing, medical resources, bed capacity and much more. At the same time, it is the dynamics of indicators of general and primary morbidity among the working-age population that determined the relevance of an in-depth study of this issue [105, 356].

The problem of shortage of medical personnel remains one of the most pressing for healthcare institutions in the Russian Federation. In the regions of the Russian Federation, a pronounced disproportion in the availability of medical personnel has been noted. Personnel shortages are especially acute in primary care, with a shortage of narrow specialists in certain specialties [105, 112].

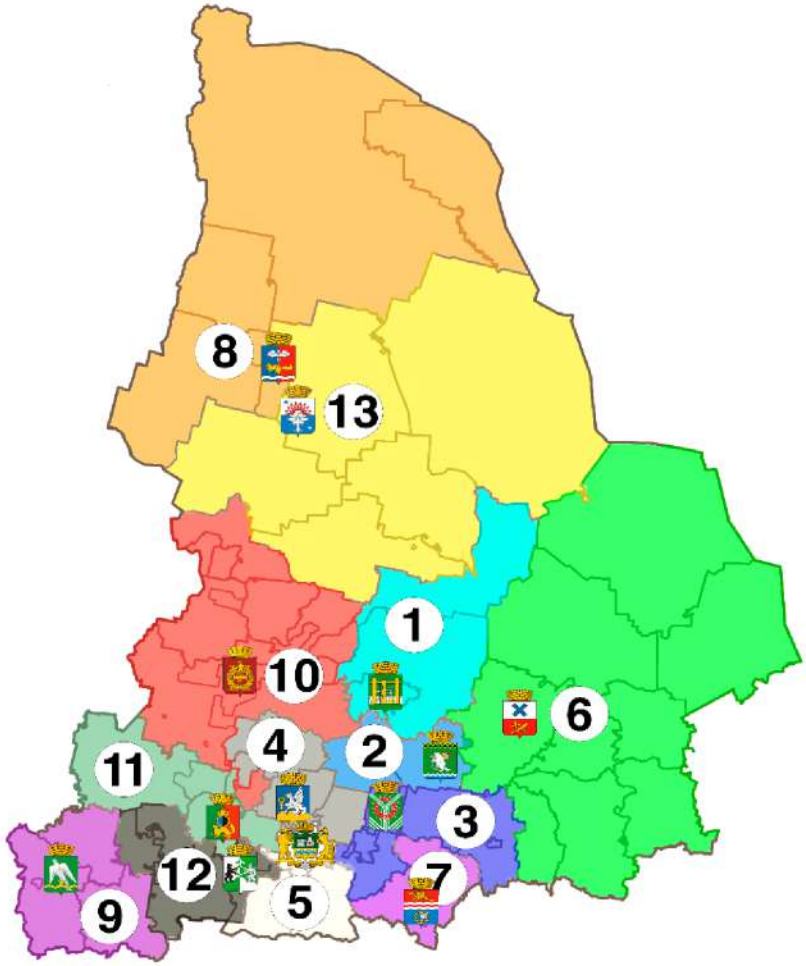
3.1 Dynamics and trends in the main health indicators of the adult population of the Sverdlovsk region

On the territory of the Sverdlovsk region in 2021, 158 medical organizations were organized, of which: 150 are municipally owned, the remaining 38 are under regional subordination (Fig. 5). The number of healthcare institutions of all forms of ownership and subordination remains unchanged throughout 2017-2021. (Appendix No. 3).



Picture 5 – Number of medical organizations in the Sverdlovsk region, 2017-2021, abs. organizations

In order to ensure accessibility and quality of medical care to the population and reduce mortality from major causes, a three-level system of providing medical care to the population of the Sverdlovsk region was adopted in 2013. 19 intermunicipal medical centers were organized on the basis of multidisciplinary medical institutions in the region and the city of Yekaterinburg (Picture 6).



Picture 6 – Territorial attachment of districts of the Sverdlovsk region to intermunicipal medical centers

Note. 1 – Alapaevsk, 2 – Artemovsky, 3 – Asbest, 4 – Verkhnyaya Pyshma, 5 – Yekaterinburg, 6 – Irbit, 7 – Kamensk - Uralsky, 8 – Krasnoturinsk, 9 – Krasnoufimsk, 10 – Nizhny Tagil, 11 – Pervouralsk, 12 – Revda, 13 – Serov

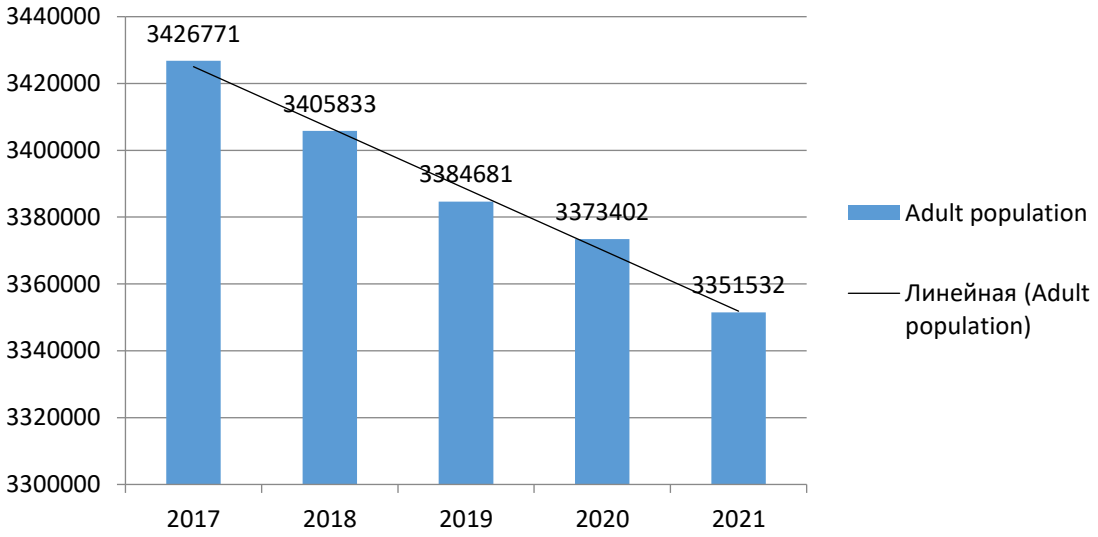
The total population of the Sverdlovsk region as of January 1, 2021 was 4,290,067 people (according to the Federal State Statistics Service). At the same time, the share of the male population was less than half of the region's residents and amounted to 46.2%, and the female population was 53.8%. During the period 2017-2021, there was a decrease in the number of residents of the region among the adult population by 2.2%. The number of age groups in the Sverdlovsk region in 2017-2021 is presented in table 7.

Table 7 – Population in the Sverdlovsk region, 2017-2021, abs.

Indicators	2017	2018	2019	2020	2021	Growth rate*, %
Permanent (at the beginning of the year, total)	4329341	4325256	4315699	4310681	4290067	-0,9
Adults (18 years and older)	3426771	3405833	3384681	3373402	3351532	-2,2
Children (0-14)	788620	799365	804959	8005518	805384	+2,3
Teens (15-17)	113950	120058	126059	131761	133151	+16,8

Note. * In 2021 compared to 2017, $p<0.05$

The adult population of the region during the study period was 3.3 million people (78%). In the period from 2017 to 2021, in the Sverdlovsk region there was a decrease in the number of adults by 2.1% (Picture 7).



Picture 7 – Dynamics of the adult population of the Sverdlovsk region, 2017-2021 abs. human

The decrease in the region's population occurred both due to a decrease in the birth rate (-18.5%) and an increase in mortality (+35.5%). Significant changes in these indicators contributed to a decrease in natural population growth from -0.9 to -7.9 per 1000 population (table 8) [112].

Table 8 – Population movement of the Sverdlovsk region (per 1000 population)

Indicators	2017	2018	2019	2020	2021	Growth rate*, %
Fertility	12,4	11,6	10,7	10,2	10,1	-18,5
Mortality	13,3	13,5	13,4	15,7	18,0	35,3
Natural increase	-0,9	-1,6	-2,7	-5,5	-7,9	777,7

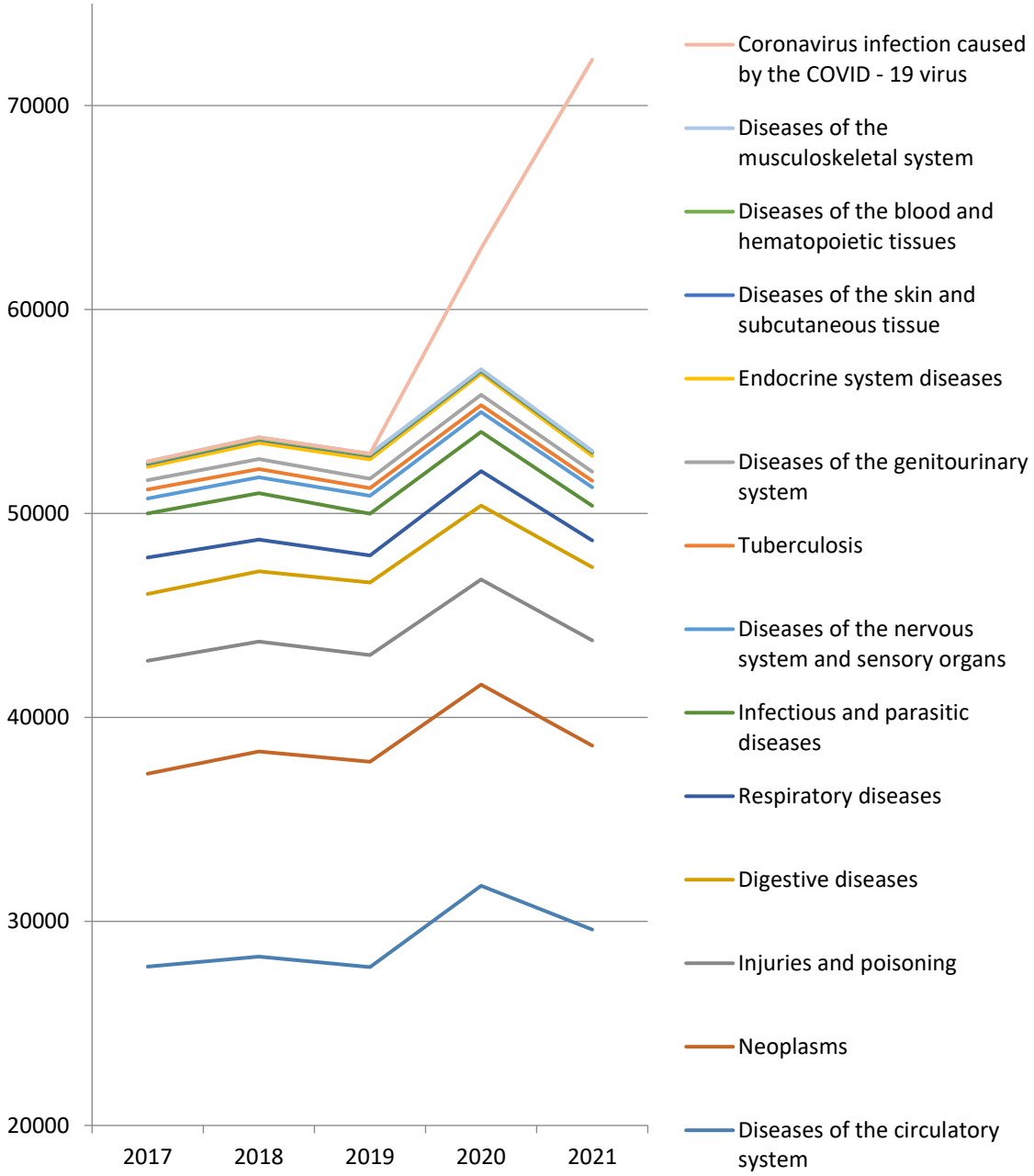
Note. * In 2021 compared to 2017, $p<0.05$

In the period from 2017 to 2021, in the Sverdlovsk region, a change in the mortality rate among the adult population was recorded, associated with various diseases: diseases of the nervous system and sensory organs - 23.6%, diseases of the endocrine system - 19%, diseases of the digestive system - 9.43 %, diseases of the circulatory system - by 6.51%. At the same time, during the same period there was a decrease in the mortality rate due to the following causes: diseases of the blood and hematopoietic organs - 40.82%, respiratory diseases - 25.9%, neoplasms - 4.6.

When comparing the indicators of the causes of mortality of the population of the Sverdlovsk region for the period 2017-2019, attention is drawn to the growth in the following groups of diseases: neoplasms, diseases of the genitourinary system, congenital anomalies. Diseases of the endocrine system as a cause of mortality were 2 times more common.

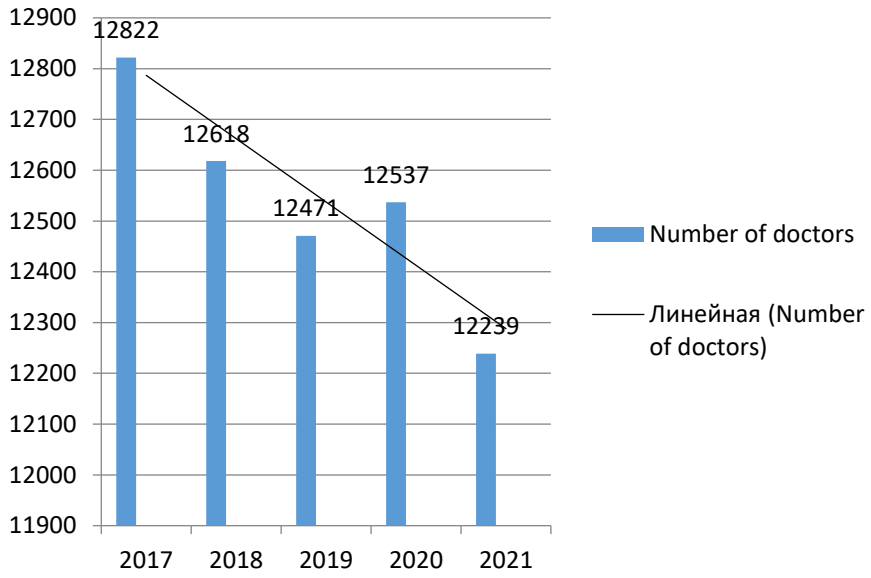
Also, among the causes of mortality with a high growth rate, one can highlight coronavirus infection, which developed in 2020. It amounted to 8.7% of the total in 2020, and increased in its values by 3.2 times in 2021 (appendix D).

Dynamics of mortality in the Sverdlovsk region by main classes of causes, for 2017-2021. are presented in Picture 8.



Picture 8 – Mortality rates for the adult population of the Sverdlovsk region by disease class, 2017-2021, abs. human

During the period 2017 – 2021. there was a decrease in the number of doctors - by 4.5% (from 12822 to 122394) (Picture 9).

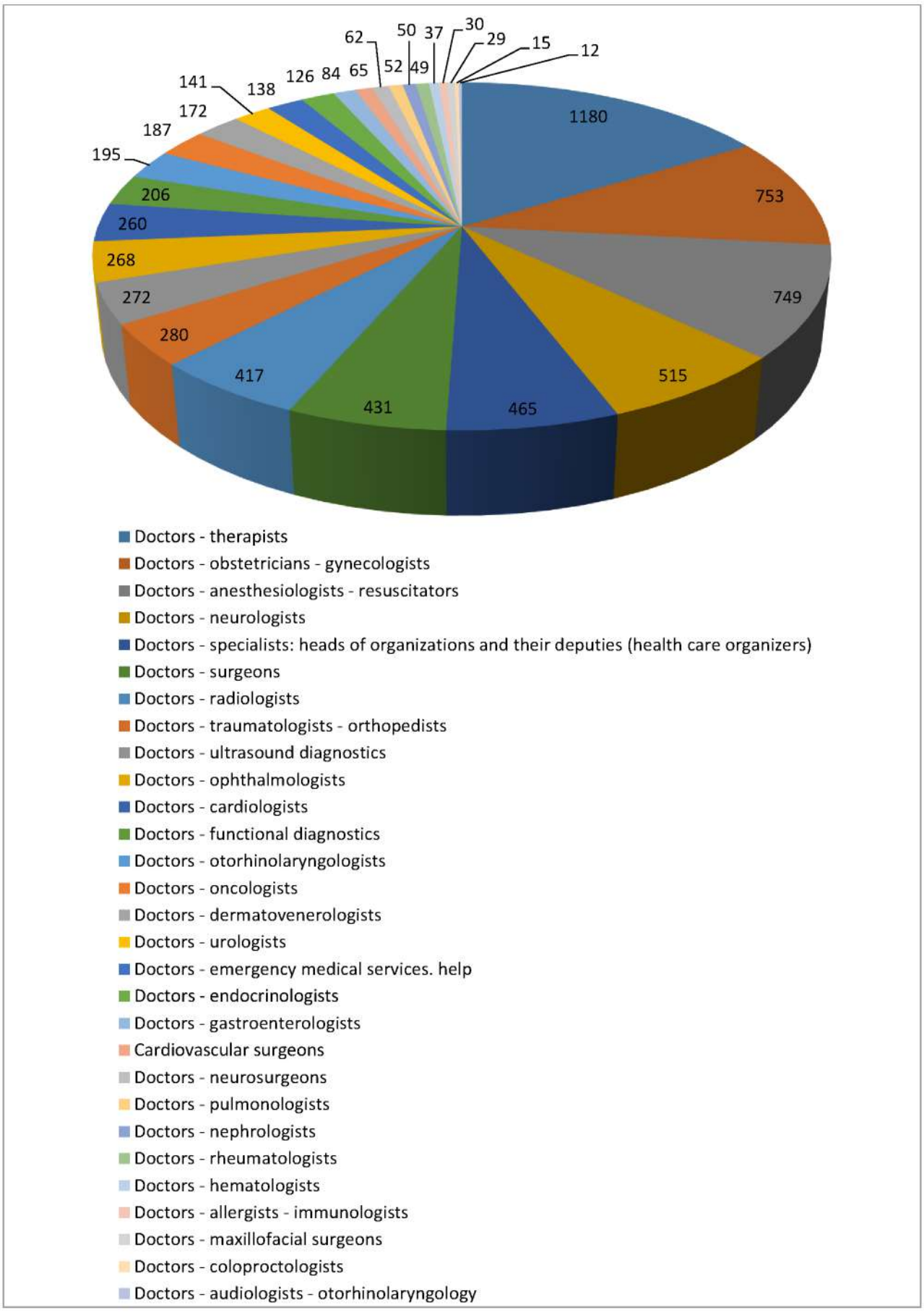


Picture 9 – Number of doctors in the Sverdlovsk region (2017-2021), abs. doctors

The number of full-time medical positions increased by 2.4% in 2021 compared to 2017. And the staffing of the population with medical personnel (according to occupied positions) per 10 thousand population (f. 30) decreased by 4.1% in 2021. The coefficient of part-time employment of doctors practically did not change during the study period (-0.7%), and amounted to 1.4 (appendix G) [112].

The most numerous specialty among doctors is general practitioners (1,180 people), which is 9.7% of the total, the smallest is audiologists - otorhinolaryngologists - 12 (0.09%) (Picture 10).

During the period 2017 - 2021, there was a significant decrease in the number of medical personnel in the following specialties: radiology - 61.3%, emergency medical care - 33.1%, physiotherapy - 23.8%, general practice - 23.1%, psychotherapy - 19.1% and dermatovenerology – 17.3%. An increase in the number of doctors over the same period was noted among: emergency room doctors - 51.5%, dentists - 36.1%, coloproctologists - 15.4%, nephrologists - 15% and others (appendix E) [112].



Picture 10 – Number of doctors in the Sverdlovsk region, 2021, abs. doctors

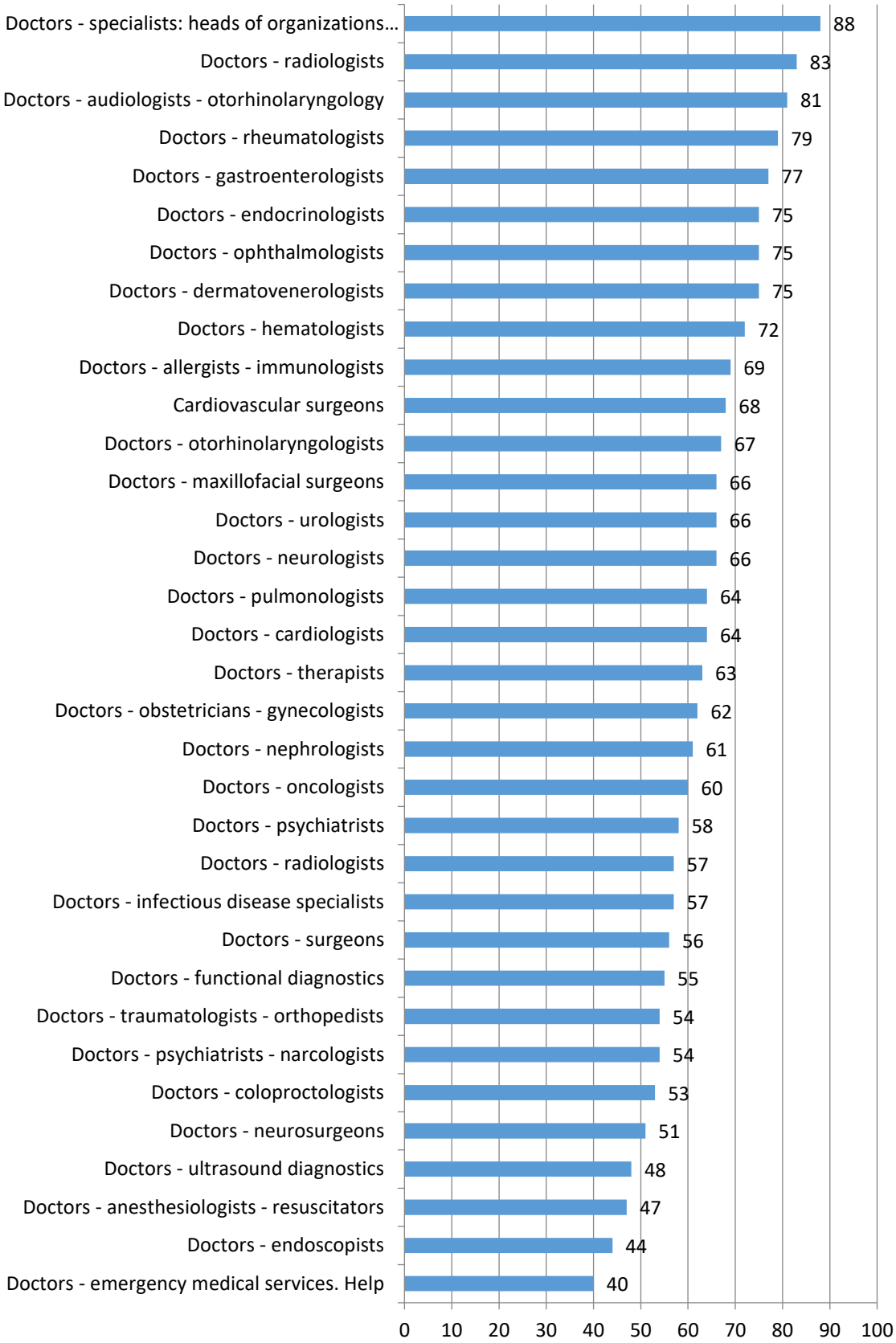
The staffing level with medical personnel in 2021 did not reach 100% in all specialties. The total staffing level in the region in 2021 is 61%, with a decrease of 4% compared to 2017. The highest staffing level was observed in institutions of regional subordination.

The maximum staffing of medical personnel was observed in the following specialties: rheumatologists - 79%, gastroenterologists - 77%, ophthalmologists, hematologists, endocrinologists and dermatovenerologists - 75% (appendix F).

The staffing level of medical personnel was less than 50% among: ultrasound diagnostic doctors - 48%, transfusiologists - 48%, anesthesiologists - resuscitators - 47%, endoscopists - 44%, psychotherapists - 44%, geriatricians - 44%, emergency doctors – 40% and occupational pathologists – 37% (Picture 11) [112].

The growth of the indicator we studied in 2017-2021 noted only in: radiotherapy – 19%, dentistry – 5%, cardiovascular surgery – 5%. At the same time, there was also a negative trend in the following medical specialties: audiologists - 17%, infectious disease doctors - 14%, dermatovenereologists - 13%, psychiatrists - 12%, oncologists - 11%, doctors - maxillofacial surgeons – 11% (appendix F).

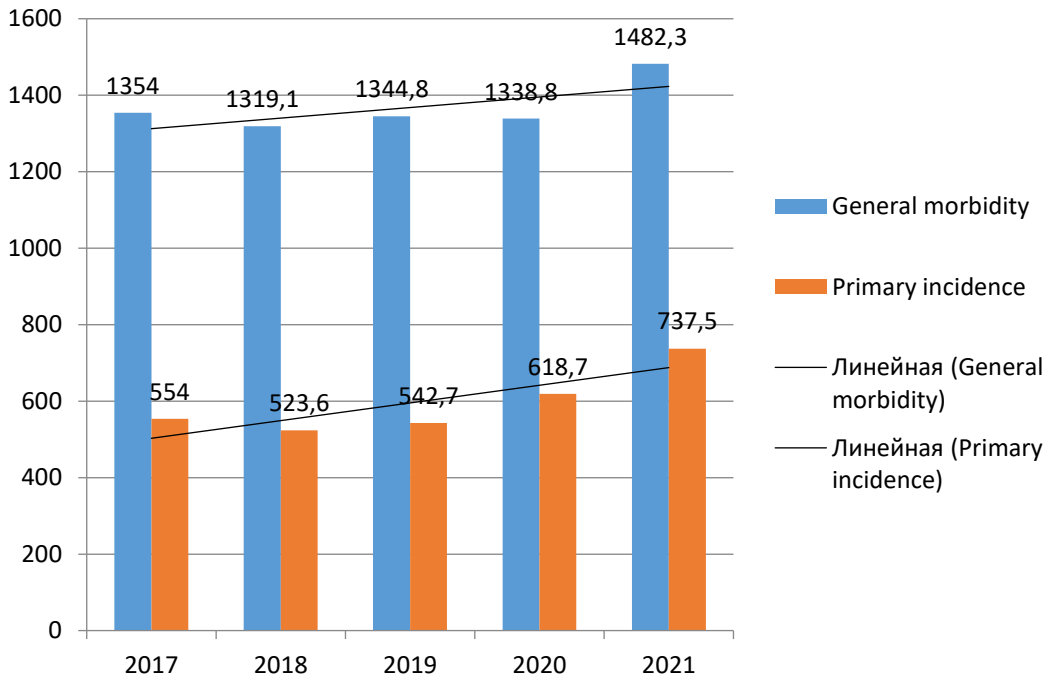
Unfortunately, the dynamics of growth in the number of doctors by specialty does not ensure adequate growth in the number of medical personnel in the Sverdlovsk region.



Picture 11 – Indicators of medical staffing levels by specialty in the Sverdlovsk region, 2021, %

3.2. Analysis of the level and structure of morbidity in the adult population according to its main characteristics

An analysis of the primary morbidity rate in the adult population of the Sverdlovsk region noted an increase in its level by 33.1% in 2021, compared to 2017 (from 554.0 to 737.5 per 1 thousand population - p <0.05) (table 12). This negative trend is mainly associated with an increase in morbidity due to diseases of the respiratory system by 65%, and the development of coronavirus infection COVID-19, the incidence of which in 2021 was 143.4 cases per 1 thousand population. At the same time, when comparing this indicator in 2019 and 2017, the primary incidence of the adult population decreased by 2.1%. But during the pandemic of the new coronavirus infection, COVID-19 increased by 35% (in 2021 compared to 2019) [112].



Picture 12 – Dynamics of primary and general morbidity in the adult population of the Sverdlovsk region, cases per 1 thousand people, 2017 – 2021

A decrease in the number of cases of primary morbidity was noted in 2017 – 2021. for the following reasons: diseases of the musculoskeletal system and connective

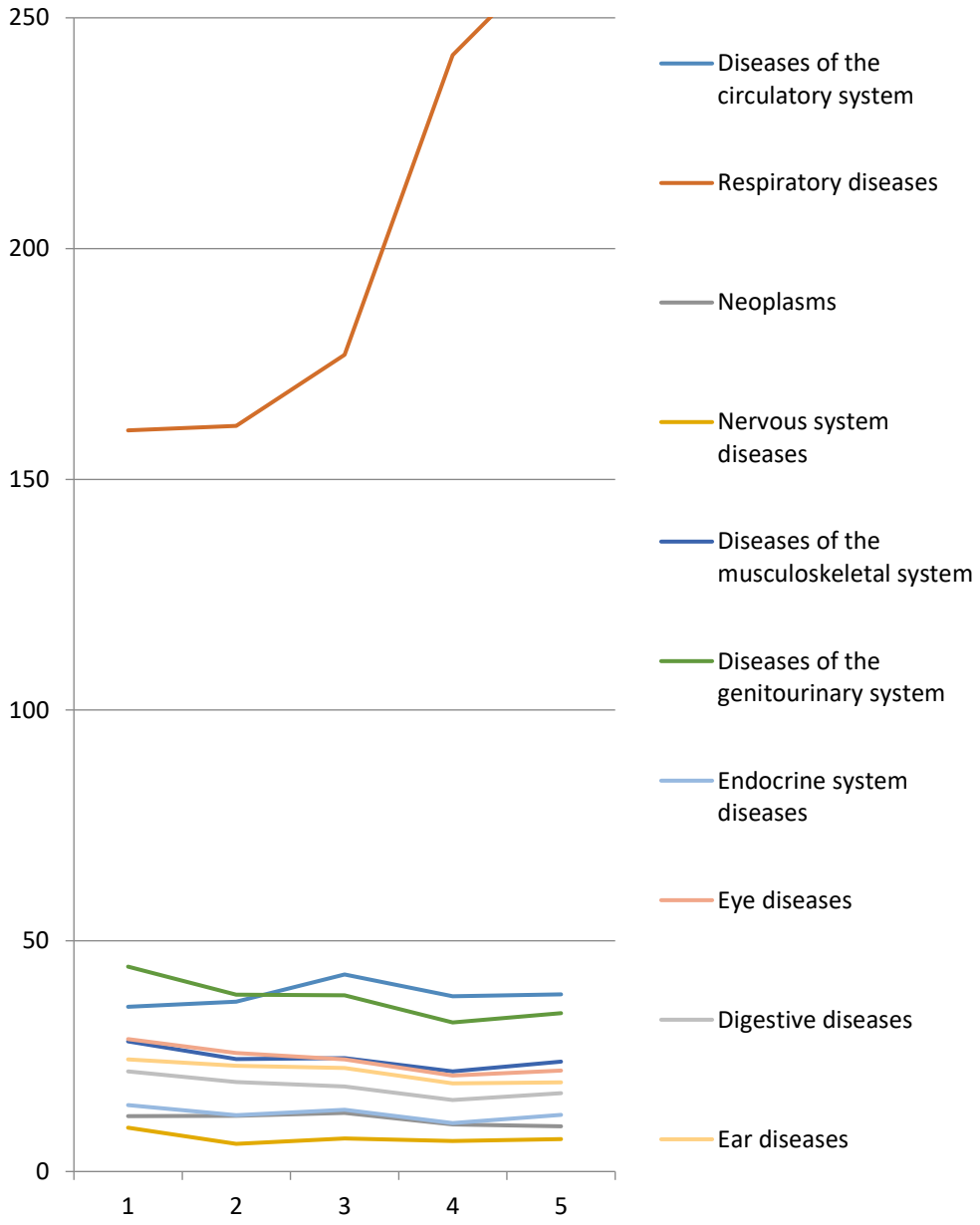
tissue by 51.6%, diseases of the genitourinary system by 22.7%, diseases of the digestive system by 21.7%, infectious and parasitic diseases by 18.5% and diseases associated with injuries and poisoning by 12.9%. Residents of the Sverdlovsk region began to suffer from diseases of the nervous system, mental disorders and behavioral disorders less often. Also, complications of pregnancy, childbirth and the postpartum period developed in a smaller number of patients (appendix H).

At the same time, an increase in the incidence of morbidity in the circulatory system was revealed (+7.6%).

In 2017, analyzing the causes of primary morbidity among the adult population of the Sverdlovsk region, it was revealed that the largest part were: diseases of the respiratory system - 28.9% and injuries and poisoning - 17.9%, together with diseases of the genitourinary system (8.1%) and diseases of the circulatory system (6.4%). While in other Russian regions, neoplasms and diseases of the digestive system, which became the cause of primary morbidity, were recorded only in 2.92% and 3.9% of cases [112].

In 2021, the situation regarding the causes of primary morbidity remained virtually unchanged: the first place was occupied by diseases of the respiratory system - 36.0%, second place - COVID-19 (19.4%), injuries and poisoning 11.3% third, diseases of the system blood circulation and genitourinary system fourth and fifth, respectively (5.2% and 4.6%).

However, the dynamics of primary incidence in 2017-2019 is noteworthy. During this period, an increase in the incidence of diseases of the respiratory system was detected by 3.6%, and the number of cases of illness of the circulatory system by 1.4%. For other organs and systems, the dynamics are less than 1% ($p<0.05$) (Picture 13).



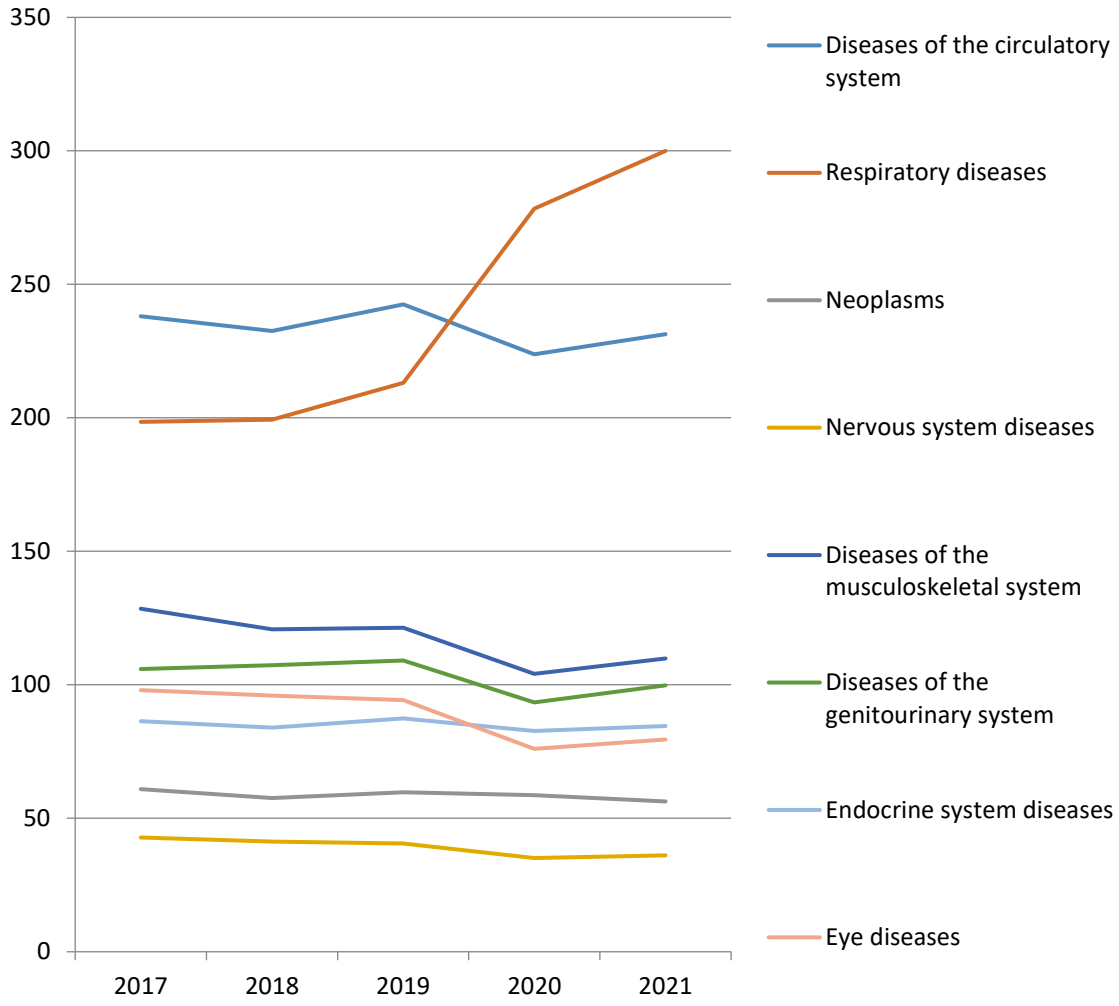
Picture 13 – Primary morbidity in the adult population of the Sverdlovsk region 2017-2021, cases per 1000 population

Also, in 2017-2019. There was an increase in primary morbidity due to neoplasms by 5.8%, but in the next 2 years there was a decrease in this indicator by 22.8%. The situation is similar when assessing the incidence of diseases of the circulatory system: an increase of 19.6% in 2017-2019, and a decrease of 10.1% in 2020-2021.

A difference in the compared periods of 2 or more times was revealed when assessing diseases of the nervous system, diseases of the organ of vision, organ of

hearing, diseases of the digestive system, skin and subcutaneous fat, as well as the musculoskeletal system (appendix H).

General morbidity rate in the adult population of the Sverdlovsk region for 2017-2021. increased by 9.4% (from 1354 in 2017 to 1482.3 in 2020, per 1 thousand population - p <0.05) (Appendix No. 9) (Picture 14).



Picture 14 – General morbidity rate in the adult population of the Sverdlovsk region 2017-2021, cases per 1000 population

According to official statistics, the overall incidence of diseases of the organ of vision in the adult population of the Sverdlovsk region decreased by 18.8%, diseases of the digestive system by 18.2%, diseases of the nervous system were recorded less frequently by 15.5%, diseases of the musculoskeletal system by 51.5 %. The number of

incidences of diseases of the organ of hearing and diseases of the skin and subcutaneous fat has decreased.

In parallel, a significant increase in cases of diseases of the respiratory system (by 51.3%) and mental disorders (by 2.3%) was recorded.

In 2017, observations of the health of the adult population of the Sverdlovsk region showed that in the structure of the causes of general morbidity, diseases of the circulatory system were most often noted - their share was 17.6%, diseases of the respiratory system - 14.66%, diseases of the musculoskeletal system - 9.5%. At the same time, diseases associated with injuries and poisoning became less common - 7.3%, diseases of the organ of vision - 7.2%, diseases of the digestive system - 6.8%, diseases of the endocrine system - 6.4%, with In this case, all other classes of diseases in total amounted to less than 30% [112].

The structure of the causes of general morbidity among the adult population of the Sverdlovsk region has not changed, despite the changes that occurred during the study period, and diseases of the circulatory system were noted more often than others - 15.6% of cases.

In 2017-2019 the number of cases of respiratory diseases increased by 7.4%, cases of diseases of the circulatory system were more common by 1.85%. However, diseases of the digestive system among the adult population of the Sverdlovsk region were noted 9.4% of cases less frequently, as well as diseases of the musculoskeletal system (-5.5%). Also, among the causes of general morbidity, diseases of the nervous system (-5.1%) and diseases of the skin and subcutaneous fat (-4.9%) were less common ($p<0.05$) (Picture 12).

When comparing the causes and indicators of overall morbidity in 2017-2019. and 2020-2021 The following changes were identified. During the period 2020-2021. an increase in overall morbidity rates of the respiratory system was noted by 5.5 times in comparison with 2017-2019, the same as when assessing the level and causes of primary morbidity. For other organs and systems, a decrease in overall morbidity rates by 2 or more times was revealed [112].

The number and staffing of medical personnel directly affects the provision of the population of the Sverdlovsk region with in-demand, affordable and high-quality medical care. We studied the relationship between the level of primary and general morbidity with the number of staff, occupied positions and individuals, and the staffing of health care institutions (table 9).

Table 9 – Pearson correlation coefficient and coefficient of determination of the trend in morbidity rates and medical staffing in 2017-2021

Index	Primary incidence	General morbidity
Number of full-time medical positions (form 30 t. 1100)	r = 0,354935 R^2 = 0,126	r = -0,02514 R^2 = 0,0006
Number of individuals in medical positions (form 30 t.1100)	r = -0,83097 R^2 = 0,6905	r = -0,7478014 R^2 = 0,5592
Provision of doctors to the population (based on the number of individuals of key workers in occupied positions) (form 30)	r = -0,710199 R^2 = 0,4928	r = -0,63065 R^2 = 0,3977
Staffing of medical positions with individuals (form 30)	r = -0,85042 R^2= 0,7232	r = -0,7865 R^2 = 0,6186

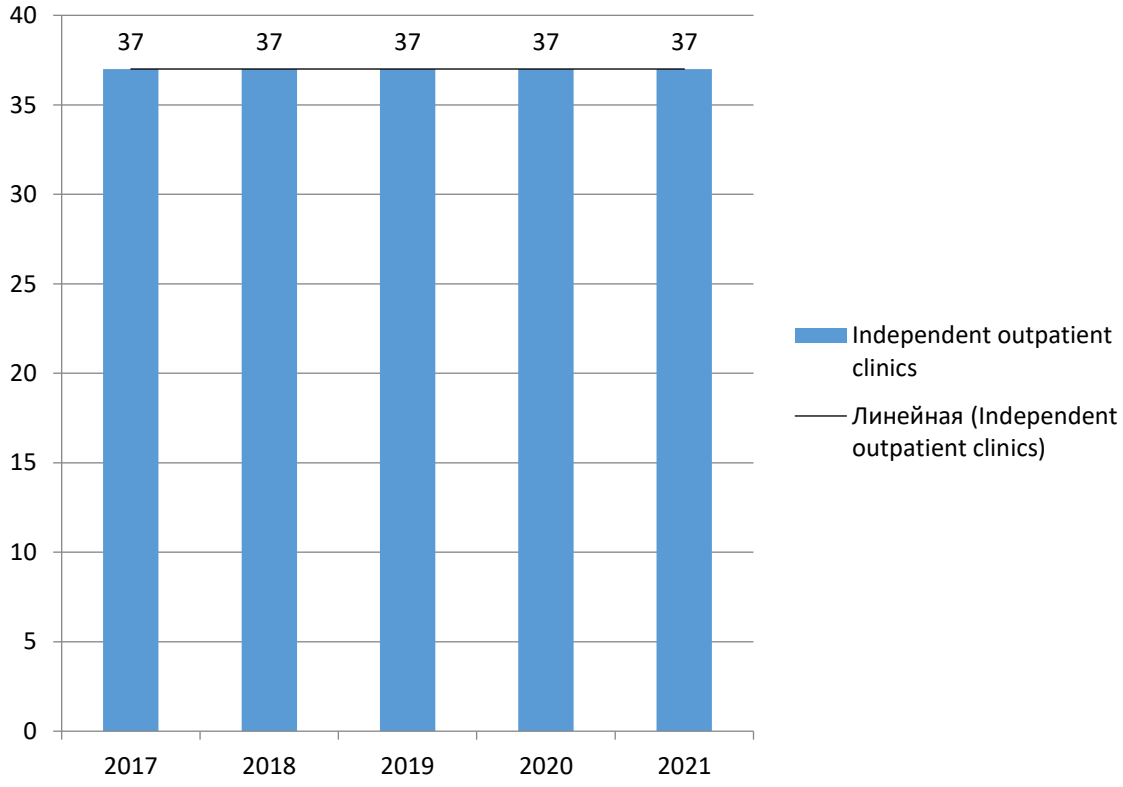
In our study, we noted an inverse significant relationship between the level of primary morbidity of the population and the number of individuals in occupied medical positions (r = -0.830), as well as with the supply of doctors to the population (based on the number of individuals of key workers in occupied positions) (r = -0.710), and staffing of medical positions with individuals (r = -0.850), a positive direct relationship with the number of full-time medical positions (r = 0.354).

Similarly, an inverse significant relationship in our study was revealed when assessing the dependence of the general morbidity rate of the population on the number of individuals in occupied medical positions (r = -0.747), as well as with the provision of the population with doctors (based on the number of individuals of the main workers in employed positions) (r = -0.630), and staffing of medical positions with individuals (r = -0.786), number of full-time medical positions (r = -0.025).

3.3. Organization and characteristics of primary health care for the adult population of the Sverdlovsk region, as a priority link in the Russian Federation

As part of the implementation of Decree of the Government of the Sverdlovsk Region of March 24, 2011 N 309-PP «On approval of the regional program for modernizing healthcare in the Sverdlovsk region for 2011-2013» a three-level system of providing outpatient care to the adult population of the Sverdlovsk region was introduced [17, 111].

During the period of our research (2017-2021), the number of independent outpatient clinics in the Sverdlovsk region remained unchanged and amounted to 37 (Picture 15).



Picture 15 – Number of independent outpatient clinics in the Sverdlovsk region, 2017-2021, abs. organizations

The planned capacity of municipal medical organizations in 2021 decreased by 9.5% compared to 2017, and the actual capacity by 3.6% over the same period. For the

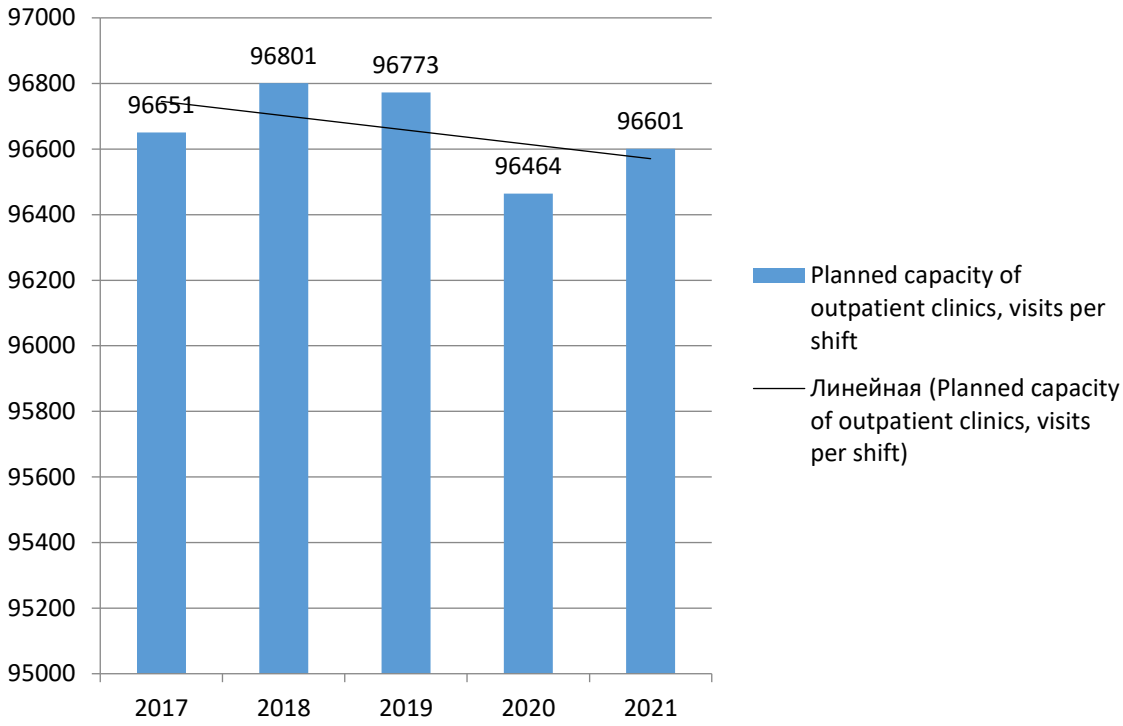
period 2017-2019. the planned capacity of municipal healthcare institutions decreased by 11.1%, and the actual capacity by 10.57%, respectively. The planned capacity of regional medical institutions over the same period increased by 25.75%, and the actual capacity increased by 48% [111, 265] (table 10).

Table 10 – Capacity of clinics by municipal and regional medical organizations (without private municipalities of Yekaterinburg) * (F. 30, table 1010; per 10 thousand population)

Index	2017	2018	2019	2020	2021	Growth rate *, %
Planned capacity for municipal medical organizations	138,6	125,5	123,2	120,5	125,4	-9,5
Actual capacity for municipal medical organizations	148,6	133,9	132,9	132,0	143,2	-3,6
The ratio of actual and planned capacity for municipal medical organizations	107,2%	106,7%	107,9%	109,5%	0,0	-2,3%
Planned capacity for regional medical organizations	182,7	182,8	183,6	183,7	229,7	25,73
Actual capacity for regional medical organizations	85,0	78,9	78,5	78,5	125,8	48,00
The ratio of actual and planned capacity for regional medical organizations	46,5%	43,1%	42,7%	42,7%	54,7%	8,2%
Planned capacity for municipal and regional medical organizations	228,6	228,2	228,6	228,1	229,7	0,48
Actual capacity for municipal and regional medical organizations	135,0	127,3	127,0	127,1	125,8	-6,81
The ratio of actual and planned capacity for municipal and regional medical organizations	59,1%	55,8%	55,5%	55,7%	54,7%	-4,4%

Note. * In 2021 compared to 2017, $p<0.05$

The planned capacity of outpatient clinics in 2021 remained practically at the level of 2017 and amounted to 96,601 visits (Picture 16).



Picture 16 – Planned capacity of outpatient clinics, visits per shift (2017-2021), abs. visits

Data analysis showed that in 2021, the average number of outpatient visits per resident per year in the Sverdlovsk region was 3.44% lower than in 2017 (29.1 versus 30.2 per 10 thousand population). The proportion of doctors with a category decreased by 11.4% over 5 years [111] (table 11).

Table 11 – Main performance indicators of outpatient clinic organizations in the Sverdlovsk region 2017-2021

Index	2017	2018	2019	2020	2021	Growth rate *, %
1	2	3	4	5	6	7
Number of hospital organizations	162	161	162	163	162	0,0
Hospital medical organizations	98	99	99	99	99	1,0
Dispensaries	7	7	7	7	7	0,0
Number of independent outpatient clinics	37	37	37	37	37	0,00
Incl. dental clinics	29	29	29	29	29	0,0
General medical practices	259	241	230	222	222	-14,3
Paramedic and obstetric stations	561	560	580	585	585	4,3
Capacity of outpatient clinics, visits per shift:						
Total, thousand	96651	96801	96773	96464	96601	-0,1

Table continuation 11

1	2	3	4	5	6	7
Per 10 thousand population	232,3	232,7	233,7	232,7	224,3	-3,4
Number of doctors:						
Total:	12882	12618	12471	12537	12239	-4,9
Per 10 thousand population	30,2	29,8	29,6	29,7	29,1	-3,6
Number of nursing staff:						
Total:	36270	35544	35067	34818	33795	-6,8
Per 10 thousand population	83,8	82,2	81,3	80,8	78,8	-5,9
Share of doctors with a category, %	44	43	41	39	39	-11,4

Note. * In 2021 compared to 2017, $p<0.05$

Day hospitals of various bed capacity and profiles are organized in most medical institutions of the Sverdlovsk region. As a result of the restructuring of outpatient and inpatient facilities in the Sverdlovsk region, changes occurred in the network of day hospitals in the region. Thus, if in 2017 the number of beds in day hospitals was 8325, then in 2021 – 5770 (30% less), which is 14.0 beds per 10 thousand population [122] (table 12).

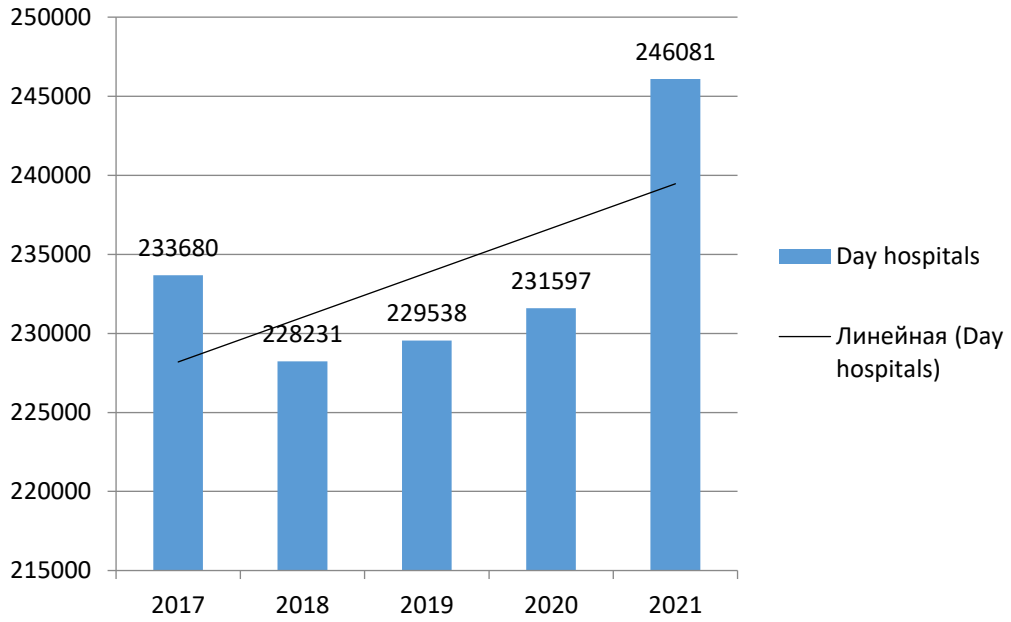
Table 12 – Performance indicators of day hospitals of all types (medical organizations of municipal and regional subordination)

Indicators	2017	2018	2019	2020	2021	Growth rate*, %
Number of places	8325	5326	5265	5947	5770	-30,7
- in stationary conditions	1126	827	823	728	725	-35,6
- on an outpatient basis	7139	4439	4382	4594	4875	-31,7
- at home	60	60	60	262	170	183
Per 10,000 population	20,0	12,8	12,7	19,2	14,0	-30,0
Patients treated	233680	228231	229538	231597	246081	5,3
Per 100 population	5,6	5,5	5,5	5,6	6,0	7,1
Number of patients – day	2296110	2253263	2249275	2249927	2041120	-11,1
Number of patients – days per 1 resident per year	0,5	0,5	0,5	0,5	0,5	-9,0

Note. * In 2021 compared to 2017, $p<0.05$

At the same time, a large proportion of day hospitals are organized in polyclinics (84.5%), less often in city hospitals (12.5%).

The average occupancy of day hospital beds in 2021 is 353 days a year, compared to 275 days in 2017, which is 28% more (appendix K).

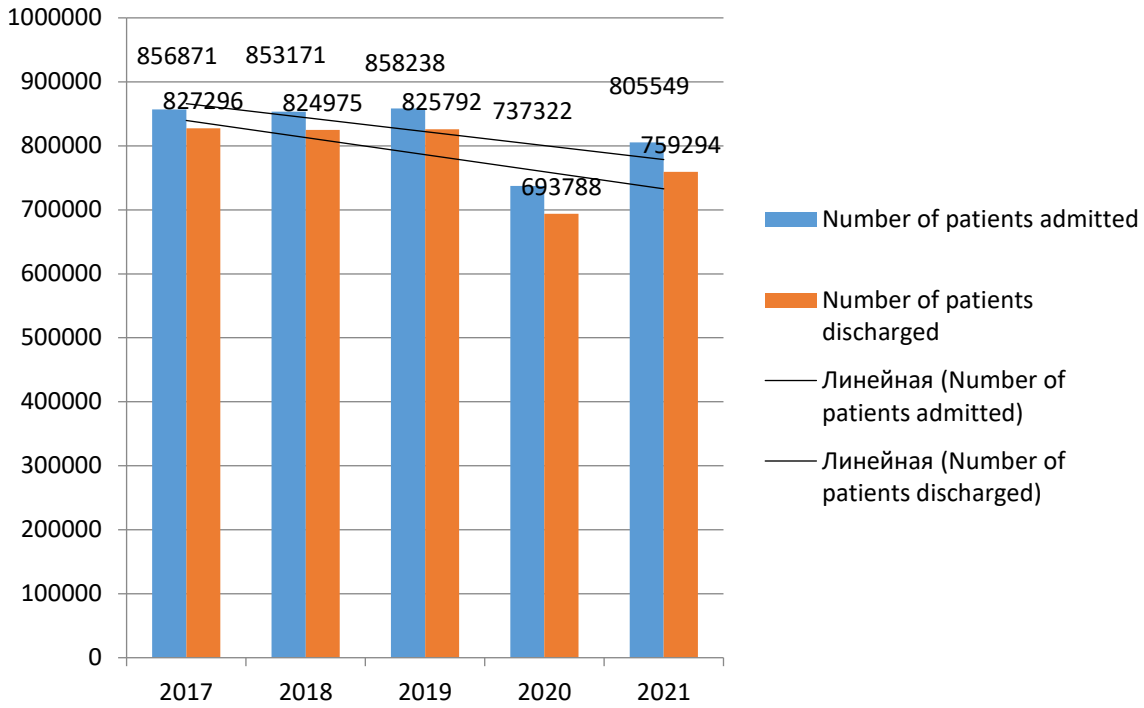


Picture 17 – Number of patients treated in day hospitals in the Sverdlovsk region 2017-2021, abs. patients

3.4. Analysis of hospitalized morbidity among the adult population of the Sverdlovsk region 2017-2021

Analysis of hospitalized morbidity is key to assessing the overall health of the population and the effectiveness of the health care system. This criterion not only reflects the need for inpatient medical care among the population, but also allows us to judge the effectiveness of institutions providing primary health care [7, 327].

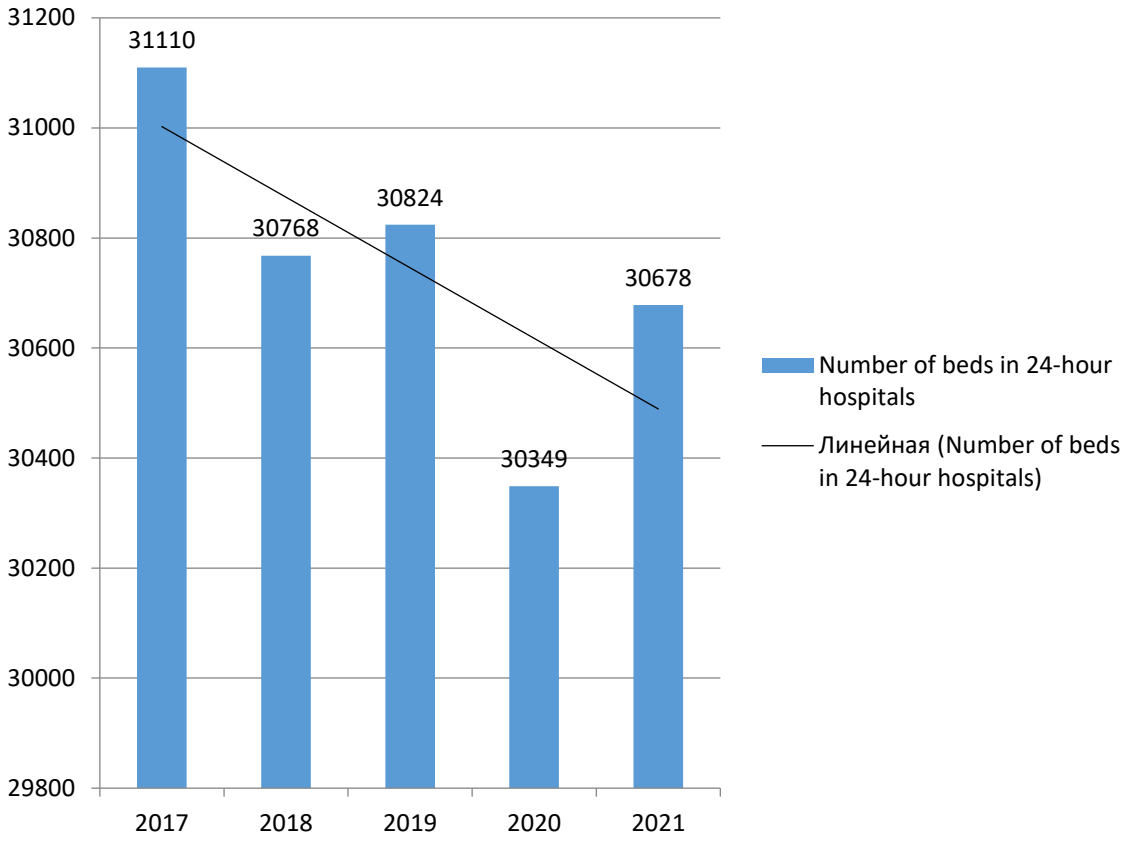
We conducted a comparative analysis of hospitalized morbidity among the adult population in the Sverdlovsk region in 24-hour hospitals in the period 2017 - 2021. is presented in Picture 18.



Picture 18 – Performance indicators of 24-hour hospitals in the Sverdlovsk region, 2017-2021, abs. human

According to the 2021 annual report (FFSN No. 14), only 80,559 patients were admitted for inpatient treatment to state healthcare institutions in the Sverdlovsk region. In 2017, 856,871 patients were treated in 24-hour hospital beds (discharged + died). The total bed capacity of inpatient institutions in the Sverdlovsk region in 2021 amounted to 30,678 beds, which is 1.3% less than in 2017 [7].

Compared to 2017, the rate of hospitalized morbidity decreased significantly in 2021, amounting to 805,549 cases, a decrease of 5.9% (856,871 cases). The highest level of hospitalization was observed in 2019 - 858,238 hospitalizations, and the lowest in 2020: 737,322 cases.



Picture 19 – Bed capacity of medical institutions in the Sverdlovsk region (2017-2021), abs. beds

The greatest significance in changes in hospitalized morbidity rates is due to the influence of a number of reasons. In the Sverdlovsk region, there was a reduction in bed capacity by -2.9% during the period we studied, as well as a decrease in the absolute population size and the proportion of the elderly and senile population, which also served as one of the reasons for the reduction in medical care provided in a hospital setting (Picture 19).

The number of patients treated and discharged decreased (table 13). The total number of bed days spent in hospital conditions decreased over the period 2017 – 2021. by 1338808 bed days (-14.2%). The number of deceased patients increased over the same period (+105.3). At the same time, in 2020 and 2021. There was an increase in bed capacity downtime, with a growth rate of 58.3% in 2021. in relation to 2017 [7].

Table 13 – Bed capacity and its use by medical organizations (form 30, table 3100)

Index	2017	2018	2019	2020	2021	Growth rate*, %
Number of beds actually deployed and collapsed for repairs	31572	31230	31237	30750	31145	-1,3
Patients admitted – total (persons)	856871	853171	858238	737322	805549	-5,9
Patients discharged	827296	824975	825792	693788	759249	-8,2
In the day hospital	784	782	1948	1008	714	-8,9
Died (person)	16959	18140	18935	23951	34823	105,3
Bed days spent by patients	9395540	9270776	9238579	7581075	8056732	-14,2
Average bed downtime (days)	2,4	2,4	2,4	4,8	3,8	58,3

Note. * In 2021 compared to 2017, $p<0.05$

When assessing the structure of hospitalized morbidity in the period we studied, 2017-2021, there was a pronounced decrease in the number of hospitalized patients in the following profiles: infectious diseases, diseases of the nervous system, diseases of the respiratory system, diseases of the visual and hearing organs (table 14). The number of hospitalizations has increased for the following reasons: neoplasms, pregnancy and childbirth. Also, due to the outbreak of the coronavirus pandemic in 2020, a new reason for providing medical care in a hospital setting was registered, which amounted to 0.5% of all cases in 2020 and 22% in 2021, with a general decrease in the number of cases hospitalization [7].

Table 14 – Hospitalization rate of the adult population (form 14, table 2000; per 100 population)

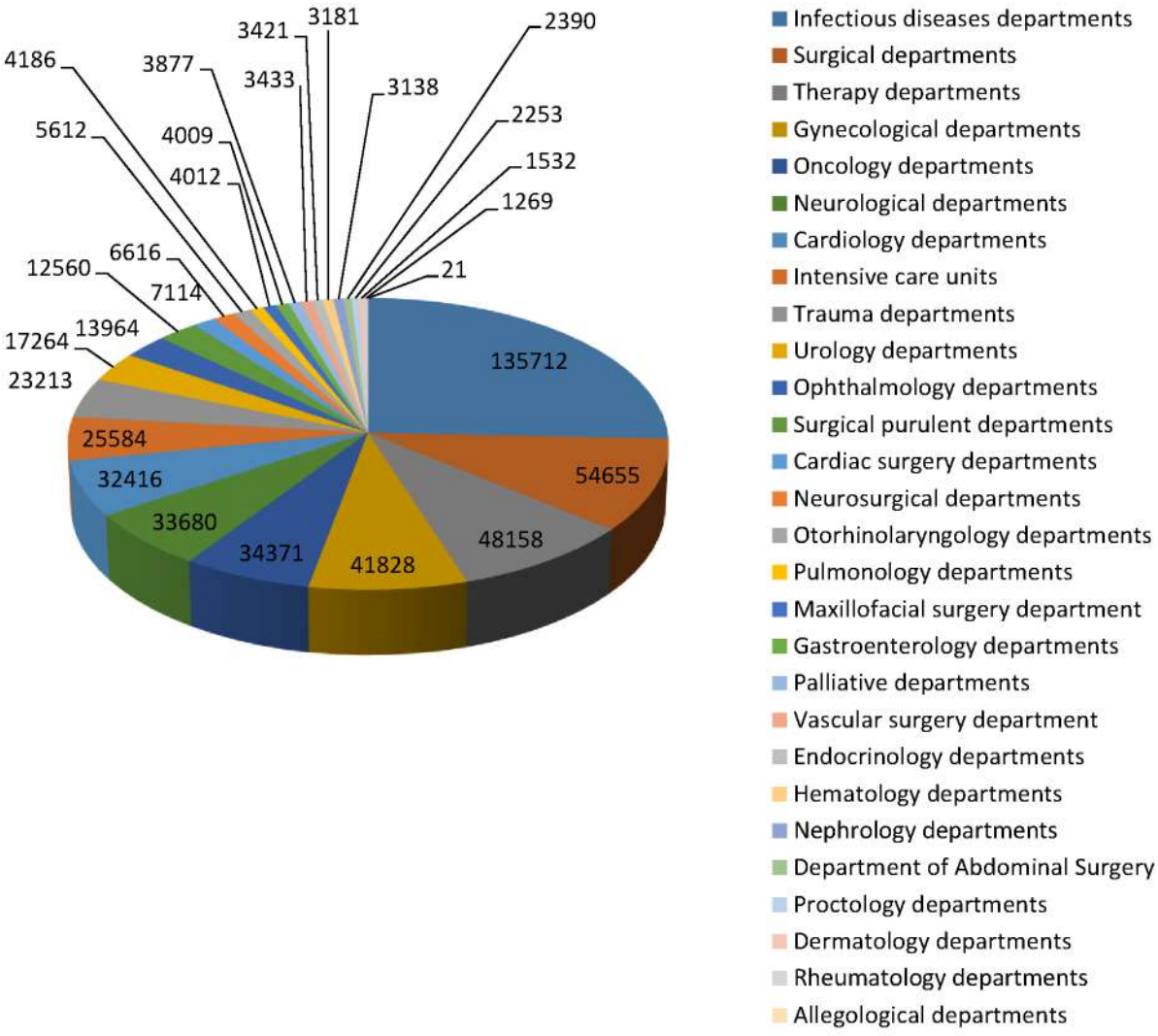
Disease classes	2017	2018	2019	2020	2021	Growth rate*, %
1	**2**	**3**	**4**	**5**	**6**	**7**
Infectious diseases	1,2	0,7	0,8	2,0	0,5	-58,3
Neoplasms	1,6	2,0	2,1	7,0	1,8	12,5

Table continuation 14

1	2	3	4	5	6	7
Diseases of the blood and hematopoietic tissues	0,2	0,2	0,2	0,7	0,2	0,0
Endocrine system diseases	0	0,4	0,5	1,2	0,3	+0,3
Mental disorders	0	1,4	1,4	4,0	1,0	+1,0
Nervous system diseases	0,8	0,6	0,6	1,7	0,4	-50,0
Eye diseases	0,6	0,7	0,7	1,5	0,4	-33,3
Ear diseases	0,1	0,0	0,1	0,1	0,0	-100,0
Diseases of the circulatory system	3,4	4,3	4,3	13,1	3,0	-11,8
Respiratory diseases	2,0	1,2	1,4	4,0	0,6	-70,0
Digestive diseases	1,8	2,0	2,0	6,0	1,5	-16,7
Diseases of the skin and subcutaneous tissue	0,4	0,4	0,4	1,2	0,3	-25,0
Diseases of the musculoskeletal system	0,7	0,8	0,8	1,8	0,5	-28,6
Diseases of the genitourinary system	1,6	1,8	1,8	5,3	1,4	-12,5
Pregnancy, childbirth and the postpartum period	2,1	2,5	2,6	8,8	2,3	9,5
Injuries and poisoning	1,3	0,1	1,3	0,0	0,9	-30,8
COVID-19				0,1	4,4	4,4
Total	19,9	20,3	20,7	17,5	19,6	-1,5

Note. * In 2021 compared to 2017 ($p < 0.05$)

In the structure of causes of hospitalized morbidity in 2021, the most common cause was infectious diseases (25.6%), followed by diseases of surgical (10.3) and therapeutic (9.1%) profiles. Diseases of the genitourinary system (7.9%), neoplasms (6.5%), diseases of the nervous system (6.4%) and diseases of the circulatory system (6.1%) were less common (Picture 20).



Picture 20 – Number of hospitalizations in 2021 by disease class (f. 30, table 3100), abs. human

SUMMARY

In Russia for 2017–2021 There was an increase in overall morbidity by 2.6% and primary morbidity by 9.4%. The highest rate of increase in overall morbidity was noted in the Ivanovo region (24.9%); primary incidence - in the Stavropol Territory (34.7%).

The supply of medical personnel in different regions of the Russian Federation varies greatly. Thus, on average in the country in 2018, the supply of doctors was 37.4 per 10,000 population. At the same time, in the Far Eastern Federal District this Picture was 40.6; in Siberian – 37.8; Central – 37.3. The supply of medical personnel in Russia in 2021 was 37.7 doctors per 10 thousand population. The highest level of availability

of medical personnel is in the Northwestern Federal District (43.9), the lowest is in the Southern Federal District (33.1).

The method of correlation-regression analysis we used allowed us to identify a strong inverse relationship between the levels of medical staffing and morbidity. The results obtained indicate the need to solve the personnel shortage in the Sverdlovsk region, taking into account the demographic situation in the region and the capacity of healthcare institutions.

The levels of primary and general morbidity in the Sverdlovsk region during the period under review tend to increase and are one of the indicators of the availability of medical care. In the structure of the causes of primary and general morbidity, diseases of the respiratory system, circulatory system, diseases of the digestive system, and diseases of the endocrine system prevail.

A number of unfavorable trends have been identified that require appropriate attention and management decisions in the region in matters of training and attracting medical personnel, which should be based on systemic measures aimed at eliminating personnel shortages [112].

CHAPTER 4. CHARACTERISTICS OF THE MARKET FOR PAID MEDICAL SERVICES IN THE SVERDLOVSK REGION

In the period from the early 1990s to the late 2000s, the healthcare system was reformed in Russia. Initially, before the onset of the 90s, legal medical care was limited only to government institutions, while the shadow market for medical services to medical personnel was a common practice. With the development of self-supporting departments within public health institutions, starting in the 1990s, the gradual recognition and regulation of previous shadow payments began. Further, with the improvement in the well-being of the population during 2000-2010, there was an increase in interest in the services of private clinics. This, in turn, led to the development of the legislative framework and the emergence and strengthening of the established sector of paid medical services [325, 403].

In order to improve the provision of medical care to residents of the region, the State Program «Health Development of the Sverdlovsk Region until 2027» was developed (Resolution of the Government of the Sverdlovsk Region No. 1267-PP dated October 21, 2013). The main goal of this program is not only to support public medical institutions against the backdrop of the current economic climate, but also to stimulate increased competition between private and public medical organizations, especially in the provision of paid services [287].

4.1. Assessment of the market for paid medical services in the Sverdlovsk region

Currently, the share of private medical institutions is almost a third (29%) of the total number of all medical organizations in the Sverdlovsk region, while in 2013 their share was significantly smaller – about 18.4%. From 2013 to 2015, the paid medical market was in a state of stagnation, but, nevertheless, in subsequent years, from 2017 to 2019, annual demand began to increase by 5-10%.

Over the four-year period, starting in 2017, the volume of medical services provided in the region increased by 19.2%, which was mainly due to growth in the segment of compulsory and voluntary health insurance, where the number of medical visits increased by 30.7% and 9. 2% respectively.

At the same time, in the public sector there was a decrease in the number of appointments performed by 13.9%, and in the shadow sector this Picture decreased by 8.1%.

In the Sverdlovsk region, until March 2020, the demand for paid medical services exceeded the level of 2019. However, with the introduction of quarantine restrictions in April 2020, the market for these paid medical services was halved. The increase in the number of requests for paid medical care resumed only in July and persisted until the end of the year 2020.

Table 15 – Number of completed medical appointments 2019-2021 (thousand receptions)

Market sector medical services	2017	2018	2019	2020	2021	Growth rate*, %
Compulsory medical insurance	19 931,9	20 195,6	21 415,4	22 450,4	26070,2	30,7
Budget	2 892,0	2 704,4	2 530,8	2 637,7	2 488,2	-13,9
Legal commercial sector	3 474,8	3 431,8	3 407,9	3 504,40	3 717,8	6,9
VHI	497,3	563,4	589,1	571,2	542,9	9,8
Shadow sector	3 167,9	3 083,4	2 990,4	2 960,2	2 913,9	-8,0
Total	29 964,0	29 978,6	30 933,6	32 124,0	35 732,9	19,2

Note. * In 2021 compared to 2017 ($p < 0.05$)

The number of consultation appointments in public health institutions decreased by almost 14%, while commercial appointments decreased to just over 8%. Despite fluctuations in the commercial sector, the share of services provided under the compulsory health insurance program remained constant at approximately 72%. The share of medical appointments under VHI programs decreased by 0.4% (table 15).

The percentage of services in the private medical sector, both legal and shadow, remains unchanged at ten percent for the noted time periods. As for the public sector of medicine, its dynamics show fluctuations from 10 to 12%.

On the other hand, the increase in the total number of medical visits in the compulsory medical insurance system was due to an increase in patient visits to medical institutions due to concerns associated with COVID-19 and the need for diagnosis. In this regard, the demand for private clinics increased as they did not participate in government coronavirus treatment programs, which led to an increase in their client base.

In accordance with the changes that have occurred in the medical services market, we are observing a significant increase in the total cost of medical services, which is 39.3% higher than the growth in their natural volume and indicates an increase in prices. Mainly, the rise in prices is due to an increase in the field of legal paid services by 33%, as well as an increase in the field of voluntary health insurance, where an increase of 42% is observed. Indicators of compulsory health insurance also show a significant increase - 56%, while the public sector shows a more modest increase of only 18.3%.

In the structure of value, the dominant position is occupied by the compulsory health insurance sector, whose share in 2021 increased from 48% to 54% compared to 2017. In contrast, the share of the legal business sector fell by 1%. However, the cost of services within the framework of voluntary health insurance remained at the same level. The share of the budget sector decreased by 5.4%, and the share of the shadow private sector decreased by 3% (from 11.2% to 8.8%) (Appendix No. 12).

Analyzing the income of leading medical institutions in the Sverdlovsk region that provide paid medical services (Table 19), a change in income was recorded in the period from 2019 to 2021. There is a minimal increase of 0.1% at the Center for Cosmetology and Plastic Surgery, while LLC City Hospital No. 41 showed an increase of 9.6%. Particularly noticeable was the jump in revenue at the European Medical Center UMMC - Health LLC, which doubled due to the expansion of the network,

including the opening of new branches and a maternity hospital, as well as the provision of high-tech medical care services (table 16).

Table 16 – Rating of medical institutions by sales revenue, Russian Federation, 2019-2021 (million rubles)

Medical facility	2019	2020	2021	Growth rate*, %
Ural Clinical Treatment and Rehabilitation Center named after. V.V. Tetyukhina, LLC	732,1	805,1	748,3	2,2
Medical Association «New Hospital», LLC	3370	3600	3670	8,9
Ekaterinburg Center MNTK «Eye Microsurgery», JSC	2030	1680	2040	0,5
Center for Cosmetology and Plastic Surgery, LLC	710,4	557,6	711,4	0,1
City Hospital No. 41, LLC	668,0	636,1	732,1	9,6
Clinical hospital «Russian Railways Medicine» Ekaterinburg, CHUZ	930,7	912,4	1010	8,5
Ural Medical Center, LLC	993,0	1090	1030	3,7
European Medical Center «UMMC - Health», LLC	1688,5	2550	3370	99,6

Note. * In 2021 compared to 2019 ($p < 0.05$)

An analysis of changes in prices for medical services in the Sverdlovsk region for the period from 2017 to 2021 revealed a general increase in costs in all sectors of the medical services market. The average growth rate was just over 30%, and the most noticeable increase in the price of medical services provided affected the compulsory medical insurance and budget sectors, where the price of services increased by more than 40%. In the shadow sector, growth was less pronounced, amounting to only 17%. The study showed no significant changes in the cost of services before and during the COVID-19 pandemic (appendix L).

There was also a significant increase in annual health care costs across all market segments during the study period. Overall value +37.5%. In particular, the largest increase in costs was noted in the compulsory health insurance (CHI) sector, where the Picture reached 54.3%. This change is due to a shift in the structure of medical services towards an increased proportion of cases of treatment in hospital settings. The development of the novel coronavirus infection in 2021 has placed additional pressure

on outpatient services. At the same time, the increase in costs in 2020 and 2021 was justified by the increase in exchange rates. The steady increase in average annual costs is a consequence of regular indexation of prices for medical services, as well as an increase in compulsory medical insurance tariffs.

In addition, the average cost of services under voluntary health insurance (VHI) programs has also increased, which correlates with the increase in the cost of commercial medical services. However, the smallest increase in value was observed in the shadow sector, where it amounted to only 12.2%.

Experts emphasize that voluntary health insurance (VHI) is dominated by corporate insurance, which accounts for approximately 80% of the total volume. Heads of large businesses demonstrate particular attention to employee insurance. As a result, the cost of such insurance policies is usually close to the minimum, which is typical for mass purchases by large organizations. However, the limitations of such policies are also significant, since they often cover only basic medical services, such as regular preventive examinations and disability monitoring.

4.2. Structure of consumers of medical services in the Sverdlovsk region

There is a strong interest of the region's population in receiving medical care, and residents of the Sverdlovsk region more often choose compulsory health insurance programs (CHI). However, the attractiveness of paid medical services is also growing. When choosing a medical institution for service, the determining criterion is the high quality of the medical care provided.

From the analysis of the data presented in table No. 5, it follows that the number of residents of the Sverdlovsk region decreased by 0.9%, at the same time, the number of available hospital beds decreased by 2.9%. These changes herald increased demand for outpatient health care services in the region.

Despite the preference for free medical care among the population of the region, during the period from 2017 to 2021 there has been an increase in interest in services

provided on a paid basis. It is noteworthy that 70% of the population sought help under compulsory health insurance.

Between 2017 and 2021, demand for health care services in public institutions experienced a slowdown in growth, increasing by only 1.78%, which is partly due to problems with access to health care in the public sector.

At the same time, there was a redistribution of interests among the population and healthcare organizations, which led to a decrease in the number of clients in the public sector by 8.6%. Despite this, the dynamics in the voluntary health insurance (VHI) segment and in the legal commercial sector were positive, with an increase of 4.4% and 0.9%, respectively, in contrast to a decrease in the shadow sector of 4.2% (appendix L).

During the period of time we studied, the demand for services in the sector of legal commercial medicine was stable, despite the stagnation of citizens' incomes. This was due to the problems faced by public medicine: overload of doctors due to COVID-19, shortage of specialized specialists and long waiting times for medical care. In turn, in Yekaterinburg the number of private clinics predominates - they make up 61% of the total number in the Sverdlovsk region. Of this number, almost a quarter (24.2%) provide paid dental services, and 25.4% specialize in medical examinations and certifications.

Only a small proportion of medical institutions in the Sverdlovsk region, namely 10.3%, provide medical services in a hospital setting in 2021. During the same period, the vast majority of private clinics (89.3%) focused on outpatient services, as can be seen from table 17.

Table 17 – Number of medical organizations in the Sverdlovsk region and Yekaterinburg providing paid medical services, as of 2021

Medical organizations	Ekaterinburg		Sverdlovsk region		Total for the Sverdlovsk region	
	Abs.	%	Abs.	%	Abs.	%
Dentistry	429	38,8%	224	32,6%	653	24,2
Cosmetology	128	11,5%	39	39,1%	150	5,6
Medical examinations and medical examinations	254	23%	430	62,7%	684	25,3
Emergency	3	0,27%	7	1,1%	10	0,4
Outpatient medical care	614	55,6%	302	44%	916	33,9
Inpatient medical care	181	16,4%	96	13,9%	277	10,3
High-tech medical care	10	0,9%	2	0,3%	12	0,4
Total private MOs	1104	100%	686	100%	1790	100

Statistical data obtained from studying this problem in 2017 to 2021 indicate a significant increase in the population's interest in paid medical services. This is reflected in an increase in their share among other services by 10.4%, as well as in an increase in their financial volume by 74.7% (appendix L). Taken together, the region's medical services market is demonstrating a steady increase both in volume and in value terms and the number of services provided, along with an increase in prices for them. However, given the stability of the population, the increase in the mortality rate, taking into account the fact that the bulk of it is made up of people of working age, it can be expected that the demand for medical services provided in an outpatient setting, including those provided on a paid basis, will be remain at a level that can be described as stable.

The development of ambulatory care in the region's health care sector implies the strengthening of this health care sector in the future. Taking into account such prerequisites, it is important for private clinics to strategically plan their development in order to strengthen their position in the medical services market. At the same time, government health care institutions are faced with the need to study and implement the experience accumulated by the non-state sector.

Transparency in commercial medicine increases as the share of shadow payments decreases. In 2020, there was a slight increase in this sector, which, however, should be

seen in the context of a significant decline in the entire medical services market caused by the pandemic.

In the Sverdlovsk region, private medical institutions predominate, accounting for 72.1% of the total. There is a high level of competition both within and between medical organizations of various forms of ownership, due to a similar level of accessibility, range of services provided and highly qualified personnel. This ensures that there are sufficient numbers of both public and private institutions to serve the population.

4.3. Characteristics: accessibility, quality and satisfaction with paid medical services of consumers of paid medical services (analysis of results based on sociological survey data)

Reforming the healthcare system, the types and quality of medical care depend on the level of patient satisfaction with the services received. In modern society, patients are viewed as clients who pay for medical services, and it is they who determine the direction of development and improvement of the quality of medical care received. This affects not only general trends in healthcare, but also aspects related to paid services, depending on socio-economic indicators, population health and demographic changes. In an era of competition in the medical services market, the administration of medical organizations is faced with the need to initiate their own development and marketing strategies to attract patients [253, 318, 348].

In order to take a leading position in this competition, it is important to know the patient's profile and what criteria he uses when choosing a medical organization in order to offer high-quality services [83, 127, 224].

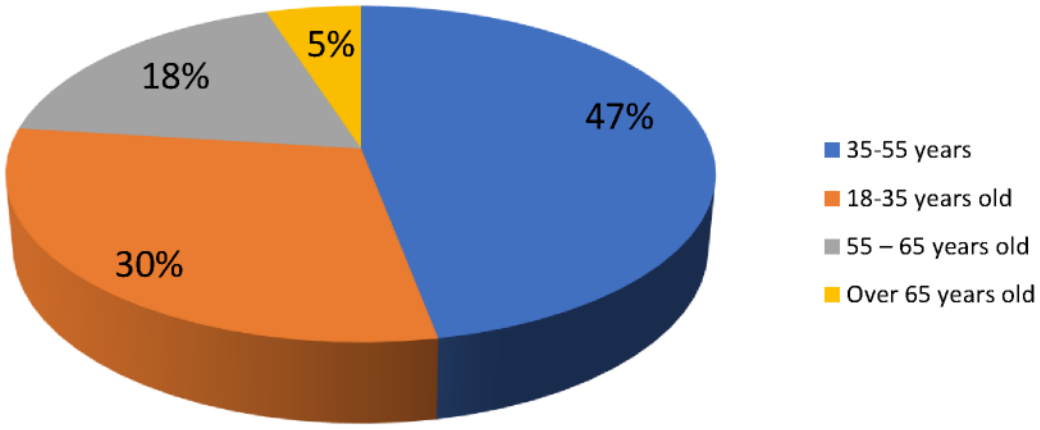
A survey was organized and conducted in order to study the opinion of the population of the Sverdlovsk region on the provision of paid medical services.

To achieve a leading position in this competition, it is necessary to understand the patient profile and the factors that guide him when choosing a medical organization in order to offer him high-quality services.

We conducted a sociological survey to study the opinions of residents of the Sverdlovsk region about paid medical services [110, 226].

Among the survey participants, women made up 61.3% of all respondents, while men – 38.7%. The age distribution was as follows: 47% were patients of working age, 30% were in the age group from 18 to 35 years, and 23% of respondents were over 55 years of age (Picture 21). Urban residents made up 72% of respondents, while rural residents accounted for 28%.

All patients who took part in the survey at the time of the survey had a compulsory health insurance policy.



Picture 21 – Distribution of interviewed patients by age, %

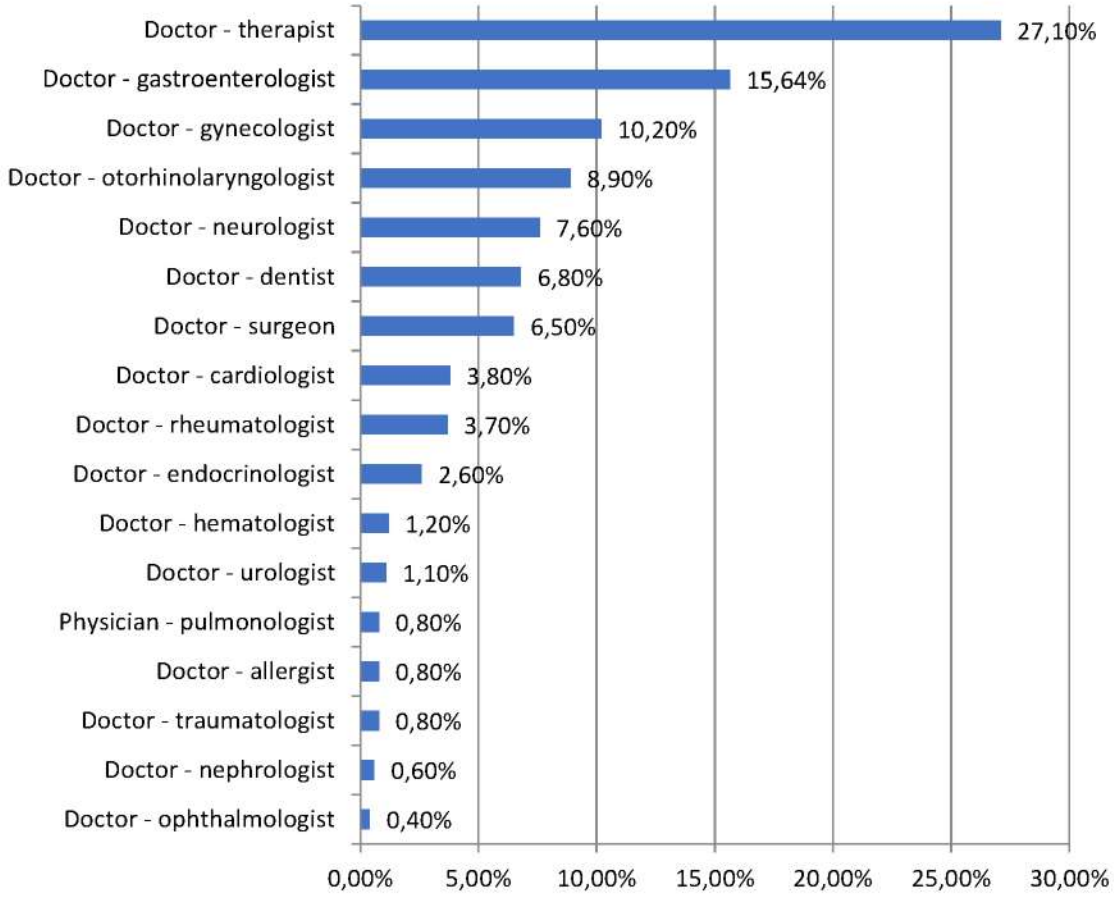
All respondents had different social status: 3.2% - students of educational institutions, 43% - workers (employees) of government institutions, 25% - employees of non-state institutions, 8% - working pensioners, 16% - non-working pensioners and 4.8% - temporarily unemployed.

The survey revealed that the majority of respondents had higher education, namely 45.5%. Additionally, 8.3% of survey participants indicated that they had not completed higher education, while 9.8% had secondary education and 37.7% had vocational secondary education.

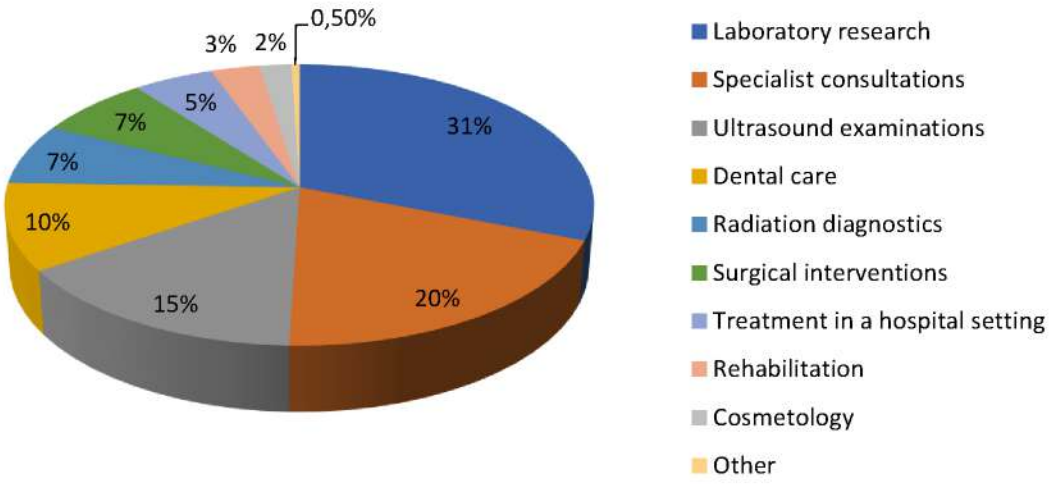
The study of factors influencing the dynamics of the market for commercial medical services emphasized that the income of citizens is not a decisive factor when choosing paid medical services. Based on the survey results, it became clear that the differences in income between those who use paid services and those who do not use them are minimal. This may indicate that there is no problem of forced use of paid medical services.

Less than half of the respondents (45%) noted the average level of income, which ranges from 20 to 45 thousand rubles per family member. 7% of respondents indicated a high level of income, exceeding 70,000 rubles. 23% belong to the category of above average income, which ranges from 45 to 70,000 rubles per family member. The remaining 25% was divided between the categories of low and lower average income, which is less than 20,000 rubles per family member.

According to the study, patients most often consulted doctors in the following specialties. The most popular were general practitioners, visited by 27.1% of respondents. Gastroenterologists and obstetricians-gynecologists were also in demand by patients, and were visited by 15.6% and 10.2% of respondents, respectively. ENT doctors were visited by 8.9% of patients. Visits to doctors: urologist, pulmonologist, allergist, traumatologist, nephrologist and ophthalmologist totaled 5% of the total number of respondents (Picture 22).



Picture 22 – R espondents' visits to doctors of various specialties, %



Picture 23 – Services for which respondents applied for a fee, %

In paid medical care, the most popular services are laboratory tests, which were used by 31% of respondents. Consultations with doctors accounted for 20% of the total number of respondents, and ultrasound examinations were in demand by 15% of patients. Paid dental care was provided to 15% of respondents. Surgical assistance was provided by 7% of respondents (Picture 23).

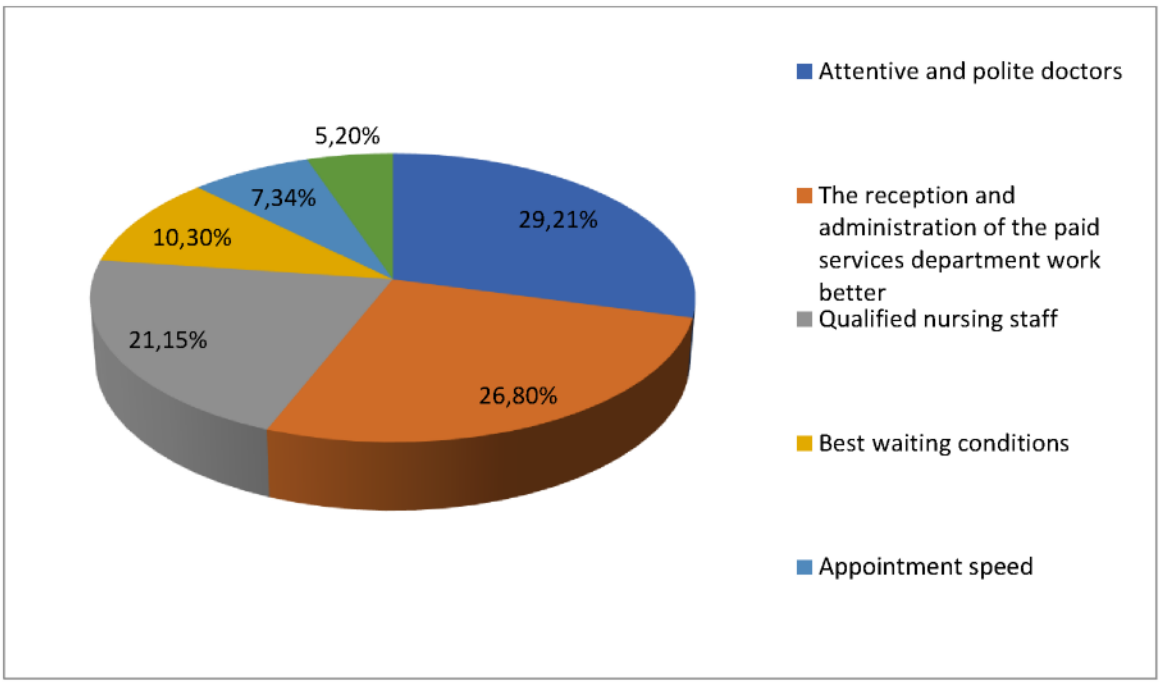
Of the survey in which patients took part, 74.3% expressed their satisfaction with the quality of paid medical care. At the same time, almost half of the respondents (49.2%) prefer to receive paid medical services in private medical organizations; 30.2% of respondents do not see a difference between the categories of medical institutions.

The majority of respondents (75.4%) positively assessed the medical organization where they received paid medical services.

39% of respondents, from that quarter of patients who were dissatisfied with the provision of paid medical care, expected to hear an alternative opinion from the doctor, but, unfortunately, this did not happen. 29% noted the excessive cost of the appointment or service, 26% noted errors in prescriptions and diagnosis, and 6% of respondents did not evaluate the effect of the prescribed therapy or manipulation.

As indicators of the high quality of paid medical services, 29.1% of respondents cited the attentiveness and politeness of the medical staff, 21.6% assessed the professionalism of nursing staff, and 26.8% of patients highlighted differences in the work of the receptionist and administration of departments for the provision of paid medical services (Picture 24).

Almost half of the survey participants, or rather 45.1%, were in favor of the fact that the quality of paid medical services is superior to those provided in public health care institutions. On the other hand, a quarter of respondents (24.7%) disagreed with this opinion, pointing to frequent cases of receiving paid services of unsatisfactory quality. A minority of respondents (13.1%) responded negatively to the question about the level of paid medicine. At the same time, approximately one in six, or 17%, could not decide and provide a specific answer regarding this question [225].



Picture 24 – Reasons for seeking paid medical services of respondents, %

The majority of respondents, 86%, confirmed that they had to pay for medical services over the past year. In contrast, only a small proportion of 14% said they avoided medical expenses. These data highlight the important role and development of the paid medical services sector, including within the public health care system.

The study also revealed where patients prefer to receive healthcare. Thus, 28% of them sought help from institutions where services are primarily provided within the framework of state guarantees of medical care, while the majority, namely 51%, chose private medical organizations. A minority (10%) sought help from doctors operating outside the walls of medical institutions, and 8% preferred treatment at home.

However, only 41.2% of respondents were informed about the possibility of receiving free medical care when applying for paid services in government institutions. In this regard, it is necessary to reconsider the ways of informing patients about their rights to free medical care.

A significant proportion of patients prefer to pay for medical services officially, «through the cash register» - this is 74.2%. 22.1% of patients use a dual payment method: «both to the doctor and through the cash register. And 3.7% of patients, as a rule, prefer personal payment to the doctor. In such cases, payment may be in the form of a small gift or service [110].

The survey showed that gratitude to doctors is varied. A third of respondents (32%) expressed gratitude to the doctor in various ways. Of these, 26% preferred to express gratitude in the form of money, 63% gave inexpensive gifts, and 9% offered household services. The remaining 2% shared answers about family assistance and employment assistance.

Of all respondents, the majority of patients (78.8%) stated that they seek medical care only when necessary, without any regular schedule. Among this group, 70% are patients working in government and non-government institutions, as well as working pensioners. A portion (8.9%) of respondents seek paid medical care only once or twice a year, 6.0% - once a year or less, 5.57% - once a month, and 0.5% - more than twice once a month. More than half of the respondents (68%) expressed their willingness to independently pay additional funds for quality medical care ($p \leq 0.05$).

It turned out that in the future, when seeking medical help, 35% of respondents would prefer to have a VHI policy, while 53% were willing to pay for medical care themselves. Also, 12% of the studied group expressed their intention to express personal gratitude to medical workers.

Interestingly, 47% of respondents were ready to seek paid medical care only from government health care institutions. They justified their choice by stricter control by regulatory authorities and greater clinical experience of specialists. Interestingly, the majority of patients (63%) who selected this answer option had higher education (715), high income (32%), and upper-middle income (28%). The results are presented in table 18.

Table18 – Types of payment for medical services used by respondents

Selection of funding sources	**Number of respondents, %**
Free medical care (CHI)	43,5%
Voluntary health insurance (VHI)	15,9%
Cash in hand	38,7%
Payment personally to the doctor	1,8%
Total	100%

An important issue raised at the end of the survey was the assessment of the feasibility of the existence of paid medical services. According to the survey results, 75% of respondents support the idea of paid medical care, but 15% of respondents believe that such services should be prohibited. Some patients (10%) found it difficult to answer this question.

Thus, the survey conducted allows us to conclude that the population of the Sverdlovsk region has a high commitment to paid medical services. The results obtained can help expand the types and quantity of paid medical services offered in the region. Managers of medical institutions should pay more attention not only to the quality of medical care provided, but also to the level of service based on the responses received [110, 225].

4.5. Attitude to paid medical services of the medical contingent (according to the analysis of the results of a sociological survey)

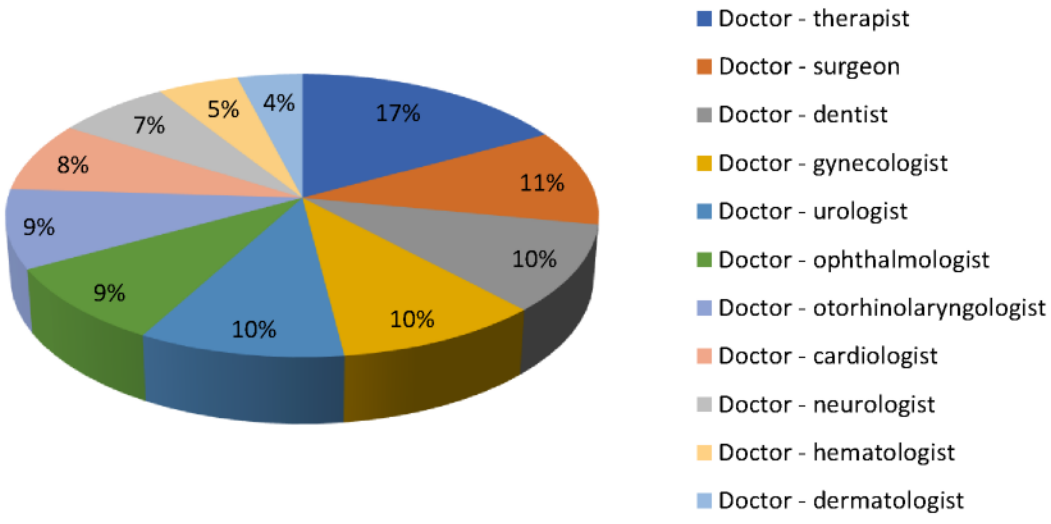
In modern medical practice, special attention is paid to providing decent remuneration for healthcare professionals and creating comfortable conditions in which they perform their work. An important aspect affecting the quality of healthcare services is taking into account the opinions of medical workers on the provision of paid medical services, which in the future will contribute to a higher level of accessibility and quality of medical care [135, 224].

In addition, the provision of paid medical services in public and private healthcare institutions is becoming key for the development of public health, since without this it is impossible to effectively solve existing problems in this social sphere [15].

The purpose of the study we conducted among doctors was to identify doctors' attitudes towards their professional activities, both within the framework of the provision of paid services and in the context of work under the compulsory health insurance (CHI) system. The survey was anonymous and included 19 varied questions with multiple answer options.

The study involved 655 physicians, the majority of whom (57%) represented institutions operating in the compulsory health insurance system, and 43% of survey participants were employees of the private health care system. The survey was conducted on the territory of eight different medical institutions in the Sverdlovsk region.

The survey showed that the majority of participants (32%) had the highest qualification category, while 23.8% and 11.91% of the surveyed physicians had the first and second categories, respectively. Interestingly, 31.2% of participants had no qualification category at all. Heads of departments and divisions took part in the survey, making up 15.2% of the total number of respondents. Among the respondents there were also doctors with existing academic degrees: 18.3% had an academic degree of Candidate of Medical Sciences, and 2.56% had an academic degree of Doctor of Medical Sciences. The average age of the physicians participating in the survey was 47.3 ± 1.2 years, and their professional experience averaged 17.4 ± 2.5 years [109].



Picture 25 – Distribution of surveyed doctors by specialty, %

Among the survey participants, the majority were general practitioners (17%), followed by surgeons (11%), and then specialists such as dentists, gynecologists, and urologists, totaling 10% of respondents (Picture 24).

The majority of respondents (68%) agreed that every doctor should have the right to provide paid medical services, regardless of experience and qualifications, and should also be available to all doctors of all specialties. While every fourth (27%) doctor who took part in the survey would limit this opportunity only to highly qualified doctors, and slightly more (5%) would include nurses and other mid-level health workers in this category.

Regarding the schedule of doctors' appointments when providing paid services, the majority (71%) would prefer to provide such services during regular working hours if there is a free window in the schedule. A quarter of respondents (23%) expressed their willingness to work overtime. The remaining 6% of specialists could not decide on the answer to the question about the time of provision of paid services [109].

In the discussion about the organization of paid medical services in public clinics, the opinions of experts were divided. Only 20% supported the idea unconditionally, while almost half (45%) were in favor of their provision, subject to maintaining free access to basic compulsory health insurance services. The opposite point of view was taken by 29%, believing that paid services should be provided exclusively in private clinics, and 6% were categorically against paid services in principle.

Approximately a quarter of medical workers (24.7%) are open to the idea of providing paid medical services in the same rooms as appointments under compulsory medical insurance. At the same time, almost 50% of survey participants emphasize the importance of separating the flow of patients seeking paid and free services. Only 19.6% of respondents express the opinion that paid treatment should be provided either in private medical centers or in separate departments of public medical institutions [224].

At the same time, when it comes to choosing paid services, a third of survey participants (39.2%) emphasized the importance of comfort and short terms for

providing services, pointing to these aspects as advantages compared to services provided under compulsory medical insurance.

Of those doctors who reacted negatively to the availability of paid medical services in state-owned medical institutions, half (54.1%) believe that the state needs to develop free services within the framework of the program of state guarantees of medical care, the second half (45.9%)) against mixing flows of paid and free patients in institutions ($p \leq 0.05$).

In the discussion about paid medical services in public institutions, the opinions of doctors were divided. About half of those opposed (54.1%) say the government should focus on expanding free health care under the government guarantee program. The rest (45.9%) express concerns about the combination of paid and free patients in the same premises [109, 224].

When it comes to the criteria that doctors must meet when providing paid services, the majority of medical specialists surveyed (68%) insist that such an opportunity should be available to all doctors, regardless of their experience and specialization.

Regarding the factors that motivate patients to choose paid medical services, doctors gave varied answers: excellent quality of service was recognized as the main reason by 36% of respondents, while 29.8% noted short terms of medical care and more comfortable conditions, and 21% indicated to low territorial accessibility to free medical care. Just over ten percent (14%) of respondents emphasized the importance of all of the above aspects.

Having studied the data, it is clear that a third of the surveyed doctors (30%) are satisfied with financial remuneration. At the same time, a significant majority of those who are satisfied with financial remuneration are employees of private clinics (87%), while only a small part (13%) are doctors from public medical institutions, and the difference is statistically significant ($p \leq 0.05$). A small percentage (5.3%) expressed dissatisfaction with their income level.

About 40% of respondents emphasize the importance of ongoing professional training as a key part of their professional satisfaction. On the other hand, the study

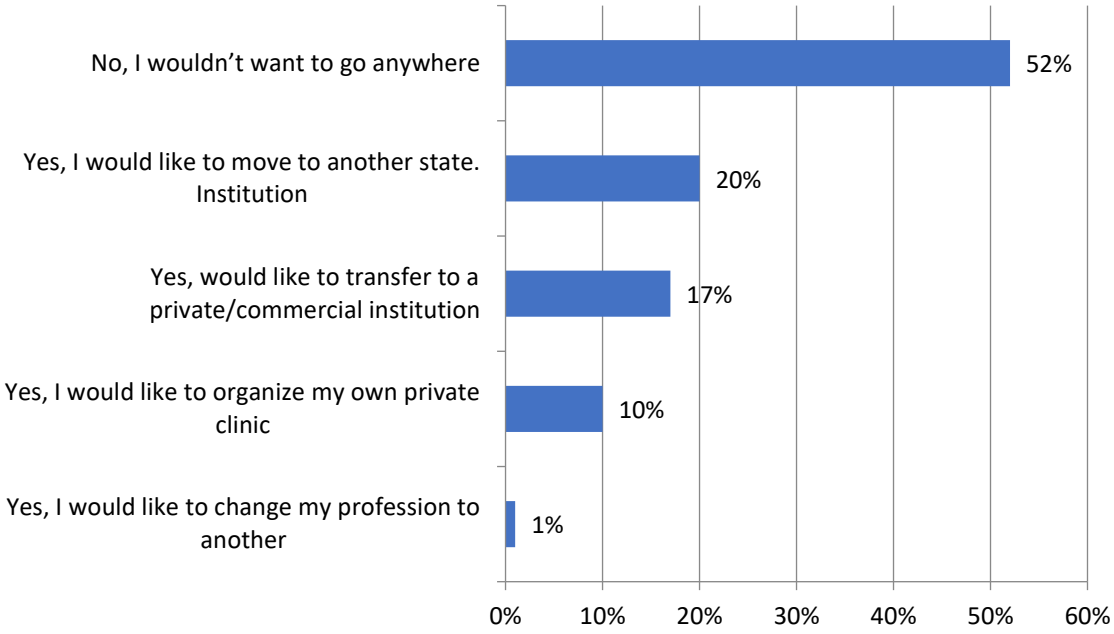
revealed dissatisfaction among medical professionals, with more than a quarter (28%) expressing dissatisfaction with high levels of workload, while around one in four (25%) were extremely dissatisfied with working conditions. However, in private medical institutions, doctors are significantly more satisfied with their workload (85% satisfied out of 24% of those working in the private sector), while in public medical institutions the proportion of satisfied is only 9% (2.1% of the total number of doctors surveyed) with statistically significant differences ($p \leq 0.05$).

The study showed that doctors are most satisfied with their work in the context of relationships with colleagues, where the level of satisfaction was 77.2%, and with management, where this Picture reached 76.8%. There were no significant differences in the satisfaction of healthcare workers, regardless of whether they worked in public or private healthcare institutions.

As for remuneration for the provision of paid medical services, half of the respondents (50%) indicated receiving a salary bonus, 41% noted the presence of additional incentive payments, while 9% admitted to receiving «unofficial» wages.

From the survey, it turned out that the majority of medical workers, namely 94%, confirmed the fact of receiving remuneration from their patients, while only a small part of the respondents, accounting for 6%, strongly rejected such a practice. Doctors usually received symbolic gifts or flowers from patients in 69% of cases, monetary rewards in 27%, while assistance in personal and household matters was noted in 4%.

Approximately two-fifths of respondents (39.6%) expressed support for the idea of increasing the number of paid services in public medical institutions, justifying this by the need for additional funding and improved working conditions for medical personnel. At the same time, a similar number of respondents (about 40%) recognized the importance of developing paid medical services within the public health care system, but subject to maintaining guarantees of the availability of free medical care for patients. In turn, about one fifth (19.8%) of respondents believe that paid medical services should be provided exclusively in private clinics [109].



Picture 26 – Doctors' opinions on the question of changing jobs, %

The majority of physicians (52%) expressed commitment to their current place of work, preferring to remain in this healthcare institution. Of those who enthusiastically confirmed their choice (83%), most work in public health institutions, while a minority (17%) practice in private clinics.

From a survey of medical specialists, it turned out that more than a third (37%) of doctors are considering the possibility of employment in a new place of work. At the same time, almost half of them (48.2%) are inclined to move to other public medical institutions, while 51.8% are considering working in private clinics. Only 1% of the surveyed doctors expressed a desire to completely change the scope of their professional activities (Picture 26).

Thus, according to the results of a survey of doctors' opinions, paid services in the healthcare system of the Russian Federation should exist. Considering the low degree of satisfaction of doctors with the amount of financial incentives for the provision of medical services in accordance with the territorial program for the provision of medical care, it is necessary to consider the organization of the provision of paid medical services when combining professions and positions for workers with the corresponding introduction of additional forms of incentive payments.

The most optimal organization of paid medical services is in separate departments in a medical institution, which would have an independent organizational structure, space, equipment and staffing of medical workers allocated for these purposes [109].

4.6. Determination of the principles and conditions for forming development directions and increasing the competitiveness of a medical organization providing paid medical care in public health care institutions

Currently, public authorities need to apply strategic management in public medical organizations, which should include the process of developing and implementing goals, strategies and development plans based on taking into account changes in the external environment, intra-industry monitoring of strengths and weaknesses and assessing the potential capabilities of a medical organization. Thus, the topic of strategic management of public medical organizations is particularly relevant [374].

Today, it is extremely important for government authorities to introduce strategic management methods in public health care institutions. A strategic approach involves an active analysis of changes in external environmental conditions, an examination of one's strengths and weaknesses within the healthcare sector, as well as an assessment of the hidden potential for the development and expansion of clinics. As a result, the development and implementation of effective strategies and development plans become key components for the successful operation of medical institutions, emphasizing their importance.

To strengthen the position of medical institutions in the paid services sector and indicate the direction of their subsequent development, strategic planning tools were used. The experts were the chief doctors of state health care institutions.

SWOT analysis

An expert assessment of the opinion of healthcare leaders revealed the key advantages of public medical institutions, which determine their competitiveness in the market of paid medical services: an integrated closed system of medical care - from outpatient clinics to inpatient care - and broad diagnostic capabilities [57,91].

Based on expert opinion on the importance of external opportunities for public medical organizations and an analysis of their influence on the medical services market, a probabilistic analysis of external opportunities was performed (table 19).

This study identified key external opportunities that have a strong impact on development and can significantly enhance the competitive advantage and development of public health institutions in the provision of paid medical services, ranked by their importance.

After the study, it turned out that external threats with a high probability of implementation that threaten efficiency in the struggle for leadership among public medical institutions include: economic instability and growing competition in the medical services market, with the first having the greatest impact. The use of SWOT analysis contributed to the development of a strategy, direction of development and increased competitiveness in the medical services market.

Table 19 – Main external opportunities and threats (O&T).

Factor	How does it affect	Diagnosis	Possible responses
1	**2**	**3**	**4**
Control over the expenditure of budget funds, personalized accounting of consumables	Less attractive market for new producers, market reorganization, slight decrease in competition level	O	Search for vacated market niches Search for potential distributors
	Reduced profits, reduced investments in development, «Artificial», non-market mechanisms The information background is decreasing Increased promotion costs	T	External analytics, monitoring Internal audit: cost management, analysis of business processes, cost structures in order to identify the potential for resource savings, digitalization, controlling, planning, risk management - scenario planning Greater emphasis on private medicine
Unfavorable economic conditions and general economic downturn, difficulty in predicting the timing of economic recovery: rising inflation decrease in effective demand disposable income inequality	Less attractive market for new producers, market reorganization, slight decrease in competition level The role of the employer is strengthening	O	Search for vacated market niches Search for potential distributors Searching for new employees, strengthening staff
	Reduction in demand, profits, investment in development, decline in competitiveness Slower growth in private medicine (surgery) means lower demand	T	Internal audit: searching for ways to reduce costs, analysis of business processes, cost structures in order to identify potential for resource savings, digitalization, controlling, planning, risk management – scenario planning

Table continuation 19

1	2	3	4
«Overregulation» of the industry: high degree of influence of the state regarding the priorities of financing medical care and national projects. Constant review and updating of the legal framework: laws governing the provision of medical services	Less attractive market for new producers, to expand the existing portfolio, some reduction in competition	O	Constant monitoring Search for vacated market niches Product portfolio optimization (a chance to form a «margin of safety» due to an extensive product portfolio) Reconsidering business development priorities
Concentration of the volume of types of medical care, concentration of purchases, administrative resource	Strong positions in key clinics can have a positive impact on profits and reputational assets, development of KOL and reference centers as a prerequisite for the development of research and development Learning curve A slight reduction in costs (logistics, business trips) and the work of a sales manager is relatively simpler	O	Only highly qualified personnel in key clinics, training and assessment of work quality. Improving the quality of customer service and customer experience Cost control for the clinic (simplification of processes, end-to-end ID of the clinic across all planning and reporting databases) Sales and Marketing Integration Working with the most competent and marketable distributors (but the risk of dependence on them, the balance of the roles of the company and the distributor, associations with the client)
	High business dependence from a limited number of influential clients, risks increase with a change in administration	T	

In general terms, the initial strengths of public health institutions can be presented as follows (in descending order of importance) (table 20):

Table 20 – Results of SWOT analysis: strengths of the institution

Factor	How does it affect	Possible responses
Product quality, predictable reproducible long-term positive clinical outcome State institution status Possibility of a comprehensive and/or expanded offer (not only surgical intervention, but also postoperative observation, preoperative examination, consultations with related specialists)	Increased demand Differentiation Factors of loyalty formation: level of trust, level of perceived switching costs Attractiveness for patients	Clarification, strengthening of positioning, promotion concepts, counterarguments: reduction of prices by competing clinics, offers of similar packages and services
Possibility of a comprehensive and/or expanded offer (not only surgical intervention, but also postoperative observation, preoperative examination, consultations with related specialists)		
The company's reputation, its integration into the professional community of the paid medical services market (more than just a supplier of medical products), knowledge about the company and products The best equipment with medical equipment Creation of a sales service, active marketing policy for the target audience		Expanding the range of nosologies, activating specialized departments in terms of providing paid medical services.
Work with key insurance companies and enterprises		Strengthening: employee training in service and sales issues
Employee competencies, the effect of accumulated experience		Possibility of experience transfer (different directions)

The expert assessment showed that initially public medical institutions relied on their material resources and treatment and diagnostic capabilities to maintain and

improve their market competitiveness in the segment of paid medical services.

The information presented in table 21 reveals that, according to managers, the main problems in institutions are the lack of employees, insufficient wages, poor communication skills of medical workers, poor quality of medical records and insufficiently developed conditions for the provision of paid services.

According to managers, the key factors reducing the ability of public health institutions to compete with private clinics related to issues of personnel management, in particular their training and motivation.

Thus, the main threats and opportunities, strengths and weaknesses can be identified.

Table 21 – Results of SWOT analysis: weaknesses of the company

Factor	**How does it affect**	**Possible response measures**
1	**2**	**3**
Low level of service	Outflow of potential patients to other clinics	Staff training, creating comfortable conditions for paying patients
Lack of premises for paying patients	Declining demand, profitability, increasing costs	Cost control, personalized accounting of consumables Creation of a separate unit for organizing the provision of paid medical services
Insufficient level of cooperation with key insurance companies and enterprises		Analysis of potential clients (possibility of package offers, discounting)
Priority of implementation of the compulsory medical insurance plan		Creation of a separate paid department, revision of planned volumes
Regulated work within the framework of Federal Law dated April 5, 2013 No. 44-FZ		Legal regulation at the level of the Government of the Russian Federation

Table continuation 21

1	2	3
Potential to increase the level of integration of marketing and sales, eliminating information gaps	Increased costs	Digitalization, more active use of CRM, KPI adjustments Training employees, hiring an experienced specialist, drawing up an Internet promotion strategy + remote interaction formats, transferring experience to other areas, using human resources
The need for process optimization: analytics, planning, controlling, risk management, cost management		Internal audit, revision of procedures and business processes

S (strengths)

1. The widest range of outpatient, diagnostic and inpatient services;

2. Quality control of medical care by supervisory authorities;

3. Highly qualified personnel;

4. Multidisciplinary institution;

5. Status of a government agency.

6. Possibility of consultation with specialists from leading regional medical institutions using telemedicine.

W (weaknesses)

1. Lack of premises intended for paying patients.

2. The priority of the compulsory medical insurance plan.

3. Low level of cooperation with key insurance companies and enterprises.

4. Low level of service.

5. Low level of integration of marketing and sales, elimination of information gaps.

6. The need for process optimization: analytics, planning, controlling, risk management, cost management.

7. Regulated work within the framework of the Federal Law of 04/05/2013 No. 44-FZ «On the contract system in the field of procurement of goods, works, services to

meet state and municipal needs», in contrast to competitors with private ownership, where direct purchase of necessary equipment and consumables.

O (opportunities)

1. Loyalty of legislation in the field of provision of paid medical services by state health care institutions.

2. Control over the expenditure of budget funds, personalized accounting of expenditure funds.

3. Unfavorable economic conditions and general economic recession, difficulty in predicting the timing of economic recovery:

4. Inflation growth.

5. Personnel outflow.

6. Administrative resource.

7. The complex impact of the pandemic and the geopolitical situation (Postponed planned operations, restrictions on outbound tourism, development of remote forms of employment and training, reduction in the number of in-person conferences and the number of participants).

T (threats)

1. High competition in the market for paid medical services in the form of private medical organizations.

2. Decrease in the solvency of the population.

3. Sanction risks (consumables, equipment maintenance).

4. Presence of complaints from insurers.

5. Strengthening regulation and control, saving on spending budget funds.

6. Constant review and updating of the legal framework: laws regulating the provision of medical services (amendments to the Decree of the Government of the Russian Federation of October 4, 2012 No. 1006 «On approval of the Rules for the provision of paid medical services by medical organizations»).

Table 22 – SWOT analysis matrix

S	W
1. The widest range of outpatient, diagnostic and inpatient services; 2. Quality control of medical care by supervisory authorities; 3. Highly qualified personnel; 4. Multidisciplinary institution; 5. Status of a government agency. Opportunity to consult with specialists from leading regional medical institutions using telemedicine.	1. Lack of premises intended for paying patients 2. Priority of the compulsory medical insurance plan 3. Low level of cooperation with key insurance companies and enterprises 4. Low level of service 5. Low level of integration of marketing and sales, elimination of information «gaps» 6. The need for process optimization: analytics, planning, controlling, risk management, cost management 7. Regulated work within the framework of Federal Law No. 44-FZ dated April 5, 2013, in contrast to competitors with private ownership, where the necessary equipment and consumables are directly purchased
O	**T**
1. Loyalty of legislation in the field of provision of paid medical services by state healthcare institutions 2. Control over the expenditure of budget funds, personalized accounting of expenditure funds 3. Unfavorable economic conditions and general economic recession, difficulty in predicting the timing of economic recovery: 4. Rising inflation 5. Attrition 6. Administrative resource 7.The complex impact of the pandemic and the geopolitical situation (Postponed elective surgeries, non-priority of government funding, restriction of outbound tourism, development of distance forms of employment and training, reduction in the number of face-to-face conferences and the number of participants).	1. High competition in the market for paid medical services in private medical clinics 2. Declining solvency of the population 3. Sanction risks (consumables, equipment maintenance) 4. Presence of complaints from the Ministry of Health 5. Strengthening regulation and control, saving budget expenditures 6.Constant review and updating of the legal framework: laws regulating the provision of medical services (amendments to the Decree of the Government of the Russian Federation of October 4, 2012 No. 1006 «On approval of the Rules for the provision of paid medical services by medical organizations»).

As a result of an analytical study, including a survey of heads of public health institutions using SWOT analysis, four basic areas for development and increasing the competitiveness of public health institutions in the provision of paid medical services were identified (table 22). Key areas include the development and implementation of internal systems for continuous improvement of quality control of medical services and

innovative development; creation of an intra-organizational system for continuous training and professional growth of medical staff; as well as improving employee motivation systems to ensure their contribution to improving the quality of medical care and the progressive development of a medical organization [57].

The unification of personnel and treatment and diagnostic capabilities in healthcare institutions, into uniform standards for the provision of medical services without taking into account methods of financing, strengthens the synergy between private and public medical institutions. This makes it possible to extrapolate the approaches used in these institutions to various medical centers offering outpatient services, without regard to their form of ownership.

SUMMARY

In conclusion, I would like to note the steady growth of the medical services market in the Sverdlovsk region. Having analyzed the demographic situation, we can foresee the constant interest of the population in medical services, especially those provided on a paid basis, due to the predominance of the working age population.

Key areas in the provision of medical services are consultations and diagnostic studies. Although many residents of the Sverdlovsk region prefer to use medical services through compulsory health insurance, there has been an increase in interest in the services of private clinics. In the process of choosing a medical organization, the quality of the services provided and their reputation play a decisive role. Private healthcare providers are the most visible players in this market.

Private and public medical institutions provide services at an equal level of accessibility and quality, indicating high intra- and inter-sectoral competition. In response to the current situation, private clinics are focusing their efforts on strategic planning in order to improve their competitiveness in the medical services market and raise standards of care. On the other hand, public medical organizations have the opportunity to adapt the experience of private healthcare to improve their own capabilities.

In the field of medical services, given the existing level of external business environment, increasing price competition and limited resources, there is a need to search for new strategies to minimize the negative impacts of these factors. This will require a profound rethinking and global revision of management strategies in public health institutions. In this context, it is relevant to develop a strategy for growth and development in this direction.

CHAPTER 5. WAYS AND METHODS OF IMPROVING THE ORGANIZATION OF PAID MEDICAL SERVICES IN HEALTHCARE FACILITIES AT THE REGIONAL LEVEL (BASED ON THE EXAMPLE OF THE SVERDLOVSK REGION). ORGANIZATIONAL AND LEGAL RISKS

In the modern world, considerable attention is paid to the use of extra-budgetary sources of financing in the healthcare sector, especially when it comes to supporting national projects and programs aimed at improving health. Fee-for-service healthcare services provided by the private sector are becoming a key element in the healthcare system, providing a significant contribution to achieving the goals of improving the well-being of the population [12, 191, 274].

5.1. Characteristics of patients receiving paid medical care in an outpatient setting (based on the results of a survey and economic analysis)

Among patients who applied in 2017-2021. for paid outpatient medical care at the Sverdlovsk Regional Clinical Hospital No. 1, the majority were women (61-63%), men, respectively 37-39% (table 23).

Table 23 - Composition of patients by gender in 2017 – 2021

Gender	2017	2018	2019	2020	2021
Men	37%	37%	38%	38%	39%
Women	63%	63%	62%	62%	61%
TOTAL	100%	100%	100%	100%	100%

When assessing the age composition of patients who sought paid medical care, a third of the total number of patients (30-35%) are people aged 35-54 years. About a quarter of individuals are 18–34 years of age, and a similar percentage of patients are 65 years of age or older (20–24%) (table 24).

Table 24 – Age composition of patients in 2017-2021

Age category	2017	2018	2019	2020	2021
18-34 years old	21%	20%	21%	22%	22%
35-54 years old	31%	32%	34%	33%	34%
55-64 years old	23%	23%	21%	21%	20%
65 and older	24%	24%	23%	23%	24%
TOTAL	100%	100%	100%	100%	100%

The majority of outpatient visits were carried out to patients from the Sverdlovsk region - 52-61%. Residents of the city of Yekaterinburg sought medical help in 34-40% of cases. Patients living in other regions of the Russian Federation and abroad consistently account for less than 10% (5-8%) throughout the entire observation period (table 25).

Table 25 – Number of patients by territory who received paid medical services at the State Autonomous Healthcare Institution SO «SOKB No. 1», for 2017-2021

Territory	2017	2018	2019	2020	2021
Ekaterinburg	34%	36%	37%	38%	40%
Sverdlovsk region	61%	58%	57%	54%	52%
Other territories	5%	6%	6%	8%	7%
Total:	100%	100%	100%	100%	100%

When assessing patients seeking outpatient paid medical care by funding sources, the majority are people who pay for medical services on their own, 84.6 – 86.3%, respectively. Departmental and legal organizations, as well as insurance companies, total just over 13%. Over the entire period, the share of funding sources for all paid services remained unchanged (table 26).

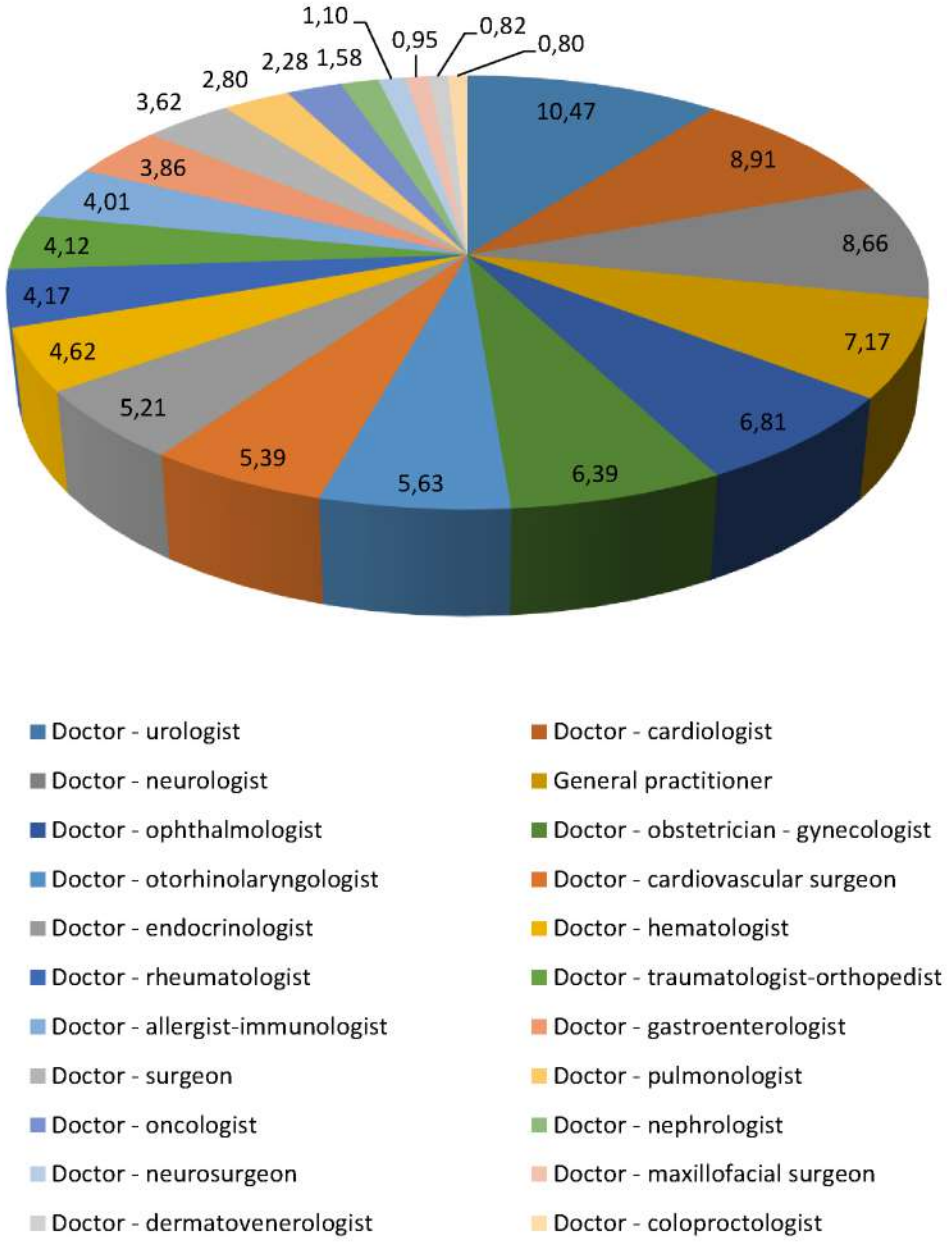
Table 26 – Structure of distribution of the number of patients and services by patient groups for 2017-2021

Payer type	2017	2018	2019	2020	2021
Organizations	8,7%	10,3%	10,1%	10,6%	9,7%
Insurance companies	5,0%	5,2%	5,0%	5,3%	5,6%
Individuals	86,3%	84,5%	84,9%	85,8%	84,6%
Total:	100%	100%	100%	100%	100%

When studying the structure of requests for paid appointments at the Sverdlovsk Regional Clinical Hospital No. 1, a third of requests for medical services in 2021 were associated with three classes of diseases: diseases of the genitourinary system - 10.5%, diseases of the circulatory system - 8.9% and diseases of the nervous system – 8.7%. A quarter of the patients went to see a general practitioner - 7.2%, an ophthalmologist - 6.8%, an obstetrician-gynecologist and an otolaryngologist. The least interest was shown in appointments with a neurosurgeon, a maxillofacial surgeon, a dermatovenerologist, and a coloproctologist, which totaled 4.3% (Picture 27).

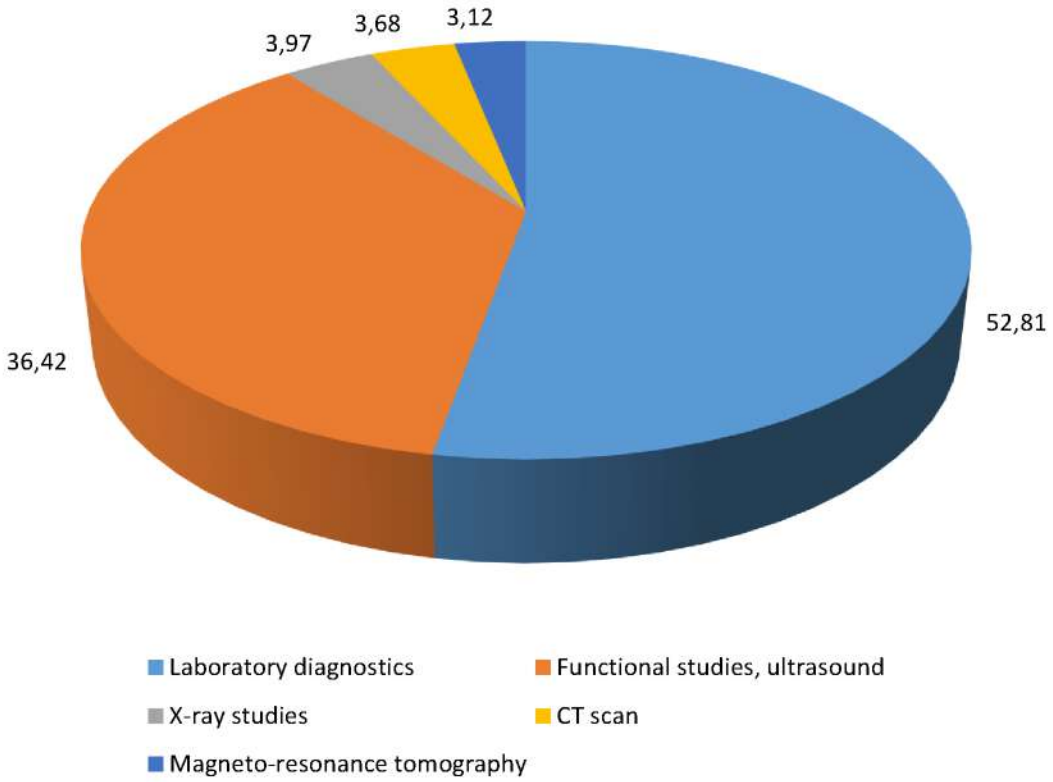
When assessing the overall dynamics of the number of paid outpatient appointments provided for the period 2017-2021, there is a downward trend of 8.8% compared to 2017. But, for the period 2019-2017. There was an increase in the number of appointments provided by 9.4%, in contrast to the period 2020-2021, where a decrease of 16.6% was recorded. A five-year increase in quantitative indicators was noted among doctors of the following specialties: hematologist (17.7%), neurologist (4.4%), neurosurgeon (22%), pulmonologist (24.1%), and doctor - surgeon (27.1%). A significant decrease in the number of appointments with a gastroenterologist was noted in both observation intervals, the final decrease was -19.2%.

During the period of restrictions associated with the new coronavirus infection (2020-2021), there has been a decrease in the number of appointments in all specialties, except for: hematologist (6.7%), neurologist (11.3%), neurosurgeon (10.1%) and a surgeon (12.6%). This is justified by the high risks on the part of patients of contracting a new coronavirus infection within the walls of large medical institutions.



Picture 27 – Share of appointments with doctors of various specialties in 2021, %

When assessing the needs of patients for diagnostic tests in 2021, in the structure of paid medical services, laboratory diagnostic services were most often provided to patients - 52.9%, a significantly smaller share was made up of services such as functional diagnostics - 36.4%. Radiation diagnostics (MRI, CT, X-ray studies) accounted for a total of 10.8% (Picture 28).



Picture 28 – Share of paid diagnostic tests in 2021, %

Table 27 reflects the dynamics of paid diagnostic studies conducted in the period 2017-2021. Over a 5-year period, there was a decrease in the number of studies conducted for all types of diagnostic services (18-36%). At the same time, in the period 2017-2019. Such studies as CT and MRI, as well as functional research methods and ultrasound diagnostics, have increased their performance. Decrease in the number of studies in radiation diagnostics in the period 2020-2021. is also associated with the high workload of CT and MRI machines by the needs of hospital departments, as well as emergency patients.

Table 27 – Number of paid diagnostic tests performed in 2017-2021, %

Diagnostic tests	**2017**	**2018**	**2019**	**2020**	**2021**	**Rate of increase *,%**	**Growth rate**,%**	**Growth rate***,%**
1	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**
MRI	3,5%	3,7%	3,5%	1,6%	3,1%	-32,2	1,2	-33,0
CT	3,4%	3,5%	3,5%	4,4%	3,7%	-18,8	2,6	-20,8

Table continuation 27

1	2	3	4	5	6	7	8	9
X-ray studies	4,8%	4,7%	4,2%	1,6%	3,9%	-36,4	-10,5	-29,0
Functional studies, ultrasound	36,2%	37,5%	37,5%	37,6 %	36,4%	-23,3	4,7	-26,8
Laboratory diagnostics	52,1%	51,2%	51,2%	54,7 %	52,8%	-22,5	-0,4	-22,3
Total:	100%	100%	100%	100%	100%	-23,7	1,1	-24,6

Note. * In 2021 compared to 2017 (p<0.05), ** In 2019 compared to 2017 (p<0.05), *** In 2021 compared to 2019 (p<0.05)

At the same time, when assessing the financial indicators of the paid outpatient service of the State Autonomous Healthcare Institution SO «SOKB No. 1», the following can be noted. The amount of revenue in 2021 decreased by 4.93% compared to 2017 (Picture 29). In the revenue structure, noteworthy is the growth due to consultations by 25.85%, taking into account the increase in prices for consultations in November 2019. From this moment, the State Autonomous Institution SO «SOKB No. 1» moved from the status of «budget» to «autonomous» and was given the opportunity to independently set prices for paid services. Until this point, public health care institutions were forced to operate at maximum tariffs established by the regional Ministry of Health. There was no revision of the price for diagnostic studies in the same period. The dynamics of their share in the revenue of outpatient services during the study period turned out to be negative (table 28).

The largest decrease in the share of revenue was shown by the radiology department (-44.71%). In this regard, there is a natural decrease in the average bill per 1 patient by 8.76% (2270.93 rubles in 2021), and an increase in the average bill per 1 service by 32.52%, and amounted to 1009.87 rubles in 2021.

Table 28 – Financial indicators of outpatient services, 2017-2021

Index	2017	2018	2019	2020	2021	Growth rate*, %
1	**2**	**3**	**4**	**5**	**6**	**7**
Consultative appointments, %	47,8	51,2	53,1	61,0	63,3	25,8

Table continuation 27

1	2	3	4	5	6	7
KDL, %	12,6	10,9	10,5	9,8	8,7	-34,8
DFD, %	18,1	17,0	17,8	15,7	14,9	-21,74
LD, %	20,5	17,3	15,9	10,1	11,9	-44,7
Average bill per patient, rub.	2489,0	2003,1	1992,1	2155,5	2270,9	-8,8
Average bill for 1 service, rub.	762,1	805,7	817,9	915,1	1009,8	32,5

Note. * In 2021 compared to 2017 ($p<0.05$)

Having studied the attendance of paid medical services provided by the State Autonomous Institution SO «SOKB No. 1», it is possible to assume the need for the types and volumes of medical services both in the institution and in the region, and to identify shortages of both material and human resources. Taking into account the need, form subsequent flows of patients.

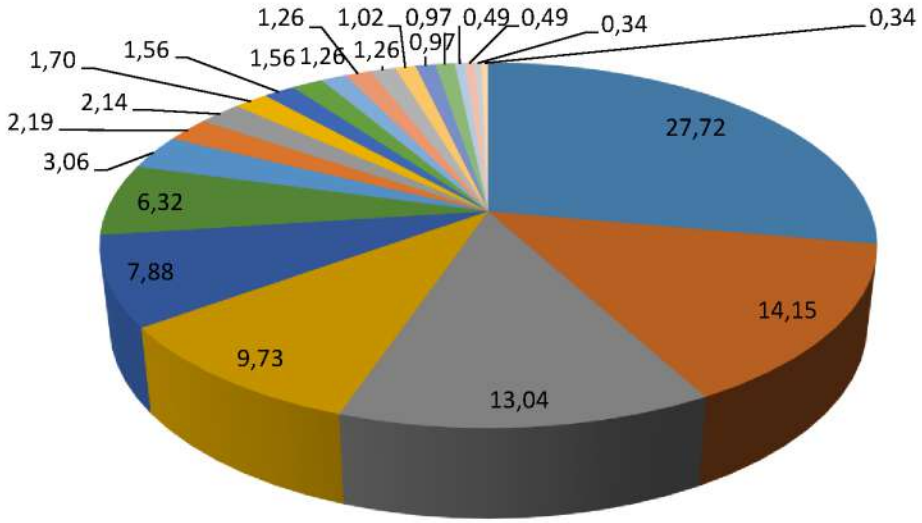
Based on the analysis of the data obtained, it becomes possible to determine the future development of the healthcare sector not just at the level of individual medical organizations, but also on the scale of the entire region. This provides a chance not only to improve the quality and accessibility of medical services for the population, but also helps to improve the economic situation of medical institutions by attracting additional financial resources from non-state sources.

5.2. Structure and economic characteristics of the provision of paid medical care in a hospital setting (according to records of appeal and economic analysis)

In 2021, three classes of diseases caused more than half of all paid hospitalizations at the Sverdlovsk Regional Clinical Hospital No. 1. Thus, the share of diseases of the visual system accounted for 27.7%, gynecology - 14.2% and diseases of the ENT organs - 13.0%. The fourth, fifth and sixth positions among the reasons for seeking paid medical care in hospital departments were: diseases of the genitourinary system - 9.7%, surgical diseases - 7.9% and coloproctological diseases - 6.3%. About 10% of all cases were patients from therapeutic departments: cardiology - 1.6%,

neurology - 1.6%, gastroenterology - 1.3%, nephrology - 1.3%, rheumatology - 1.3%, hematology - 1, 0%, pediatric cardiac surgery – 0.5% (Picture 29).

In five-year dynamics for 2017-2021. stable dynamics are observed. The leaders in the growth in the number of hospitalized patients from hospital departments were: the department of otorhinolaryngology - 114.4%, the department of pediatric cardiac surgery - 83.3% (at the expense of foreign citizens), the hemodialysis department - 15.8%, the gastroenterology department - 8.83% and Department of Abdominal Surgery (+3.9%).



- Ophthalmology Department
- Department of Gynecology
- Department of Otorhinolaryngology
- Department of Urology
- Surgery department
- Department of Coloproctology
- Remote stone crushing department
- Department of Traumatology
- Hemodialysis department
- Department of Purulent Surgery
- Cardiology department
- Neurological department
- Gastroenterology Department
- Nephrology Department
- Department of Rheumatology
- Department of Cardiovascular Surgery
- Department of Oncohematology
- Department of Neurosurgery
- Department for the treatment of heart rhythm disorders
- Department of Cardiac Surgery
- Department of Allegology and Pulmonology
- Department of Endocrinology

Picture 29 – Cases of paid hospitalization in hospital departments in 2021, %

When assessing the number of hospitalized patients during the period of a new coronavirus infection, attention is drawn to the increase in cases of paid hospitalization in 9 departments out of 23, namely: pediatric cardiac surgery department + 110%, gastroenterology department + 73.3%, ENT department + 69.6%, remote stone crushing department + 23.5%, hematology department + 17.6%, hemodialysis department + 15.7%, gynecology department + 3.5%, trauma department + 2.3% and ophthalmology department + 1.4%, A similar situation was caused by the repurposing of many departments in government institutions of the Sverdlovsk region for the treatment of patients with coronavirus infection, filling the departments with emergency patients of the corresponding profile. In order to receive timely medical care, patients were forced to seek paid medical care.

The number of hospitalization cases in which the sources of payment are individuals is consistently about 80%; in other cases, the payer is an enterprise providing VHI, or a legal entity (departmental organizations).

During the study period, there was an increase in the proportion of hospitalizations by patients who paid for medical services themselves in 2020 by 7% (90%), followed by a decrease by 14% in 2021 (76%). In contrast to cases of hospitalization, payment for which was carried out at the expense of VHI or legal entities, where in 2020 there was a decrease of 6% and a subsequent increase of 14% in 2021, and amounted to 24% of the total revenue for cases of paid hospitalization.

During 2017-2021 There was an increase in patients whose hospitalization was paid for by insurance companies or legal organizations in the following departments: gynecology department 92%, purulent surgery 111.1%, dialysis departments - 32.0%, pediatric cardiac surgery - 163.9%, cardiac surgery - 181%, coloproctology - 104.3%, otorhinolaryngology department - 134.6%, neurosurgical department - 87.7%, cardiovascular surgery department - 93.5%, abdominal surgery department - 47.8%, respectively. An increase in hospitalization cases in which the payer was directly the patient himself was noted in 5 departments: the gastroenterology department, the hemodialysis department, the pediatric cardiac surgery department, the ENT department, the department of traumatology and orthopedics.

Table 29 – Financial indicators of hospital departments, 2017-2021.

Index	2017	2018	2019	2020	2021	Growth rate*, %
1	2	3	4	5	6	7
Share of therapeutic departments, %	15,5%	16,7%	12,3%	9,16%	10,6%	-4,9%
Share of surgical departments, %	84,4%	82,3%	87,8%	90,8%	91,9%	7,4%
Average check, rub.	49961,4	69832,3	76185,2	66343	71386,1	42,8%
Average bill, therapeutic departments, rub.	31115,4	49719,5	46033,1	34701,4	45968,6	47,8%
Average bill, surgical departments, rub.	59384,4	79888,7	91261,3	70240,5	84094,9	41,6%

Based on observations from 2017-2019, the financial performance of hospital departments increased by 3.2%, followed by a decrease of 48.3% in 2020 due to restrictions caused by the new coronavirus pandemic. Overall results for 2017-2021 – decrease in revenue by 11.2%. At the same time, I would like to note an increase in the share of surgical departments in revenue by 7.42% during the period under study. In terms of the revenue structure by hospital departments, the share of surgical departments ranges from 82.3 to 91.90%, the share of therapeutic departments ranges from 9.2 to 16.7%. The value of the average bill in hospital departments increased by 42.8%, without significant differentiation between the departments of therapeutic (47.7%) and surgical (41.6%) profiles, and amounted to 45,968.6 rubles and 84,094.9 rubles, respectively (table 29).

In 1999, on the basis of the hospital of the State Autonomous Institution SO «SOKB No. 1», a specialized department was organized to provide cases of paid hospitalization for therapeutic patients. Patients with diseases of the central and peripheral nervous system, diseases of the circulatory system, and diseases of the respiratory system are routinely hospitalized in the department. Also, the reason for hospitalization of patients in this department is a specialized extended examination.

In 2016, the department was transferred to a new hospital premises, with a separate entrance, registration desk, and service repairs. The department currently has 20 beds. 8 double rooms, 4 single rooms. Separate physiotherapeutic and diagnostic blocks on the territory of the department. The creation of the department ensured an

increase in the level of service of stay, separation of patient flows in accordance with the Decree of the Government of the Russian Federation of October 4, 2012 N 1006 «On approval of the Rules for the provision of paid medical services by medical

organizations».

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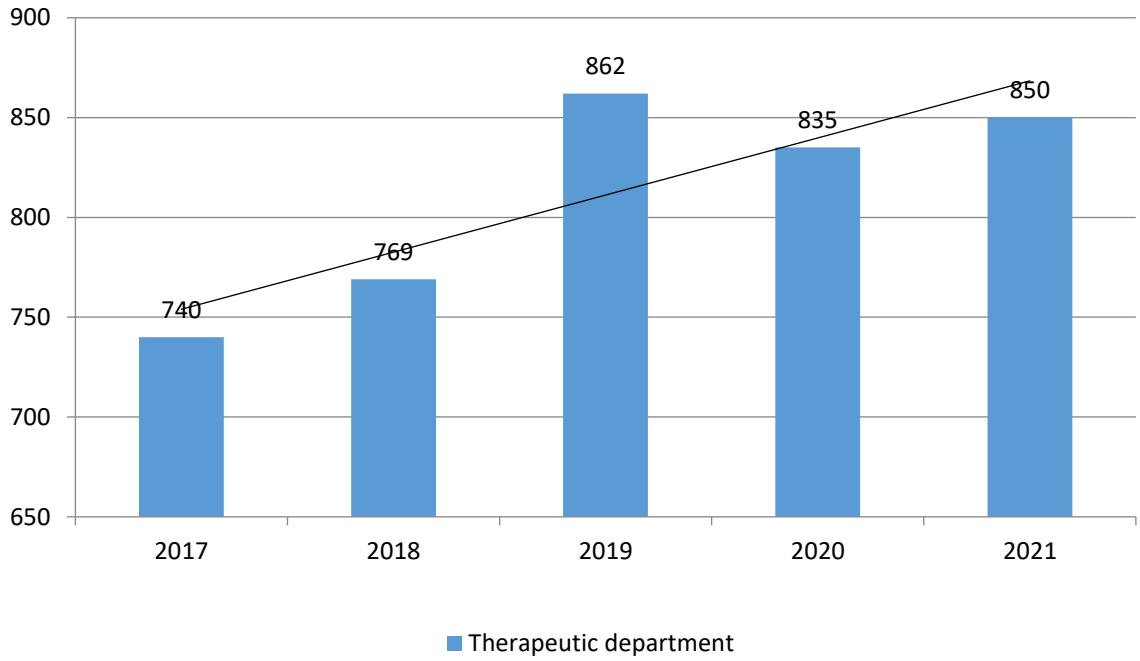
Picture 30 – Examples of organizing space in a therapeutic department GAUZ SO «Sverdlovsk Regional Clinical Hospital No. 1»

Note. a – double ward, b – rest area in the ward, c – nurse's station

Creating conditions for a comfortable stay for patients in the therapeutic department, a wide range of services provided, high quality of medical care provided, and consulting with leading specialists in the region, made it possible to ensure high demand for this area among patients.



Picture 31 – Number of cases of hospitalization in the therapeutic department, abs. 2017-2021

Over the past 5 years, there has been a trend toward an increase in the number of hospitalized patients. The increase in the number of hospitalization cases in 2021 amounted to 27.5% compared to 2017 (Picture 32), provided that planned cases of hospitalization of patients of various profiles in hospital departments, in accordance with nosologies, were maintained, which made it possible to increase the availability of medical care for all patients, regardless of the conditions of the territorial program of state guarantees of medical care.

The dynamics of revenue from hospitalizations in the therapeutic department over 5 years shows steady growth. Revenue growth for the period 2017-2019 amounted to 42.3%.

The values of the average bill of the therapeutic department also showed an upward trend, amounting to 38,587.59 rubles in 2021, which is 7.8% more than the values in 2017. There was no revision of prices for medical care in the therapeutic department during the study period. The increase in the size of the average bill is associated with a decrease in the number of hospitalizations in this department as a «day hospital» during the COVID-19 pandemic (table 30).

Table 30 – Financial indicators of the therapeutic department, 2017-2021

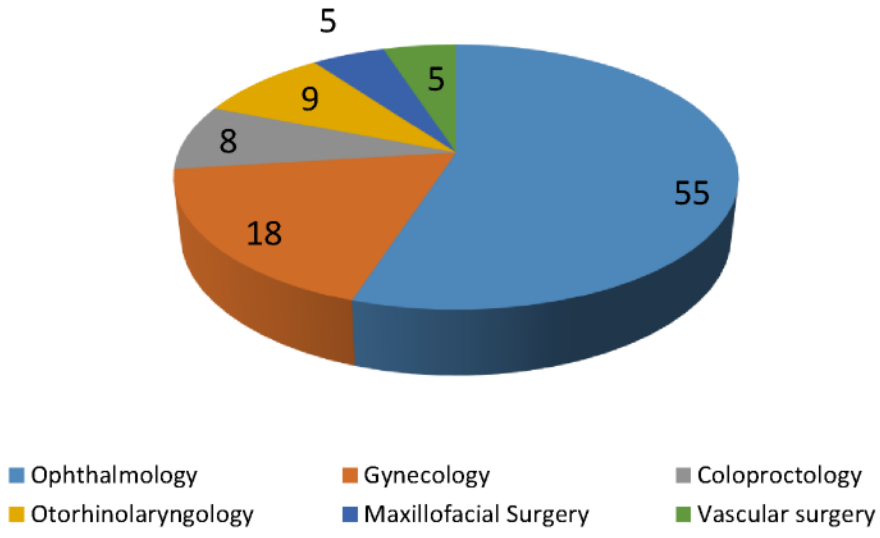
Indicators	2017	2018	2019	2020	2021	Growth rate*, %
Number of hospitalizations, abs.	678	769	862	698	895	32,1%
Average bill rub.	35 787,8	33 590,1	32 554,5	38 770,20	38 587,6	7,8%

Note. * In 2021 compared to 2017 ($p<0.05$)

When assessing the sources of payment for hospitalizations in the therapeutic department, about 10% were consistently VHI and legal companies.

The share of the «short-stay surgical hospital» department in 2021 accounted for 19.5% of the total number of paid hospitalizations. Dynamics for 2017-2021 there was a steady growth of 16.1%.

In the structure of hospitalization cases in 2021, 55% were ophthalmological operations, 18% were the provision of medical care to gynecological patients. Patients with diseases of the ENT organs, diseases of the maxillofacial system, coloproctological diseases and diseases of the cardiovascular system totaled 27% (Picture 32).



Picture 32 – Cases of paid hospitalization in a short-stay surgical hospital in 2021, %

The financial indicators of the short-stay surgical hospital during the study period also show stable growth. Thus, revenue growth for 2017 – 2021 amounted to 66.7%.

Together with an increase in the value of the average bill by 43.8% (16,097.64 rubles in 2021), without revising the price list for medical services in this department (table 31).

Table 31 – Financial indicators of the «short-stay surgical hospital», 2017-2021

Indicators	**2017**	**2018**	**2019**	**2020**	**2021**	**Pace growth*,%**
Number of hospitalizations, abs.	621	630	695	421	720	15,9
Average check, rub.	11 195,5	10 898,1	11 065,5	10 237,2	16 097,6	43,8

Note. * In 2021 compared to 2017 ($p<0.05$)

The profile of cases of hospitalization in the «short-stay surgical hospital» department did not change significantly over the entire observation period. The main driver of growth in the indicators of this department is the provision of medical care in the specialty - ophthalmology + 35.8%, which is 55% of the total number of hospitalizations. Also, growth dynamics were demonstrated by coloproctologists (+16.0%) and otolaryngologists (+49.2%) (table 32).

Table 32 – Proportion of cases of paid medical care in a short-stay surgical hospital, by profile, 2017-2021

Profile	2017	2018	2019	2020	2021	Pace growth*,%
Ophthalmology	47,0%	47,9%	51,9%	50,0%	55,1%	35,8
Gynecology	22,9%	17,9%	20,0%	21,0%	18,1%	-9,2
Coloproctology	7,92%	6,9%	10,1%	9,0%	7,9%	16,0
Otorhinolaryngology	6,9%	10,0%	10,9%	12,0%	8,9%	49,2
Maxillofacial Surgery	7,9%	9,1%	4,1%	4,0%	4,9%	-27,5
Vascular surgery	6,9%	7,9%	3,1%	4,0%	4,9%	-17,1
TOTAL	100%	100%	100%	100%	100%	16,0

Note. * In 2021 compared to 2017 ($p<0.05$)

The positive dynamics in the provision of medical care in the «short-stay surgical hospital» is associated with the reorientation of medical care in recent years to

outpatient replacement technologies and their development. In order to reduce the load on hospital departments, there is a need to further increase the types and volumes of medical care provided in a short-stay surgical hospital.

5.3. Formation of principles and conditions for improving the development of paid medical services in the context of a multidisciplinary public health care institution

The growing population suffering from chronic diseases emphasizes the importance of early detection and prevention of diseases affecting various body systems in order to prolong life and improve its quality. Conducting a comprehensive medical examination significantly increases the chances of identifying diseases in their early stages, thereby providing the basis for health for many years to come. This, in turn, gives medical professionals the opportunity to initiate timely and effective treatment, and patients to minimize the risk of serious complications and speed up the recovery process [12, 270].

Check up programs are an integrated approach to health monitoring aimed at minimizing health risks and early detection of diseases before they cause significant damage to health. They are a key element in the strategy of modern preventive medicine aimed at preventing disease. One of the notable advantages of such programs is their speed and ease of use, which makes them ideal for people of active working age who want to maintain their health without significant interruption from work. These programs are unique in that they optimize the time spent by both clinics and patients, providing the ability to perform diagnostics in the shortest possible time [12].

As a result of the marketing analysis, in 2021 it was decided to introduce a new product in the paid services of GAUZ SO «SOKB No. 1», introducing comprehensive Check up programs. This is a departure from past practice of providing paid medical services, when services were provided to patients in a streaming manner, without taking into account their relationship of communication or quantity. Now, when drawing up Check up programs, not only the wishes of patients are taken into account, but also the

professional opinions of doctors and clinical guidelines that determine the required scope of examinations.

We created 11 programs in 2021. Each of the specialized programs is supplemented in the form of examinations or consultations with specialists. The programs include from 8 to 30 services in a complex, aimed at maintaining women's and men's health, examination of the cardiovascular system, central nervous system, health status after suffering from COVID-19 and others.

To implement the programs at the State Autonomous Institution SO «SOKB No. 1», contact center specialists were trained to register patients choosing Check up, to draw up an optimal route map for them, with the goal of making the complex as comfortable, correct, fast and efficient as possible. Physicians have the ability to tailor the basic screening plan to suit each patient's individual needs, providing additional procedures after initial consultations and tests. This allows you to know in advance the full fixed price for a set of services, avoiding unexpected expenses [12].

In 2021, 347 Check up programs were implemented. Of these, 77% were carried out at the expense of insurance companies, within the framework of VHI. The largest number of patients who used this service were persons aged 30 to 50 years (63.2%). Women paid attention to the health of the heart and blood vessels, as well as the state of the endocrinological system, 2 times more often than men (64% and 37%, respectively). The number and share of implemented comprehensive programs is presented in table 33.

Table 33 – Number and share of implemented comprehensive programs, 2021-2022

Checkup name	**2021, %**	**2022, %**	**Growth rate*, %**
1	**2**	**3**	**4**
«Endocrinological»	22,5	20,1	106,4
«Neurological»	23,9	24,2	133,7
«Cardio checkup»	20,2	19,1	118,6
«Gastroenterological»	16,1	10,6	51,8
«Preoperative checkup - basic»	0,0	5,4	4300,0
«Men's health 40+»	3,2	3,7	172,7

Table continuation 33

1	2	3	4
«Women's health 40+»	3,7	3,5	115,4
«Woman's health up to 40»	2,3	3,0	200,0
«Men's health up to 40»	2,3	2,2	125,0
«Express health diagnostics»	4,6	4,1	106,3
Multidisciplinary	0,0	1,2	1000,0
«Men's health after COVID-19»	0,3	0,1	0,0
«Women's health after COVID-19»	0,3	0,7	500,0
Ophthalmic	0,0	0,9	700,0
Pulmonary	0,0	1,1	900,0
TOTAL	347 abs., 100%	802 abs., 100%	131,1

Note. * In 2022 compared to 2021 ($p<0.05$)

The completeness of the examination case, the final diagnosis and the appointment of recommendations in a short fixed period of time are one of the key decisions of patients when applying for comprehensive programs, taking into account the comorbidity of the case.

When the streaming set of services is considered, the completion rate of cases is only 65%, in contrast to complex diagnostics, where this Picture reaches 97.5%. This highlights the superiority of Check up programs in terms of their effectiveness in both medical and social aspects. If we look at the number of services provided to each patient, then within the framework of a comprehensive examination there are on average 8.3 services per person, while for single-case visits this Picture is only 1.7.

Over the 2 years of implementation of complex programs provided at the State Autonomous Institution SO «SOKB No. 1», their volume increased 10 times and amounted to 10% of the total volume of paid outpatient services. Their economic efficiency turned out to be 23% higher than the provision of single services. The revenue growth rate in 2022 compared to 2021 was 233.2%. With a stable average bill per patient within 14,055.5 rubles in 2022 (+0.92% compared to 2021) (table 34).

Table 34 – Financial indicators of comprehensive programs, 2021-2022

Indicators	2021	2022	2022/2021, %
Number of patients passed the checkup, abs.	179,0	591,0	230,2
Average bill per patient, rub.	13 926,8	14 055,5	0,9

Check up programs allow you to simultaneously ensure medical and social efficiency, thanks to the completeness of the patient examination, short examination times and high efficiency. At the present stage of development of paid medical services, the introduction and implementation of comprehensive programs is a cost-effective strategy for the development of an organization [12].

Also, in addition to taking into account the serviceability of the services provided, the timing of their provision, the marketing tools used, it is necessary to take into account the issues of control over healthcare institutions by supervisory authorities, as well as the possibility of providing patients with state-guaranteed preferential prescriptions, participation in rare disease registries, and the opportunity to participate in consultations. Taking into account the advantages and disadvantages of each type of institution, it is possible at the stage of planning for seeking medical help to determine the most suitable clinic option (table 35).

Table 35 – Principles and conditions for the provision of medical care in public health care institutions and private ones

Index	Government agencies	Private institutions
Continuity of regional healthcare, regional MIS	Yes	No
Control by supervisory authorities	Yes	Formal
Internal quality control of medical care	Yes	Formal
Unified standards, clinical recommendations	Yes	Yes / No
Multidisciplinary clinic	Yes	No
Availability of DRA branch	Yes	No
Availability of a clinical base	Yes	No
Possibility of holding consultations	Yes	No
Opportunity to participate in international clinical trials	Yes	No
Possibility of emergency hospitalization if indicated	Yes	Rerouting with the participation of emergency medical services
Issuing preferential prescriptions	Yes	No
Observation in regional registers	Yes	No
Possibility of providing high-tech medical care at the expense of the state (transfer from paid services)	Yes	No

SUMMARY

An analysis of data on the provision of paid medical care in the largest medical institution in the Sverdlovsk region, both in outpatient and inpatient settings, showed a growing interest in receiving high-quality medical care by the population on a paid basis.

About 30% of all requests for paid admission to the Sverdlovsk Regional Clinical Hospital No. 1 are for three classes of diseases: diseases of the genitourinary system - 10.45%, diseases of the circulatory system - 8.9% and diseases of the nervous system - 8.67 %.

A third of all cases of paid hospitalization are cases of hospitalization in ophthalmology departments (27%), followed by gynecology and ENT departments.

The program of comprehensive diagnostic programs in outpatient settings, implemented in 2020, has shown its effectiveness and demand among patients.

The organization of paid medical services in an institution is a source of additional funding and the realization by citizens of their constitutional rights to health care.

CHAPTER 6. WAYS AND METHODS FOR IMPROVING THE PROVISION OF PAID MEDICAL SERVICES AT DIFFERENT LEVELS OF MEDICAL CARE (AT THE LEVEL OF THE RUSSIAN FEDERATION)

To strengthen their position in the market for paid medical services, public medical institutions use an approach that involves creating a network of integrated business groups with centralized management [191, 270].

This tactic is especially relevant in regions with low demand for paid services, where not only organic growth is planned, but also the integration of existing clinics into these business groups [139].

Multidisciplinary medical institutions are at the forefront in terms of income from services provided through extrabudgetary funds [55].

Patients are attracted to paid medical services in remote areas thanks to the expansion of large regional medical institutions, whose brand is associated with high quality of care and services provided [274].

In order to increase the efficiency of medical care in the regions, it is significant to create individualized conceptual approaches to the organization of paid medical care by medical institutions at the regional level, taking into account the specifics of each locality. In this context, we are putting forward a number of strategic initiatives aimed at improving the quality of health services [303].

The key areas are:

− combining the capabilities of all medical institutions within the regional healthcare system, which implies coordination of actions;

- development of public-private partnership;

- deepening the range of medical services provided by introducing new software solutions that provide a wider range of medical care, including high-tech methods of treatment and diagnostics, as well as improving laboratory tests and methods of functional and radiation diagnostics.

In modern conditions, the question of the feasibility of creating a unified e-health system at the regional level is especially acute. The initiative to create a unified digital platform for the healthcare system is gaining significance for both the public and private sectors, including for supporting medical services in small and remote communities.

On the other hand, the concentration of highly specialized clinical and diagnostic centers in large cities is not always economically justified, given the Russian demographic structure with its numerous small towns and rural areas, where approximately a quarter of residents remain without access to basic medical services. In these conditions, it seems appropriate to develop and implement a three-tier system for the provision of paid medical services at the regional level, which will require an adapted organizational structure and appropriate infrastructure [303].

Initiatives of government authorities and healthcare management to modernize the healthcare system, including the integration of advanced management technologies, were approved and their implementation began [52].

6.1. Systematic analysis of existing problems in the provision of paid medical services at the regional level – solutions

While exploring new methods of financing, such as off-budget activities and expanding the scope of paid services, we encountered some difficulties affecting regional health care [214].

Solving personnel issues

We propose to create new jobs for medical personnel, attracting many doctors from all regions of the Russian Federation to provide medical services through telemedicine.

In order for both personnel and the supply of medical personnel to meet the requirements, it is important to carry out a series of measures aimed at improving personnel policy. Which includes bringing the number and qualifications of health

workers in accordance with the needs of paying patients, as well as attracting highly qualified specialists for this type of service.

We believe that in order to improve the level and quality of paid medical care, it is necessary to introduce a set of measures, including:

- organization of specialized training events to improve the qualifications of administrative staff, doctors and nursing staff, including inviting experts in various medical specialties;

- assessment of the level of professionalism and confirmation of the qualifications of medical workers through certification and attestation procedures;

- organizing educational internships for medical personnel in leading clinics in Russia and abroad.

Details of the financial terms of the provision of paid medical services should be clearly stated in contracts with relevant employees, including:

- establishment of types and forms of payment,

- adjustment of time standards, load and other planned indicators that serve as the basis for calculating tariffs;

- paid services must be provided outside of school hours, which must be paid higher;

- taking into account market factors when planning the cost of admission, deductions for wages.

Development of telemedicine

Telemedicine technologies, actively integrated into everyday medical practice, provide the opportunity to receive consultations from qualified specialists at a distance.

A number of objective factors contribute to the widespread implementation of telemedicine technologies. Among these reasons is the desire to provide residents of remote and rural areas with high-quality medical services, whose need for them is constantly growing.

While medical clinics cannot influence a region's transportation infrastructure, they can facilitate access to their services through telemedicine technologies. The introduction of communication tools such as mobile phones, the Internet and video conferencing, as well as tools for remote health monitoring, such as pulse and blood pressure measurements, can provide a solution to the problem of access to services for many patients.

The most common telemedicine services are:

- remote consultation via the «doctor-doctor» channel;
- remote consultation via the «patient-doctor» channel;
- remote telemonitoring.

This is achieved in several ways, including: optimizing the management of patient flows, providing them with a shorter path from primary care institutions to regional medical centers; in addition, regular training of doctors in primary care clinics through consultations with experts from institutions of regional and federal significance will improve their professionalism in diagnostics and treatment of rare or atypical diseases, as well as create an archival database of consultations and councils for educational purposes.

Development of medical tourism

In the Sverdlovsk region, it is necessary to form a center for the development of the export of medical services at the regional level, which would include various levels of management of the system of export of medical services, including inbound medical tourism, promoting the development of extra-budgetary activities. In order to successfully implement a national project in the field of healthcare, it is important to ensure effective interaction between the regional healthcare authorities and the Governor’s Administration, whose task will be to control and regulate processes related to the national project. In parallel, if we want to attract foreign citizens for treatment within the framework of the concept of medical tourism, we will need to seek cooperation and assistance from representatives of the tourism business.

6.2. Public-private partnership in improving the provision of paid services in healthcare

In light of the fact that medical institutions are increasingly including paid services in their practice that go beyond budgetary funding, it is necessary to take a more detailed look at commercial activities in the context of public-private partnerships (PPP).

Modern medical institutions are faced with the need to modernize and improve the quality of services due to the increased demand for high-quality care and innovative treatment methods. This is pushing for investment from private investors in the healthcare sector.

In the Russian Federation, cooperation activities between public and private structures in this area are regulated by the main document: Federal Law dated July 13, 2015 No. 224-FZ «On public-private partnerships, municipal-private partnerships in the Russian Federation and amendments to certain legislative acts of the Russian Federation» Federation» (hereinafter Federal Law No. 224-FZ), Federal Law dated July 21, 2005 No. 115-FZ «On Concession Agreements» (hereinafter Federal Law No. 115-FZ).

Currently, public-private partnerships represent a key area of the strategic plan to improve the healthcare system in the Russian Federation, which is designed for the period from 2015 to 2030.

Table 36 – Public-private concession projects in healthcare in the Sverdlovsk region

Project	**Implementation stage**	**Public partner**	**Private partner**	**Investment volume (thousand rubles)**
Concession agreement in relation to a healthcare facility - a dialysis center, located at the address: Sverdlovsk region, Berezovsky, st. Shilovskaya, 28.	Pre-investment	Ministry of Investment and Development of the Sverdlovsk Region	LLC UMC	17 980
Concession agreement in relation to healthcare facilities - premises of therapeutic dietary and therapeutic and preventive nutrition points (nutrition units) in the Sverdlovsk region	Competition and signing of an agreement (agreement/contract)	Ministry of Investment and Development of the Sverdlovsk Region	Comfort Plus LLC	150 000
Concession agreement for the healthcare facility «Eye Microsurgery Center» in Yekaterinburg	Investment	Ministry of Health of the Russian Federation	JSC Yekaterinburg Center MNTK «Eye Microsurgery»	2 392 000
Creation of the operating unit of the State Autonomous Institution of Public Institution «Sverdlovsk Regional Clinical Hospital No. 1»	Structuring	Ministry of Health of the Sverdlovsk Region	-	8 400 000

In the Sverdlovsk region, one can observe the successful application of this type of cooperation as a concession agreement, as evidenced by various existing concession projects (table 36). The interaction of the private sector with government agencies, especially within the framework of the compulsory health insurance (CHI) program, is considered one of the most promising PPP models in Russia. An example is institutions of the Sverdlovsk region, such as JSC Ekaterinburg Center MNTK «Eye Microsurgery», the medical center «UMMC-Health», the clinic «New Hospital» and the

Ural Treatment and Rehabilitation Center named after V.V. Tetyukhin, which are striking examples of successful interaction between business and the state.

Participation in such projects gives medical institutions, regardless of their form of ownership, a unique opportunity to improve the level of preventive and treatment services provided. This contributes to their active integration into the implementation of national medical programs, the use of innovative approaches and contributes to their constant clinical and organizational development.

However, due to the existing regulatory chaos in the regulation of public-private partnerships (PPP), personal investors face certain fears and reluctance to participate in concession agreements [9].

We have proposed strategies for their effective use in healthcare. These strategies include assessing projects for their technical feasibility, economic benefit and social impact before entering into agreements. We also took into account the need to introduce forms of cooperation approved by law, both public-private and municipal-private partnerships. These forms must be supported by financial models that demonstrate budgetary feasibility, socio-economic benefits and standard design methodologies.

Initiative to introduce investment components into the structure of compulsory health insurance tariffs. Assessing the potential of unused property of medical institutions of public health institutions for their inclusion in public-private projects. Determining the potential of public-private partnership projects for primary health care requires a comprehensive approach, including an analysis of existing health care infrastructure and an assessment of future health service needs. This is an important step in strategic planning for expanding the network of medical institutions.

Development and implementation of a new quasi-concession form, including the creation of a methodological foundation for forms of PPP that are not based on concession agreements, and subsequent optimization of regional legislation. In healthcare, there are objective differences in the sectoral specifics of the implementation of PPP projects; therefore, the content of codes of ethics may vary depending on the area of PPP implementation. Based on our analysis of the forms and methods of PPP, the most promising direction is the organization of independent departments on the

basis of public health care institutions to provide medical care to the population on a paid basis, where an individual will act as a private partner when concluding a civil contract for the provision of paid medical care [9].

6.3. Strategic mechanisms for the development of paid medical services in public health care institutions

In order to resolve the strategic issues of the development of the State Autonomous Institution of Social Institution «Sverdlovsk Regional Clinical Hospital No. 1» in the provision of paid medical services, in conditions of competition with private medical institutions, we used marketing tools.

The marketing approach is used to determine priority areas for the development of an institution, identify problems that impede this and develop an action plan. We built the Ansoff matrix, assessing options for the development of types of strategies: penetration, market development, product development and diversification strategies, which made it possible to identify promising areas of activity; competitive advantages that were taken into account when creating the Ansoff matrix were highlighted, an action plan was developed that will demonstrate its effectiveness. Also, the assessment of the value chain contributed to determining the position of the institution. Porter's 5 Forces model made it possible to assess the degree of competition in the region and identify opportunities for reducing profitability and reflect the objective state of the institution's competitive environment.

The approach used is universal and suitable for use in any region of the Russian Federation, which can become the basis for the sustainable development of all government healthcare institutions.

Method of strategic alternatives - I. Ansoff matrix

The creation of the concept of «strategic marketing» in the medical field was motivated by the growing expectations of customers who want to receive a more diverse

and high-quality choice of medical services.

When developing marketing strategies for a healthcare facility, the focus must be on studying and understanding the customer base. This study includes both in-depth research of existing clients and research into potential new clients, in addition to exploring opportunities to expand services into a «new market.»

In this regard, it is useful to use a tool such as I. Ansoff's matrix, which is a key element in strategic management. This matrix is intended to determine the strategy for positioning a product on the market and is a field formed by two axes - the horizontal axis - «company products» (divided into «existing» and «new») and the vertical axis - «company markets», which are also divided into «existing» and «new» [7].

I. Ansoff's matrix in our case was used to help public medical institutions find the correct positioning of their services in the market they are striving for. The use of this tool will allow government health institutions to determine development strategies and reduce the degree of uncertainty when solving important problems.

Penetration strategy

(existing market – existing product)

In situations where a medical institution seeks to expand its presence in an already familiar market and increase sales of medical services, it often chooses a penetration strategy. In the field of paid medical services, where competition is high, medical organizations need to make every effort to expand their market share, which leads to the need for a growth strategy.

Existing market: paid medical services in the Sverdlovsk region (Table 36).

Existing product group: paid medical services.

Table 37 – Penetration strategy

Penetration strategy	**Growth prospects in the current market**		
	Possible	**Likely**	**Not possible**
1	**2**	**3**	**4**
Market dynamics	Slowdown	Stagnation/decline	Height
Market size	Average	Small	Big

Table continuation 37

1	2	3	4
Product access level	Average market	Below market average	Above market average
Competition in the market	Low	Average	High
Level of product distribution on the market	Below average market	Average market	Above market average
Brand knowledge level	Above market average	Average market	Below market average
Economies of scale	Yes	Yes	No
Medical service has a competitive advantage in the market	Yes	Yes	No
Investment	Yes	Yes	Yes
Investment size	Medium	Medium	High
Investment return risk level	Low	Low	High

Market development strategy

(existing product – new market)

Within the framework of the matrix created by I. Ansoff, one approach to increasing market share is to enter a new market with medical services already familiar to consumers. For example, a medical institution with a narrow sphere of influence can use this method to begin offering its services in an area where it has not previously been present (table 38).

New market: paid medical services for residents of Russian regions and other countries.

Table 38 – Market development strategy

Market development strategy	**Product on a new market**		
	Possible	**Likely**	**Not possible**
1	**2**	**3**	**4**
Success of current activities	Market average	Above the market average	Below the market average
Level of saturation of the new market with goods	Low	Low	High
Level of entry barriers	High	Medium	No
Dynamics of the new market	Stagnation	Stagnation	Height

Table continuation 38

1	2	3	4
The product has a competitive advantage in the market	Yes	Yes	No
Investment opportunity	No	No	Yes
Investment return risk level	Medium	High	Low

Product development strategy

(new product – existing market)

Healthcare providers with an established reputation and a large client base may experience market saturation with their current healthcare services. To continue to develop, they may need to introduce innovative medical technologies. This is consistent with the concept of I. Ansoff's matrix, which emphasizes the importance of product diversification for clinics that have a significant market share and want to expand through the development of new products (table 39).

Existing market: paid medical services in the Sverdlovsk region.

Table 39 – Product development strategy

Product development strategy	**Expanding the range in the existing market**		
	Possible	**Likely**	**Not possible**
Market dynamics	Growth slowdown	Height	Stagnation/decline
Current market size	High	Medium	Low
Available medical services are outdated and have shortcomings	No	Declining demand trends	Yes
Intra-industry competition	Low	Medium	High
Threat of new players entering	Low	Medium	High
Dependence on innovation and new product offerings	No	Yes	Yes
Level of renewal of the range of medical services and innovations of key competitors	Low	Medium	High
Investment opportunity	Yes	Yes	No

Diversification strategy

(new product – new market)

The diversification strategy in I. Ansoff's matrix is used when the type of medical services is completely new and is being introduced to a new audience of patients and in new territories.

New market: paid medical services for residents of regions of the Russian Federation and other countries on the basis of a regional health care institution (table 40).

Table 40 – Diversification strategy

Diversification strategy	**Is there a need for diversification?**		
	Possible	**Likely**	**Not possible**
Dynamics of current markets	Growth slowdown	Height	Stagnation/decline
Competition in the current market	Medium	Medium	High
Availability of additional free resources for development in the new market	No	No	Yes
Competencies (or the ability to obtain them) to do business in a new market	No	No	Yes
Growth opportunities in current markets and with current products	Yes	Yes	No
Risk level	Yes	Yes	No

Table 41 – Summary of results of strategic alternatives

Strategy	Possibility of implementation	Description	Sources of growth
1	2	3	4
Penetrations	Possible	Established reputation of the brand and personnel. Well-established distribution channels. Guaranteed and predictable flow of consumers. Virtual absence of competition. Minimal development costs and opportunities for additional investments. Minimal risks. High probability of occupying a dominant position in the market. In the future, market development will take 3-5 years.	– improvement of technologies; – improving the quality of services; – increasing the intensification of consumer returns; – increasing the efficiency of processes; – increasing the frequency of sales; – increasing consumer awareness; – attracting new consumers; – new distribution channels; – loyalty programs; – development of services; – the possibility of ousting competitors; – pricing flexibility; – package offers; – information and educational campaigns.
Market development	Likely	Expansion of geographical presence. Formed and potential demand. Virtual absence of competition and supply as such. Significant level of entry barriers (economic and administrative). Problems of additional investments	- uniqueness of the offer; – new distribution channels; – new consumers; - high demand; – price differentiation; – marketing technologies.

Table continuation 41

1	2	3	4
Product development	Possible	Brand recognition. Clear, guaranteed and predictable flow of consumers. Little competition. Possibility of additional investments. Minimal risks. High probability of occupying a dominant position in the market. In the future, market development will take 3-5 years.	– expansion of the range of services; - development of comprehensive packages; – clinical trials and testing; – adding new properties; – creation of products of improved quality; – development of services; – introduction of new profiles and non-analog services; – targeted therapy, unique techniques and rehabilitation; – information and educational campaigns; – marketing technologies; – new distribution channels.
Diversification	Not possible	Formed profile of the institution. The actual impossibility of introducing new areas of activity into the statutory documents. Personnel and financial problems. The actual possibility of implementing exclusively information capabilities and non-medical services.	– expansion of the list of non-medical services provided; – expansion of the range of telemedicine profiles; – development of promising and missing offers on the market

The main vulnerability of the product is high competition from private clinics, pricing policy, and the strength is the quality of the product and the possibility of a comprehensive offer due to a wide product portfolio (table 42).

Table 42 – Assessment of strategic alternatives

Strategic Alternatives	Penetrations	Product development
1	2	3
Suitability	– formed demand for qualified high-tech medical care; – guaranteed and predictable flow of consumers; – wide range of potential consumers; – low level of existing competition; – recession of economic development; – reduction in the activity of potential competitors (refusal to enter the market, investment, etc.); – high entry thresholds for new players; – reduction in funding for the provision of free medical care; – high technological effectiveness of processes and techniques; – population aging; – increased morbidity rates for all nosologies; – raising awareness; – trends towards increasing the level of responsibility of the population's attitude towards health and quality of life; – demand for the complexity of the offer; – lack of alternatives; – tendency to retain personnel in government institutions.	- established reputation; - uniqueness and patentability of technologies; - demand for qualified high-tech medical care; - availability of potential consumers; - lack of technology in state-guaranteed programs for the provision of free medical care; - reduction in funding for the provision of free medical care; - centralization of technologies at the bases of federal centers, priority and quotas; - lack of regional competition; - impossibility of new players entering; - high technological effectiveness of processes and techniques; - development of diagnostic methods and increased detection of diseases; - raising awareness lack of alternatives.

Table continuation 42

1	2	3
Feasibility	– wide range of medical services; – highly qualified and stable staff; – high level of technological equipment; – - unique competencies; – high reputation, recognition and status of the institution; – high quality of services provided; – insignificant amount of investment; – readiness for investment; – he administration's awareness of the need and demand; – high consumer demand	– possibility of implementation; – highly qualified and stable staff; – high level of technological equipment; – - unique competencies; – high reputation, recognition and status of the institution; – high quality of services provided; – insignificant volume and readiness for investment; – consumer demand; – availability of highly qualified highly specialized personnel
Eligibility	– absence of financial risks; – increase in financial results from complementary services (consultative appointments, diagnostics, rehabilitation); – duration of waiting for implementation of all interested parties (administration, staff, consumers, founder, partners)	– absence of financial risks; – increase in financial results from complementary services (consultative appointments, diagnostics, rehabilitation); – encouragement and assistance from management

The high level of the external environment of the business, increased price competition against the backdrop of limited resources determines the need to search for strategic solutions that can reduce the negative impact of these factors. Structural global changes determine the need to review and optimize approaches to organizing the provision of paid surgical care in public health care institutions. In this context, it is relevant to develop a strategy for growth and development in this direction.

Based on the analysis of the external environment and industry, we can highlight the arguments for and against the use of a growth strategy. In favor of choosing an expansion strategy, we can give the following arguments, which indirectly indicate the market growth potential:

• high patient involvement

• capacity of public health institutions

• development of private medicine

However, strong counterarguments are the difficulty of forecasting sales volume, the resource intensity of the strategy and the long-term effect of return on invested resources even under an optimistic scenario.

M. Porter's value chain

In the scientific literature, the value chain refers to the full range of economic activities carried out by enterprises to bring a product or service from the development stage to final use.

In order to analyze M. Porter's value chain, we divided the activities of the State Autonomous Institution SO «SOKB No. 1» into main and auxiliary.

The main activities of medical institutions in the project for opening new departments include: provision of planned paid surgical and ophthalmological care.

In order to solve the problems of the project, with the help of the added value chain it is necessary not only to identify, in addition to the basic characteristics of a quality service, but also to create for the patient a unique value of the offered service.

By analyzing each link in the value chain for the main activities, the following range of competitive advantages can be determined:

– expert status of the institution, highly qualified personnel, the best quality of medical care;

– the presence of an outpatient clinic and the possibility of observing the patient in a medical institution at the preoperative and postoperative stages;

– the possibility of consulting and monitoring concomitant diseases in one institution, maintaining a unified medical information system (hereinafter referred to as MIS) with an electronic medical record of the patient.

The assessment of competitive opportunities based on value chain analysis helps determine the position of the institution. The described uniqueness factors in each type of action when providing elective surgical care allow us to set a course for a value differentiation strategy.

Resources in terms of highly qualified medical personnel, the latest equipment,

access to the patient's medical history in a single MIS, the ability to accompany the patient before and after surgical intervention - all these resources allow the institution to maintain the value of services for a long time and provide a high price level.

Table 43 – Service value chain for the provision of elective surgical care

		A	B	C
Patient Value Components	Informing	The procedure and timing of receiving medical care; preparation for surgical intervention; postoperative observation	About the patient's current health status; about necessary additional examinations; about the need for dispensary observation	Information about all examinations and consultations with specialists in one medical information system
	Measurement		Examinations by medical specialists; diagnostic studies, surgical care	Surveillance and management of comorbidities
	Access to medical service	Appointment with a specialist doctor in a medical institution	Carrying out surgery in a medical facility	Postoperative follow-up at a medical facility
Main activities		before the service is provided	provision of service	after the service has been provided
Medical institution		Marketing and Sales	Hospitalization in a paid elective surgical department	Observation by a specialized specialist in the postoperative period
		Drawing up a surgical treatment plan and preoperative examination	Carrying out surgery	Management of comorbidities
		Passing a preoperative examination	Extract from the department	Registration for clinical observation if necessary
		Electronic patient routing, referral to specialists		referral to sanatorium-resort treatment if necessary

Michael Porter's Five Forces Model

In order to assess the potential risks for the institution in the long term, in order to assess adverse events that may have an impact on the development of paid medical services, Porter's five forces model was used.

M. Porter's five forces model clearly characterizes the state of the external and internal environment of an institution. Despite the clear advantages of competitors in the medical services market due to the uniqueness of a significant number of products, there is a high risk of losing existing customers due to insufficient development of the service component of services. The instability of suppliers increases the risk of customer dissatisfaction, since the service component of public medical institutions largely depends on the level and responsibility of partner organizations, which it does not have the right to independently choose due to the requirements of the existing legislation of the Russian Federation.

Options for strategies to change the situation:

1. It is recommended to adhere to a strategy of strengthening the brand and focusing on a target market for which the quality of medical services, the presence of a high reputation, unique competencies, and expert opinions are important.

2. The company should focus its main efforts on building a high level of service and developing patient awareness of the availability of this type of service.

3. To maintain competitiveness, it is necessary to constantly develop existing and develop new competencies and types of services.

In the context of adapting a strategy to improve the position in the market for paid medical services, emphasis should be placed on the following aspects:

- it is of paramount importance to strengthen the image of the clinic and concentrate efforts on those market segments where a high level of medical services is provided, a respected reputation and unique experience, which are key criteria;

- the second step is the desire to improve the standards of service and develop patient awareness about the availability of this type of service;

- finally, to maintain high competitiveness, the company must continuously improve existing medical services and introduce new ones, strengthening its position in the market;

- minimize the impact of administrative barriers on patients;

- it is recommended to expand the market and packages of medical services;

- development of special package products for any level of consumers.

Conducted an analysis of the socio-economic development of the region, a study of the weaknesses and strengths of the internal environment of the healthcare system;

- analysis of opportunities and threats of the external environment;

- development of scenario development scenarios for State Autonomous Institution SO «SOKB No. 1»;

- development of an action plan for the development of the institution and their implementation;

- determining the directions of internal transformations of the institution and developing development strategies based on the marketing tools used, allowed us to develop the most optimal model for implementing the possibilities of providing paid medical services in a public health care institution in the form of creating independent paid departments of surgical and ophthalmological profiles.

6.4. Project (model) for creating a paid public-private partnership on the terms of an organizational and legal model (using the example of ophthalmological and surgical departments)

Based on the results of a survey conducted among doctors and patients in the Sverdlovsk region, it turned out that the majority of respondents expressed a desire to receive paid medical services in specialized units that operate on the basis of state medical institutions. This preference is confirmed by the dynamics of the indicators of the therapeutic department, which provides paid services within the walls of the Sverdlovsk Regional Clinical Hospital No. 1, especially considering the increase in cases of emergency hospitalizations in multidisciplinary medical institutions that have

been observed in the last two years.

The arguments in favor of implementing the project are:

• Independence from specialized departments;

• Increasing the level of service;

• Dilution of patient flows;

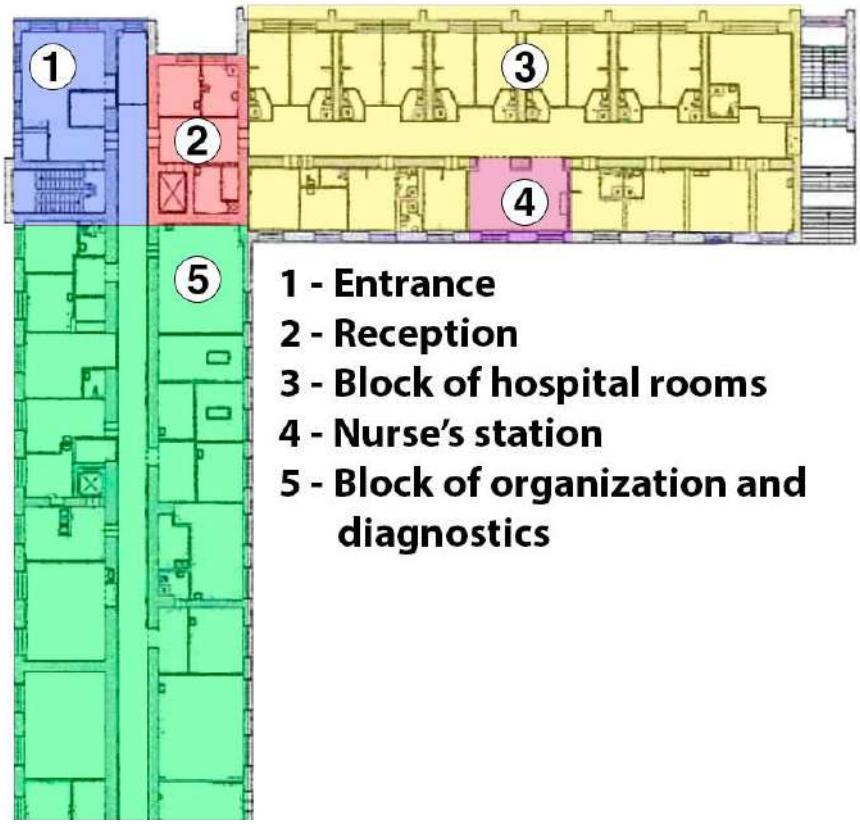
• Potential to increase the level of loyalty;

• Possibility of developing packaged products.

• Increase in sales volumes

• Cost control

• Increasing the material interest of staff



Picture 34 – Proposed plan for organizing the department

6.4.1. Project to create a paid surgical department

Due to the fact that the spread of COVID-19 within medical institutions created obstacles for those patients who wanted to receive medical care in a hospital, especially if they needed surgical intervention on a paid basis, there was a need to develop new

business approaches. They are aimed at organizing specialized paid surgical departments that operate on the basis of a multidisciplinary healthcare institution.

Profile of the department - project: surgical multidisciplinary.

Bed capacity – 20 beds.

Bed day – 1-5 days.

Nosologies: abdominal surgery, gynecology, urology, coloproctology and others.

Equipment of the department in accordance with the equipment standard of the surgical department, approved by Order of the Ministry of Health of the Russian Federation dated November 15, 2012 No. 922n «On approval of the procedure for providing medical care to the adult population in the field of surgery» [11].

By the third year of the project's existence, according to our forecasts, operating profit is expected to grow by 29%. This will happen against the background of a stable level of wages, depreciation of capital costs and depreciation of fixed assets. At the same time, it is expected that the institution’s income will increase by approximately 31 million rubles per year by the specified period (Table 43) [10,11].

Table 44 – Planned financial indicators of the department

P&L	2023	2024	2025
Revenue	81 301 500	98 645 820,00	112 738 080,00
Cost of sales *	38 625 000	46 865 000,00	53 560 000,00
Wages and salaries+Payrol taxes	13 537 800	13 537 800,00	13 537 800,00
Other expenses**	5 691 105	6 905 207,40	7 891 665,60
Depreciation CAPEX	7 980 000	7 980 000,00	7 980 000,00
Depreciation OPEX	3 028 167	3 028 167	3 028 167
EBITDA, net	23 447 595	31 337 812	37 748 614
EBITDA,%	29%	32%	33%
EBIT,net	12 439 428	28 309 646	34 720 448
EBIT,%	15%	29%	31%

Note. * costs of surgical intervention, consumables, medicines, ** costs for general household needs, detergents, disinfectants, utilities, hygiene items and products

Within 3 years of operation, the volume of financial transactions, receipts (inflow) and payments (outflow) will reach 33%. In the second year of the branch's

activity, a return on investment of up to 32% is predicted. While capital inflows by the end of the three-year period will increase by 31 million rubles, expenses will decrease by 15 million rubles, as shown in table 45.

Table 45 – Set of cash receipts (inflows) and payments (outflows) distributed over time

CF	2023	2024	2025
CF in	81 301 500,0	98 645 820,0	112 738 080,0
CF out	90 878 405,0	67 308 007,4	74 989 465,6
NCF, net	- 9 576 905,0	31 337 812,6	37 748 614,4
NCF, %	-12%	32%	33%

The return on investment ratio for 3 years will be 229%. Operating profit for 3 years – 75.46 million rubles. The net present value of the project is 33.02 million rubles (table 46).

Table 46 – Return on investment ratio

ROI (3 года)	229%
IC	33 024 500,0
EBIT (3 года)	75 469 522

The net present value of the project is 50.25 million rubles, with a discount rate (r) of 10%. The net cash flow in the first year of operation of the department will be 23.44 million rubles, by the 3rd year of operation it will increase by 60%. The total discounted cash flow will be 83.28 million rubles (table 47).

Table 47 – Net present value of the project

Period (years)	IC (initial project capital)	CF in (incoming cash flow)	CF out (outgoing cash flow)	NCF (Net cash flow)	Discounted NCF (Net cash flow)	Discounted NCF with cumulative total
0	33 024 500	-	-	-	-	0
1	-	81 301 500	57853 905	23 447 595	21102 836	21 102 836
2	-	98 645 820	67308 007	31 337 813	28204 031	49 306 867
3	-	112 738 080	74989 466	37 748 614	33973 753	83 280 620

The internal rate of return will be 68%, which indicates the high profitability of the project (table 48).

Table 48 – Internal rate of return

Period (years)	IC (initial project capital)	CF in (incoming cash flow)	CF out (outgoing cash flow)	NCF (Net cash flow)
0	33 024 500	-	-	- 33 024 500
1	-	81 301 500	57 853 905	23 447 595
2	-	98 645 820	67 308 007	31 337 813
3	-	112 738 080	74 989 466	37 748 614

The payback period of the project is 2 years. The project will begin to make a profit in the second year of its existence (table 49).

Table 49 – Payback period of investments

Period (years)	IC (initial project capital)	NCF (Net cash flow) with cumulative total
0	33 024 500	
1	-	23 447 595
2	-	54 785 408
3	-	92 534 022

Thus, based on the calculations presented, it is assumed that the commissioning of the project will generate income in the amount of 92.534 million rubles over a three-year period, expecting a full return on investment in two years. In addition, the project will not affect planned hospitalizations in existing surgical departments, which will be available to patients in accordance with their choice and subject to the availability of beds [11].

6.4.2. Project to create a paid ophthalmology department

The ophthalmological service is one of the actively developing areas of healthcare, especially when providing paid medical services. This area is noted as the

most highly profitable compared to other medical specialties. Today, the problem is that government healthcare institutions cannot fully provide the population with high-tech medical care given the growing demand of patients and the high prevalence of eye diseases. Reports from FFSN No. 12 and Rosstat show that visual impairments occupy the fifth position in frequency among fourteen groups of diseases in the structure of overall morbidity.

These facts make ophthalmology highly attractive for the provision of paid medical services.

Table 50 – M orbidity rates of the organ of vision in the structure of general and primary morbidity for 2017-2021, cases per 1000 population

Indicators of morbidity of the organ of vision	**2017**	**2018**	**2019**	**2020**	**2021**
General morbidity	105	103,4	111,8	88,1	94,8
Primary incidence	35,6	32,7	32,2	28,4	30,4

In the structure of financial indicators, the ophthalmological service at the Sverdlovsk Regional Clinical Hospital No. 1 generates 17% of the income from the total volume of surgical interventions performed within the framework of compulsory health insurance, and 22% from operations performed on a paid basis. In addition, ophthalmological operations account for 31% of all operations performed on a paid basis in the surgical departments of the hospital. At the same time, this type of medical care demonstrates a profitability of 30.1%.

Over the past 5 years, there has been an increase in the number of private medical institutions providing ophthalmological care to the population on a paid basis. Patients strive to receive medical care for a fee in the hope of a high level of service, which includes high-quality medical care, quick access to medical services without queues, attentive attitude from the staff, the use of modern medical equipment and a variety of procedures offered. The population is willing to bear financial costs in the hope of receiving, according to their own subjective expectations, better medical care [10].

It was these factors that led to the development of a business project to create a paid ophthalmology department on the basis of a multidisciplinary medical institution.

Profile of the department - project: ophthalmology.

Bed capacity – 20 beds.

Bed-day – 1-3 days.

Equipping the department in accordance with the equipment standard for the ophthalmology department, approved by the «Procedure for providing routine medical care to the population of the Russian Federation for diseases of the eye, its adnexal apparatus and orbit, approved by order of the Ministry of Health and Social Development of the Russian Federation dated February 27, 2010 N 115n.»

By the third year of the project's existence, according to our forecasts, operating profit is expected to grow by 29%. This will happen against the background of a stable level of wages, depreciation of capital costs and depreciation of fixed assets. At the same time, it is expected that the institution’s income will increase by approximately 31 million rubles per year by the specified period (table 51) [10, 11].

Table 51 – Planned financial indicators of the department

P&L	2023	2024	2025
Revenue	78 189 375,0	94 869 775,0	108 422 600,0
Cost of sales *	34 403 325,0	41 742 701,0	47 705 944,0
Wages and salaries+ Payrol taxes (FOT)	13 989 060,0	13 989 060,0	13 989 060,0
Other expenses**	5 473 256,2	6 640 884,2	7 589 582,0
Depreciation CAPEX (capital cost depreciation)	1 196 250,0	1 196 250,0	1 196 250,0
Depreciation OPEX (depreciation of fixed assets)	4 781 220,0	4 781 220,0	4 781 220,0
EBITDA, net	24 323 733,7	32 497 129,7	39 138 014,0
EBITDA, %	31%	34%	36%
EBIT,net (Operating profit)	18 346 263,7	27 715 909,7	34 356 794,0
EBIT,% (Operating profit)	23%	29%	32%

Note. * costs of surgical intervention, consumables, medicines, ** costs for general household needs, detergents, disinfectants, utilities, hygiene items and products

The totality of receipts (inflows) and payments (outflows) of funds distributed over time by the 3rd year of operation will be 36%, payback by the second year of operation up to 34%. Incoming cash flow increases by 30 million rubles by the third year. Outgoing cash flow by the third year decreases by 14 million rubles (table 52).

Table 52 – Set of cash receipts (inflows) and payments (outflows) distributed over time

CF	2023	2024	2025
CF in (incoming cash flow)	78 189 375,0	94 869 775,0	108 422 600,0
CF out (outgoing cash flow)	83 752 991,2	62 372 645,2	69 284 586,0
NCF, net (Net cash flow)	- 5 563 616,2	32 497 129,7	39 138 014,00
NCF, % (Net cash flow)	-7%	34%	36%

The return on investment ratio for 3 years will be 269%. Operating profit for 3 years – 80.42 million rubles. The net present value of the project is 29.12 million rubles (table 53).

Table 53 – Return on investment ratio

ROI (3 years)	269%
IC	29 887 350,00
EBIT (3 years)	80 418 968

The net present value of the project is 55.01 million rubles, with a discount rate (r) of 10%. The net cash flow in the first year of operation of the department will be 24.13 million rubles, by the 3rd year of operation it will increase by 90%. The total discounted cash flow will be 84.9 million rubles (table 54).

Table 54 – Net present value of the project

Period (years)	IC (initial project capital)	CF in (incoming cash flow)	CF out (outgoing cash flow)	NCF (Net cash flow)	Discounted NCF (Net cash flow)	Discounted NCF with cumulative total
0	29 887 350	-	-	-	-	0
1	-	78189375	51637316	26552059	24138235	24138235
2	-	94869775	59668944	35200831	29091596	53229831
3	-	108422600	66194642	42227958	31726490	84956321

The internal rate of return will be 90%, which indicates the high profitability of the project (table 55).

Table 55 – Internal rate of return

Period (years)	IC (initial project capital)	CF in (incoming cash flow)	CF out (outgoing cash flow)	NCF (Net cash flow)
0	29 887 350	-	-	- 29 887 350
1	-	78 189 375	51 637 316	26 552 059
2	-	94 869 775	59 668 944	35 200 831
3	-	108 422 600	66 194 642	42 227 958

The payback period of the project is 2 years. The project will begin to make a profit in the second year of its existence (table 56).

Table 56 – Payback period of investments

Period (years)	IC (initial project capital)	Cumulative NCF (net cash flow) with cumulative total
0	29 887 350,00	-
1	-	26 552 059
2	-	61 752 890
3	-	103 980 848

Thus, the implementation of this project will make it possible to generate income in the amount of 92.534 million rubles over a period of 3 years, with full payback in 2 years. At the same time, planned hospitalization in existing ophthalmology departments will remain, at the request of patients and the availability of beds [10].

SUMMARY

Recently, Russia has been actively striving to improve the quality and availability of medical services; the state healthcare system is still experiencing difficulties in fulfilling its tasks. There is insufficient medical care for the population, as well as significant personal costs for health compared to the income of citizens. This is accompanied by a low government contribution to healthcare financing and, as a result, health indicators and life expectancy in the country lag behind world standards.

In the course of the study, the expansion of extra-budgetary sources of funding in public health care institutions will make it possible to resolve issues of

personnel shortages, using competent routing of patients, a unified regional medical information system, which will eliminate the duplication of medical services, as well as the introduction of telemedicine services.

Using strategic management methods, namely M. Porter's value chain, it has been proven that the key links of value in the main activities can be determined by the following series of competitive advantages: expert status of the institution, highly qualified personnel, the best quality of medical care; the presence of a closed cycle of monitoring the patient at the outpatient and inpatient stages.

"M. Porter's Five Forces Model" clearly characterizes the state of the external and internal environment of an institution. In this context, it is relevant to develop a strategy for growth and development in this direction.

However, strong counterarguments are the difficulty of forecasting sales volume, the resource intensity of the strategy and the long-term effect of return on invested resources even under an optimistic scenario.

Development and implementation of a new quasi-concession form, including the creation of a methodological foundation for forms of PPP that are not based on concession agreements, and subsequent optimization of regional legislation. In healthcare, there are objective differences in the sectoral specifics of the implementation of PPP projects; therefore, the content of codes of ethics may vary depending on the area of PPP implementation. Based on our analysis of the forms and methods of PPP, the most promising direction is the organization of independent departments on the basis of public health care institutions to provide medical care to the population on a paid basis, where an individual will act as a private partner when concluding a civil contract for the provision of paid medical care.

CHAPTER 7. PRINCIPLES OF FORMATION AND RESULTS OF THE RATING OF MEDICAL INSTITUTIONS OF THE SVERDLOVSK REGION ACCORDING TO THE MAIN INDICATORS OF OPERATIONAL EFFICIENCY

7.1. Indicators of the healthcare system of the Sverdlovsk region by administrative districts

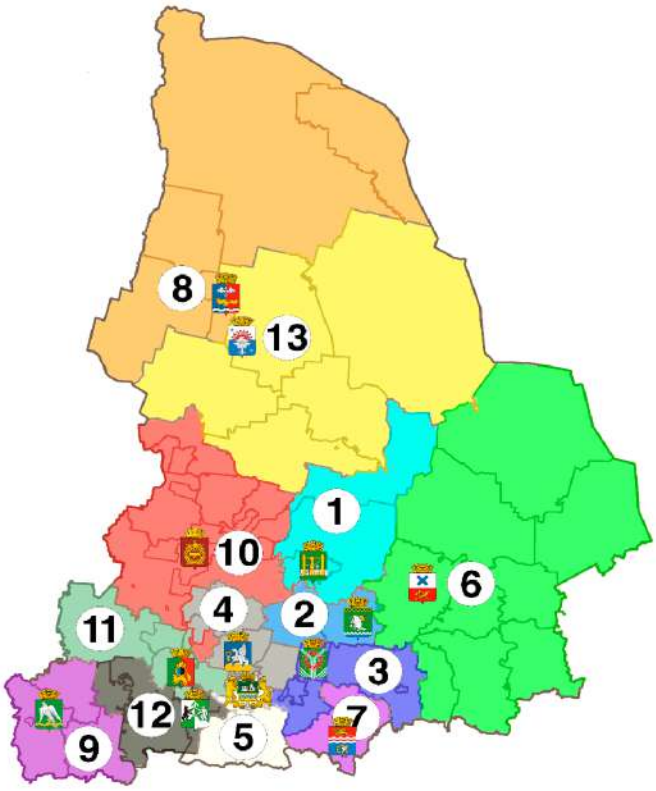
Healthcare executives are deeply interested in what factors drive patients' decisions about paid healthcare services. Understanding and the ability to manage this data allows you to optimize the service, increase the efficiency of a medical institution, which will ultimately increase income from extra-budgetary activities, and attract new clients, while reducing advertising costs. In an effort to be competitive in the market for paid medical services, healthcare institutions offer medical services that best satisfy the wishes of patients.

As a rule, information about the quality of the medicine offered remains beyond the understanding of most patients. When faced with the need to choose a medical facility, their decisions are often based on recommendations from friends, availability of services, and speed of care. In this regard, we conducted an analysis designed to identify the relationship between such parameters as: medical staffing levels, levels of general and primary morbidity, availability of hospital beds, distance from the regional capital, rating of public medical institutions and use of paid medical services in the State Autonomous Institution SO «SOKB No. 1» among the population of administrative districts of the Sverdlovsk region.

In total, 164 medical institutions were included in the empirical study in the region, covering six administrative regions.

In order to ensure accessibility and quality of medical care to the population and reduce mortality from major causes, a three-level system of providing medical care to the population of the Sverdlovsk region was adopted in 2013. As part of this system, 19

intermunicipal centers were created in the region and in the city of Yekaterinburg. Intermunicipal medical centers (hereinafter referred to as IMCs) organized in various multidisciplinary state medical institutions of the Sverdlovsk region are designed to ensure the availability of medical care to the population, compliance with routing, rational use of material, technical and human resources of medical organizations of the Sverdlovsk region.



Picture 33 – Territorial attachment of districts of the Sverdlovsk region to intermunicipal medical centers

Note. 1 – Alapaevsk, 2 – Artemovsky, 3 – Asbest, 4 – Verkhnyaya Pyshma, 5 – Yekaterinburg, 6 – Irbit, 7 – Kamensk - Uralsky, 8 – Krasnoturinsk, 9 – Krasnoufimsk, 10 – Nizhny Tagil, 11 – Pervouralsk, 12 – Revda, 13 – Serov

The most distant from the capital of the Sverdlovsk region, Yekaterinburg, is the Northern Administrative District, the distance to the administrative center is 326 km. The closest is the Western Administrative District. The distance from Yekaterinburg to the administrative center of Pervouralsk is 40 km. The largest population is in the

Gornozavodsky administrative district (665,975 people) and the Southern administrative district (640,646 people) (table 57).

Table 57 – Comparative characteristics of the administrative districts of the Sverdlovsk region

Administrative district	Administrative center	Distance to Ekaterinburg	Population
Eastern administrative district	Irbit	174 km.	467 931
Gornozavodsk administrative district	Nizhny Tagil	126 km.	665 975
Ekaterinburg administrative district	Yekaterinburg city	-	1 526 384
Western administrative district	Pervouralsk	40 km.	579 549
Northern administrative district	Krasnoturinsk	326 km.	460 196
Southern administrative district	Kamensk - Uralsky	93 km.	640 646

The number of medical personnel in the administrative districts of the Sverdlovsk region ranges from 55% in the Gornozavodsky district in 2017 to 72% in Yekaterinburg. In the dynamics of 2017-2021, the largest decrease in the number of medical personnel occurred in the Eastern Administrative District (-13%). The lowest level of medical staffing in 2021 was noted in the Northern Administrative District (48%) (table 58).

Table 58 – Staffing of doctors by individuals in municipalities, 2017-2021, %

Municipalities	2017	2018	2019	2020	2021	Growth rate, %*
Southern District	64	65	62	57	58	-6
Mining District	55	56	52	48	50	-5
Northern District	57	55	53	50	48	-9
Western District	61	61	61	58	57	-4
Eastern District	62	62	55	49	49	-13
Municipal municipality of Ekaterinburg	72	73	72	66	68	-4
Regional total	63	63	61	56	61	-2
Sverdlovsk region total	65	66	64	60	61	-4

Note. * In 2021 compared to 2017 ($p<0.05$)

When assessing changes in overall morbidity rates in the administrative districts of the Sverdlovsk region, the largest increase in the indicator was noted in the Gornozavodsky UO (+26.73%), the smallest in the Southern UO (22.45%). A decrease in overall morbidity rates was noted in the Western Administrative District (-2.93%) and in Yekaterinburg (-3.07%) (table 59).

Table 59 – Indicators of general morbidity of the population by administrative districts of the Sverdlovsk region, 2017-2021

Administrative districts	2017	2018	2019	2020	2021	Rate of increase *, %
Eastern administrative district	1336,4	1365	1439,9	1421,8	1648,9	23,4
Gornozavodsk administrative district	1424	1489,8	1602,8	1536,8	1804,7	26,7
Ekaterinburg administrative district	1507,6	1492,6	1505,1	1384,8	1461,3	-3,1
Western administrative district	1848,5	1549	1677,3	1668,1	1794,4	-2,9
Northern administrative district	1224	1243	1332,8	1323,4	1547,2	26,4
Southern administrative district	1424,2	1455,7	1564,8	1479,5	1743,9	22,5

When assessing changes in primary morbidity indicators in the administrative districts of the Sverdlovsk region, the largest increase in the indicator was noted in the Gornozavodsky UO (+41.78%), the smallest in the Western UO (+3.66%). No decrease in primary incidence rates was registered in any of the administrative districts (table 60).

Table 60 – Primary morbidity indicators for administrative districts of the Sverdlovsk region, 2017-2021

Administrative districts	2017	2018	2019	2020	2021	Rate of increase*, %
1	**2**	**3**	**4**	**5**	**6**	**7**
Eastern administrative district	703,6	696,7	773,6	758,3	931,3	32,3
Gornozavodsk administrative district	771,1	797	865,2	873,4	1093,3	41,7

Table continuation 60

Ekaterinburg administrative district	798,5	764,7	804	827,9	922,2	15,4
Western administrative district	945,9	810,9	858	866,9	980,5	3,6
Northern administrative district	635,9	626,1	699	715,1	881,1	38,5
Southern administrative district	746,6	754,8	815,5	819	1012,8	35,6

During the period 2017-2021. the reduction in bed capacity varies from 0.8% in the Southern Administrative District to 2.3% in the Gornozavodsky UO. The reduction in bed capacity in the remaining administrative districts of the Sverdlovsk region is commensurate with the general trend in the region. However, in the Northern Administrative District there was a slight increase in the number of beds - by 0.2%. (table 61).

Table 61 – Number of beds at the end of the year in municipalities (form 30, table 3100)

Municipalities	**2017**	**2018**	**2019**	**2020**	**2021**	**Growth rate, %***
Southern District	2669	2664	2658	2594	2647	-0,8
Mining District	2764	2749	2736	2723	2701	-2,2
Northern District	2181	2166	2149	2158	2186	0,2
Western District	2659	2520	2607	2570	2623	-1,3
Eastern District	2174	2144	2139	2118	2153	-0,9
Municipal municipalities of Yekaterinburg without private ones	6312	6200	6243	6210	6210	-1,6
Sverdlovsk region total	30894	30546	30140	29706	29994	-2,9

Note. * In 2021 compared to 2017 ($p<0.05$)

7.2. Rating of medical institutions of the Sverdlovsk region

Digitalization is making fundamental adjustments to the process of searching for data, opening the door to new sources and expanding the range of available opportunities. This influences how health care services are provided and what factors become decisive in consumer choice.

In addition, attention is drawn to the data that a significant proportion of commercial medicine patients, namely 39%, actively use the Internet to collect information about medical institutions. They explore responses about medical staff and clinics not only on official pages, but also on social networks, as well as on platforms specializing in reviews and reviews.

As part of our research, we analyzed the aggregate ranking of public health institutions in the Sverdlovsk region by administrative district based on data obtained from the website prodoctorov.ru to obtain a rank for each district.

The ProDoctorov.ru portal, which covers the whole of Russia and provides assistance in choosing medical services or a doctor based on patient reviews and doctors' qualifications, allowed us to compile a rating table of medical institutions in the administrative districts of the Sverdlovsk region. In addition, this site has proven useful in synergy with the official pages of medical institutions, providing a more complete picture of their employees and services.

A study of the rating of public medical institutions showed that the best health care institutions, according to patients, are located in Yekaterinburg, the Southern and Western administrative districts. Thus, the rating of medical institutions in Yekaterinburg was 3.6, in the Southern Administrative District 1.6 and in the Western Administrative District 1.5.

This indicates the availability of qualified medical specialists and high-quality provision of medical services of various profiles, which leads to productive results in the provision of medical care to the population, taking into account quality and accessibility.

Medical institutions in the Eastern Administrative District faced serious problems, which affected their rating, which reached a critical level of 0.7. There is an acute shortage of qualified medical workers, which negatively affects various indicators of the quality of medical care provided to the population. This, in turn, leads to unsatisfactory patient outcomes in terms of quality and accessibility.

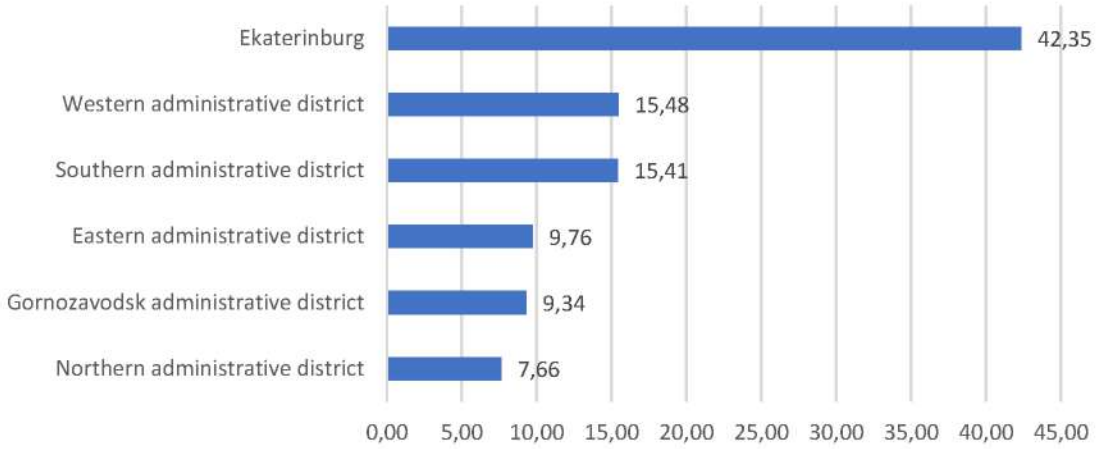
At the same time, the distribution of the number of private medical institutions in the districts is noteworthy. Also, as well as the high level of the rating, the largest

number of private medical institutions is noted in Yekaterinburg (892), in second place is the Southern Administrative District (167), in third place is the Western Administrative District (149). The smallest number of private medical institutions is in the Eastern Administrative District (29). All these data are comparable with the answers of both patients and doctors to the question about the need to develop paid medical services (table 62).

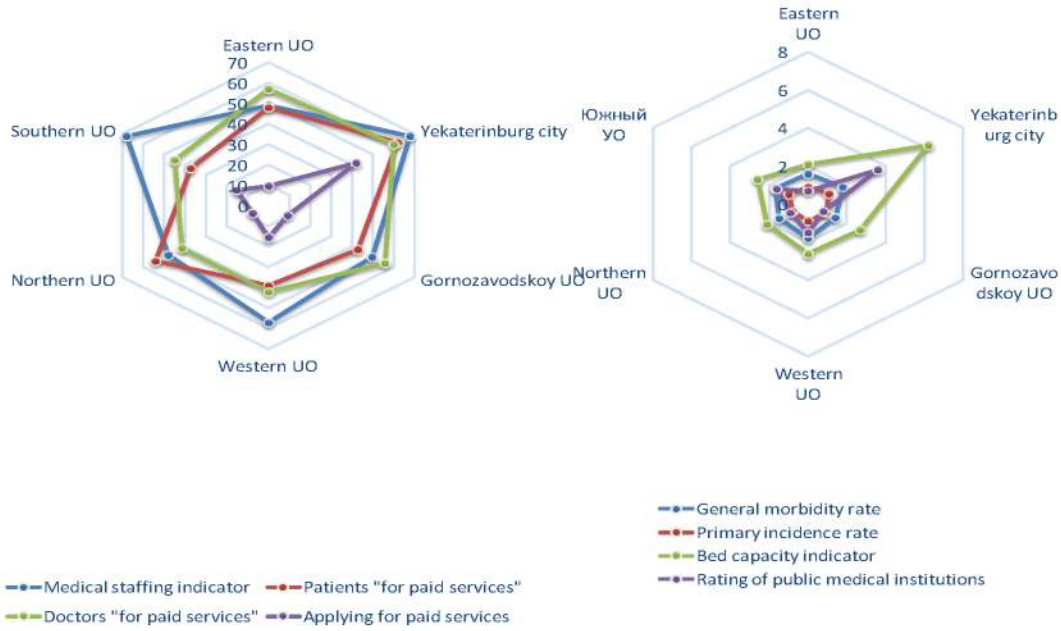
Table 62 – Indicators of administrative districts of the Sverdlovsk region

Administrative district	Rating state institutions	Number of private medical institutions, abs.	Patients for paid services, %	Doctors for paid services, %
Eastern District	0,7	29	48%	57%
Mining District	0,8	106	43%	56%
Municipal municipality of Ekaterinburg	3,6	892	62%	60,2%
Western District	1,5	149	39%	42%
Northern District	0,9	43	54%	41,5%
Southern District	1,6	167	37%	45%

In a detailed analysis of the portrait of patients who applied for a paid appointment at the Sverdlovsk Regional Clinical Hospital No. 1, we assessed the demand for paid medical services of the largest public health care institution in the Sverdlovsk region, depending on the patient's place of residence in the region. Thus, most of the patients who applied live in the Western Administrative District (15.5%), patients from the Northern Administrative District are less likely to apply, 7.7% (Picture 34).



Picture 34 – The number of residents of administrative districts of the Sverdlovsk region who seek paid medical care at the State Autonomous Institution of Social Institution «SOKB No. 1», %



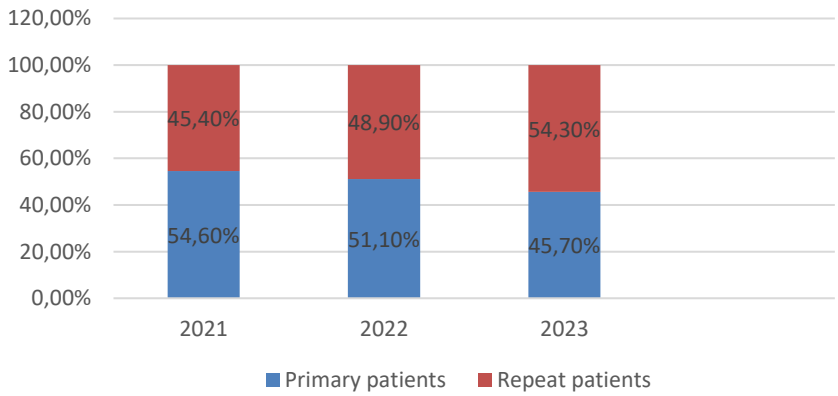
Picture 35 – Indicators for administrative districts of the Sverdlovsk region

7.3. Patient loyalty index for paid appointments in GAUZ SO "SOKB No. 1"

Currently, in the context of the developing sector of paid medical services and increasing competition, it is not classical marketing that takes advantage, but marketing based on customer relationships. The value of retaining patients and building patient

loyalty is becoming increasingly important. This change in priorities can be explained by the desire of most medical organizations not only to attract new patients, but also to retain current ones, building long-term relationships with them. The realization that caring for existing patients may be a more cost-effective strategy is leading to reduced budgets for marketing campaigns to attract new customers. Moreover, satisfied patients often become a source of referrals, which helps to expand the customer base.

Without a stable flow of both new and regular clients who came through recommendations, achieving the expected economic return becomes impossible. Our analysis revealed that the share of new patients in 2021 reached 54.6% of the total number of admitted patients, but by 2023 this Picture decreased by 8.9%. At the same time, the number of repeat patients (two or more times a year) increased by 8.9% over the same three-year period. We believe that such shifts are the result of the implementation and effective promotion of integrated check up programs (Picture 38).



Picture 36 – Patient loyalty indicators of the State Autonomous Healthcare Institution SO «SOKB No. 1», 2021-2023, %

In the period from 2021 to 2023, patients who applied for the first time most often, in 57.8% of cases, visited specialist doctors. A minority, 16.4%, sought laboratory tests, while visits to the radiology and functional diagnostics departments accounted for 11.5% each. In the category of repeated visits during the year, the most popular specialists were obstetricians-gynecologists (30%), pulmonologists and urologists (29% each), followed by general practitioners (27%) and hematologists (

25%). Interestingly, the proportion of repeat visits to these specialists remained stable over three years.

Accordingly, without the formation of a capacious patient base consisting of repeat loyal patients, it is impossible to achieve stable development and the expected favorable economic results in a medical institution.

SUMMARY

Analysis of various aspects of healthcare by administrative district helps to monitor the situation in individual areas of the region and clearly reflects the level of medical care in the region. This is necessary to assess the effectiveness of policies in the health system, focusing on those areas where unfavorable trends are emerging.

The responsibility of healthcare system leaders includes the desire to create equal conditions for the development of medical institutions in all districts of the region. This is aimed at guaranteeing equal conditions for receiving medical care on the territory of Russia.

All of the above served as a motive for the formation and implementation of a regional model for organizing the provision of paid medical care in public health care institutions.

CHAPTER 8. OPTIMAL ORGANIZATIONAL AND LEGAL MODEL FOR ORGANIZING THE PROVISION OF PAID MEDICAL SERVICES IN PUBLIC HEALTH INSTITUTIONS AT THE REGIONAL LEVEL

8.1.Ways and methods of improving the provision of paid medical services

A survey of medical consumers, doctors and health care experts confirmed that primary health care plays an important role in the development of paid medical services.

In order to develop paid medical services in the region and improve their quality, as well as to more effectively develop new markets, expand the client base and increase competitiveness, we propose to introduce a new organizational model for the provision of paid medical services in the region. This model is based on a three-tier system of health care delivery.

The capabilities of the three-level model can be used for various tasks in the field of socio-economic planning at all levels of the provision of paid medical services. The concept of a three-level model is used in solving regional-level issues related to the analysis of the system of region-forming socio-economic relations: analysis of the healthcare system, public healthcare institutions, private clinics in each locality of the region [306].

Management in this model must comply with the management principles formulated by Max Weber at the beginning of the twentieth century (linear-functional structure).

The structure model is a network in which a tertiary level medical clinic offers a full range of medical services, including specialist consultations, a full range of diagnostic tests, inpatient medical care, as well as high-tech medical care. Tier 1 and tier 2 healthcare providers in the network offer a more limited range of services. This model applies the principles of a hierarchy of management levels, where each lower level is controlled and subordinate to a higher one, as well as the principle of matching the powers and responsibilities of management employees with their job responsibilities.

The organization of a 2nd level medical institution (intermunicipal medical center) is advisable when large geographical distances between clinics of the first and third levels, as well as high workload of a 3rd level clinic. The specific method of organization depends on the range of services provided and the size of the market served.

A level 3 clinic concentrates medical services that require the use of the latest and most expensive high technologies, expert opinion and the implementation of all management functions. It provides a full range of paid medical services: consultations with specialists, telemedicine consultations with both doctors of level 2 and 1 clinics and with patients, diagnostic tests (laboratory, MRI, CT, functional and ultrasound diagnostics, including remote), inpatient medical care (therapeutic, surgical, high-tech).

The level 2 clinic (intermunicipal center) provides various medical services. Here you can receive consultations with specialists, as well as telemedicine consultations with doctors of levels 1 and 3, both in the «doctor-doctor» format and in the «doctor-patient» format. In addition, the clinic conducts various diagnostic tests, including laboratory, MRI, CT, functional and ultrasound diagnostics. It also provides medical care in a hospital setting.

The level 1 clinic provides basic medical services at the level of primary health care. This makes it possible to satisfy most of the population’s needs for medical services at the «close to home» level. The clinic provides consultations with specialists and telemedicine consultations with doctors of levels 2 and 3, both in the «doctor-doctor» format and in the «doctor-patient» format. Various diagnostic tests are also carried out here, including laboratory, functional and ultrasound diagnostics.

The Level 3 clinic is a data warehouse and processes primary medical records of patients throughout the entire period of their observation. Thanks to the centralized storage of patient medical data, it becomes possible to obtain information about the volumes and flows of patients, plan the required number of medical personnel, stocks of consumables, as well as forecast attendance and revenue volumes for future periods. This is an invaluable resource for planning and helps to organize the flow of patients into clinics at various levels.

Thanks to optimal patient routing, level 1 and level 2 clinics serve as a patient acquisition stage for level 3 clinics. The 3rd level clinic provides all types of medical care, mainly specialized and high-tech services, on a paid basis. However, a 3rd order clinic can independently select patients for inpatient medical care through the outpatient department.

The effectiveness of medical services largely depends on the integration of modern medical technologies and the professionalism of specialists in specialized institutions of the highest level, as well as on a competent system for routing patients who need high-tech services.

In the Russian Federation, a key aspect of ensuring high standards in the healthcare sector is oversight of the quality and safety of medical services, which is carried out through three main forms of control: at the state, departmental and internal levels. These types of controls are becoming key to maintaining the effectiveness of the Russian healthcare system.

Mechanisms aimed at assessing the compliance of the actions of medical institutions with established government requirements and criteria for the quality of medical services provided are key tools for ensuring safety and quality standards in the healthcare sector. A separate issue is internal control, which is carried out by medical institutions themselves and differs in essence from state supervision. At the same time, state bodies and federal services involved in the implementation of these procedures mainly focus on the functions of control and supervision over the activities of medical organizations.

The implementation of a quality control system in medical institutions performs several key functions. First of all, it is aimed at minimizing threats to the life and health of patients, including measures to prevent risks, as well as protecting the rights of patients in the field of healthcare. Also, the system ensures that medical care complies with established standards and regulations provided at the level of each medical institution. Finally, it allows the quality of care provided to be assessed, ensuring that it meets pre-defined quality criteria.

Its goals include not only increasing patient satisfaction and standardizing care processes, but also introducing the most productive and safe practices in the medical field. The system should pay special attention to reducing unnecessary and ineffective procedures, preventing violations, and improving the organizational aspects of medical care. As a result, the main goal of introducing such a system is to create conditions for safe and high-quality care for patients and the work of medical staff, which will ultimately lead to improved results of medical care provided.

Systematization of medical services in a three-tier model not only facilitates the availability of services for the population, but also leads to an increase in the number of paid medical services at the regional level. This, in turn, reduces the duplication of ineffective and expensive procedures, thereby increasing the return on investment and the efficiency of resource use. A centralized approach to decision making enables healthcare organizations to respond more quickly to the ever-changing healthcare environment, taking into account political, economic, social and technological changes. This significantly accelerates innovation processes within the health system, facilitating more effective implementation and application of change [306].

Table 63 – Types of organization and provision of paid services in public health care institutions

Option No. 1	**Option No. 2**
The provision of medical services is carried out in specialized units, which have separate staff working both full-time and part-time. These branches have individual tangible assets.	Within existing divisions, using their main material assets. Full-time employees provide paid medical services during regular working hours.
Option No. 3	
Mixed approach using options No. 1 and No. 2.	

Each of the available options has its own advantages, disadvantages and features. But the choice of the most optimal one depends on various factors, such as territorial location, level of medical institution, organizational structure of the organization, personnel, material resources and others.

In the process of planning the organization of paid medical services for clinics at each level, the advantages and disadvantages of each of the proposed options should be taken into account.

The first option involves using free space to provide paid medical services. However, its implementation requires significant financial costs in the starting period. However, this approach will allow all resources to be fully allocated to separate accounting and create optimal conditions for patients. This option is more realistic for level 3 clinics, since they have all the necessary resources and types of medical care.

Investment of additional resources, including personnel and material resources, is not required to organize Option 2 of paid medical services. Therefore, in this option, you can limit yourself to a narrow range of medical services, which can be carried out in a 1st level clinic.

8.2. Model for the provision of paid medical services in public health care institutions

The implementation of our proposed model includes the following sequential stages (Picture 37):

Stage 1 - a patient who wishes to receive a paid medical service in a public hospital institution applies to a single regional contact - a center that consolidates information on all health care institutions in the region. At the contact center stage, an acquaintance with the patient occurs, the patient's request is determined based on the profile of his complaints, or the desire to see a doctor. The specialist offers the patient a choice of: face-to-face consultation or telemedicine consultation; further – the choice of a medical institution, depending on the patient's wishes, distance from the place of residence and waiting time for an appointment.

Stage 2 – face-to-face appointment with a doctor or telemedicine consultation at a level 1, 2 or 3 clinic. As a result of this stage, the patient is diagnosed, a plan and scope of diagnostic studies are developed. The volume of diagnostic studies, depending on the

degree of complexity and labor intensity, technical capabilities, can be carried out either in a clinic of 1, or 2, or 3 levels.

Stage 3 – the patient contacts the clinic's registration and dispatch department for the purpose of registering for diagnostic tests, consultations with related specialists in this institution, or enrolling in a 2nd or 3rd level medical institution.

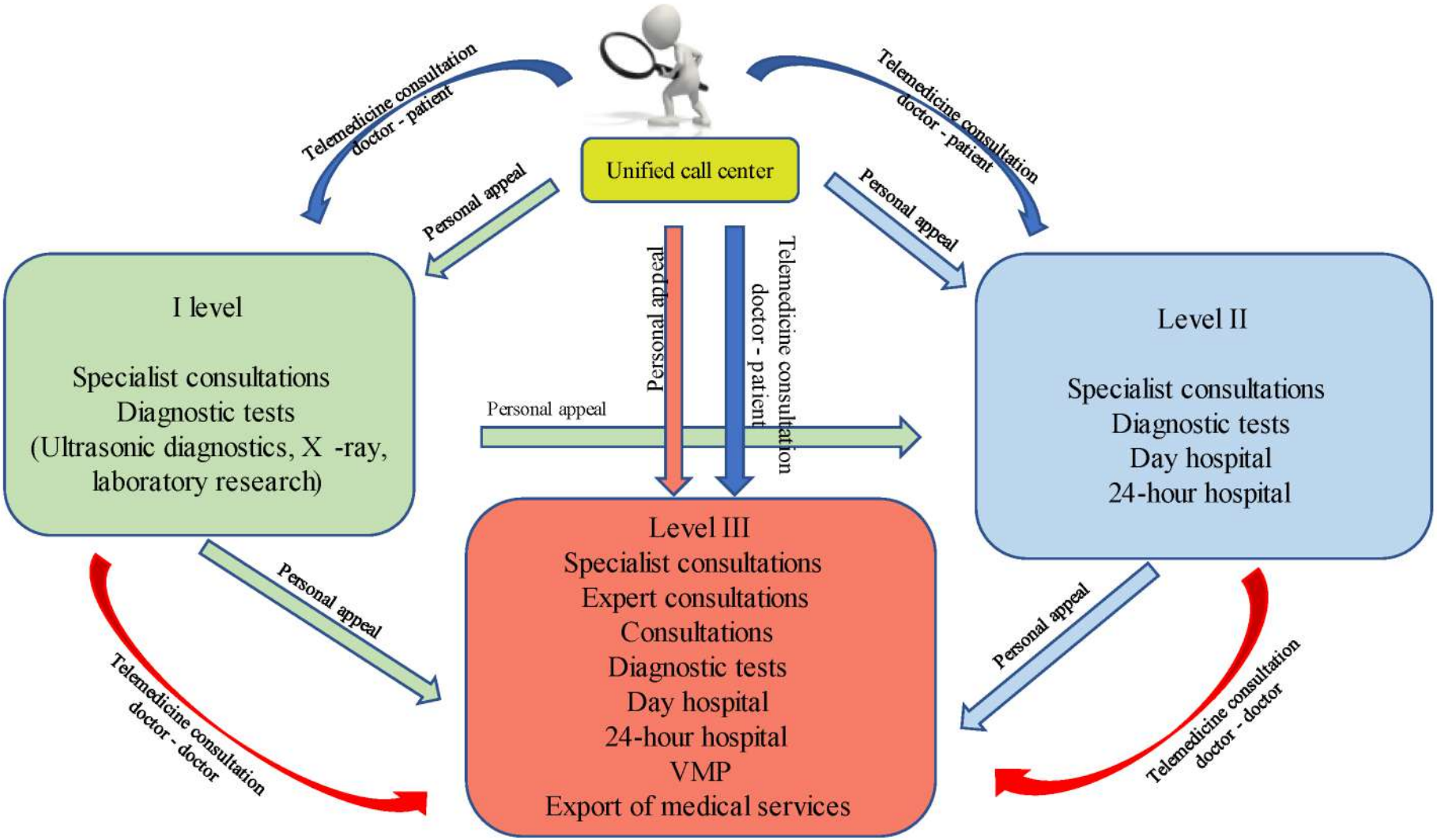
Stage 4 – conducting diagnostic tests or consultations with a related specialist for the patient.

Stage 5 – repeated consultation with the doctor of stage 1 with the results of diagnostic studies. At this stage, the diagnosis is clarified/added and therapy is prescribed in accordance with clinical recommendations. If, as a result of a repeated consultation, indications for treatment in a hospital setting (surgical / therapeutic) are identified, the patient is given an appropriate referral to a level 2 or 3 clinic, depending on the patient's wishes, the waiting period for medical care, the clinic's equipment and technical capabilities.

Stage 6 – repeated consultation with a Stage 1 doctor to assess the effectiveness of the prescribed treatment; visiting a level 2 or 3 clinic for medical care in a hospital setting (therapeutic or inpatient).Stage 7 – dynamic observation of the patient after surgery in a level 2 or 3 clinic.

Between clinics of levels 1 and 2, between clinics of levels 2 and 3, and between clinics of levels 1 and 3, it is possible to conduct telemedicine consultations in the doctor-doctor mode, in order to verify the diagnosis, prescribe additional diagnostic tests, and correct the prescribed therapy.

In the 1st level clinic, it is recommended to organize paid medical services according to option 2, due to the narrow scope of consultative and diagnostic assistance.



Picture 37 – Model for the formation of a system for the provision of paid medical services at the regional level

In a level 2 clinic, it is recommended to organize paid medical services according to option 3. In inpatient settings, it is possible to organize paid appointments with specialists in the same departments as patients receiving medical care within the framework of the territorial program of state guarantees of medical care, subject to the provision of small service wards. In an outpatient hospital, it is allowed to provide paid medical care both in separate premises (blocks, floors) and in the same premises as medical care within the framework of compulsory health insurance [306].

In a level 3 clinic, it is preferable to organize paid medical services according to option 1 - in independent departments of both the clinic and hospital departments.

The duration of medical care in a level 1 clinic, which includes stages 1-5, should be no more than 3 days.

The duration of medical care in a level 2 clinic, including stages 1-6, should be no more than 1 week.

The duration of medical care in a level 3 clinic, which includes stages 1-6, should be no more than 2 weeks.

As part of voluntary health insurance, the policyholder can independently choose which medical institutions to contact to receive services, since a list of available clinics and hospitals is provided in advance. Unlike the compulsory health insurance system, where the patient's path is determined by primary medical specialists and patient routing by specialists is provided, under VHI the patient has the freedom to directly make an appointment with the necessary doctors and receive specialized care without a prior referral from a general practitioner, which makes medical care more accessible and convenient.

When implementing the regional model for organizing the provision of paid medical services that we have developed, the principle of continuity and connection with the state system in necessary cases of medical care is observed (Picture 38).

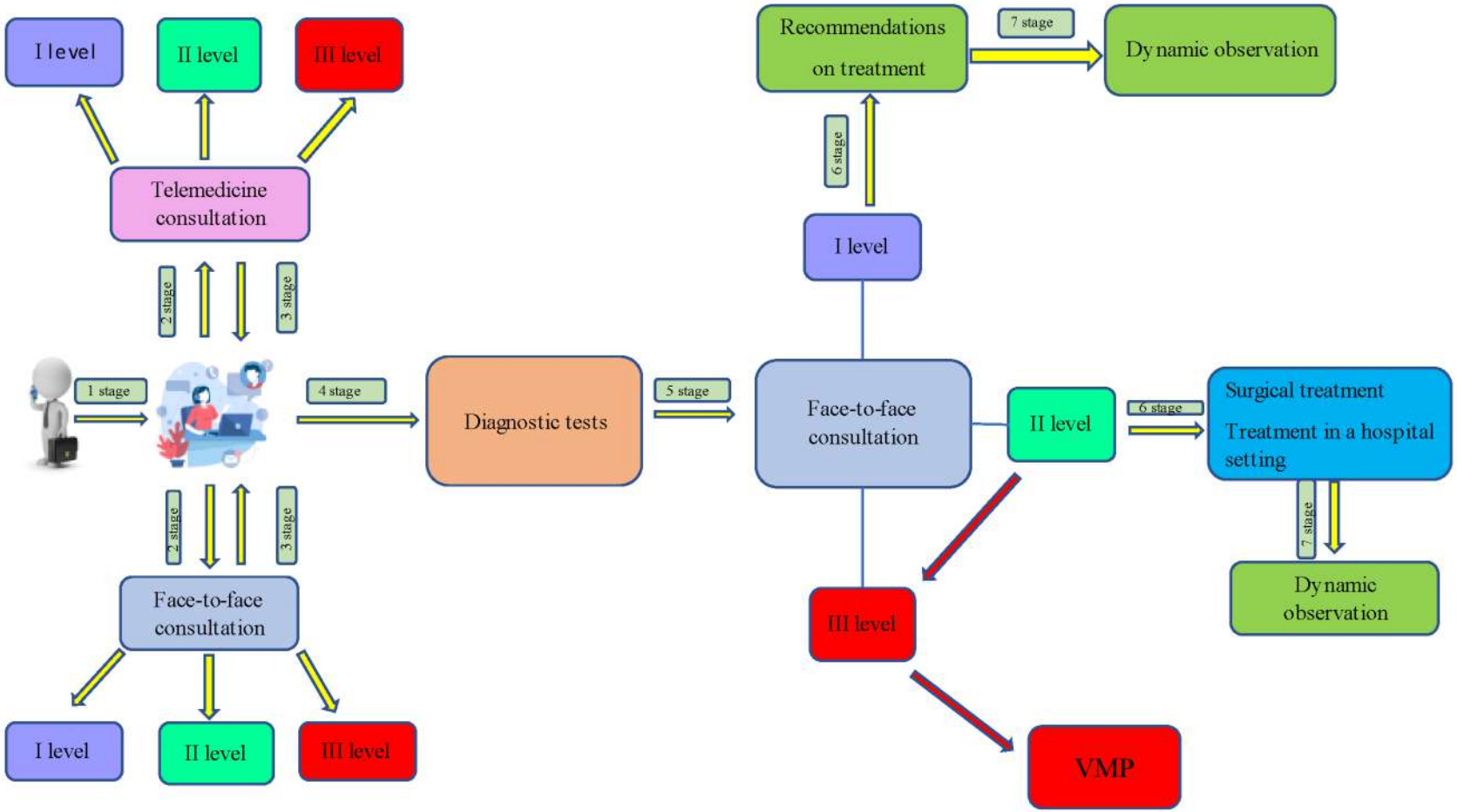
In the field of medical services, especially when it comes to the hospital level, the dominance of public hospitals was due to their large bed capacity, the qualifications of medical personnel and the affordable cost of services. At the same time, in certain areas of high-tech medical care, such as cardiovascular surgery and neurosurgery, oncology,

reproductive technologies, traumatology and orthopedics, private clinics have successfully won the trust of high-income patients by offering the services of well-known specialists in these industries.

The strengthening of public medical institutions, especially in regional centers, is the result of government efforts aimed at modernizing the healthcare system. The introduction of information technologies in medicine, the creation of university clinics at leading medical universities, and the desire for a patient-oriented approach in medicine will lead to an increase in paid services in public health care institutions. This contributes to the creation of a unified national healthcare system, where private and public medical institutions operate according to uniform rules and standards.

As part of the strategic initiative, key aspects for the transformation of institutions providing primary health care were identified. Among other things, improving the electronic doctor’s appointment system, expanding spaces for the convenience of patients, clearly distinguishing services for paid and free services, as well as increasing the activity of employees in the processes of optimizing the work of institutions. These measures involve increasing the competitiveness of public medical institutions in relation to private medicine.

By expanding the range of comprehensive medical programs, such as specialized programs for the cardiovascular system, as well as targeted examinations for men and women, the number of diagnostic procedures, consultations and inpatient treatment cases has increased markedly. The introduction of these programs has led to a more effective and economically sound approach to the selection of diagnostic and treatment methods. In addition, a critical analysis of the treatment outcomes of patients using paid medical services is regularly carried out, which helps to improve the quality of medical care.



Picture 38 – Compliance with the principle of continuity and connection with the state system when necessary

CONCLUSION

The Constitution of the Russian Federation emphasizes the importance of developing the potential of private medicine in conjunction with state guarantees of medical care. Today, due to an acute lack of funding and other necessary resources in public health care institutions, private medical organizations play the role of an assistant to the compulsory health insurance system.

The state of the healthcare system and the contribution of private clinics to its development reflect the economic well-being of the country, the level of development and maturity of the medical services market, as well as the proportionality of the volume of government funding in this area.

In order to successfully cope with the tasks assigned to the healthcare system, it is important to ensure synergy between the medical infrastructure and social and economic sectors that affect the health of the population and solve key socio-economic problems.

In the current state of the medical system, there is a noticeable imbalance between the contributions of the private and public segments to the volume of medical services provided.

In addition, the development of paid medical services largely depends on the willingness of society to actively participate and support this process.

Researching the opinions of medical workers and patients, as well as assessing the degree of their readiness for the development of paid medical services, represents an important scientific and practical task, in the context of the current state and future expectations in the healthcare market.

A study of many sources of literature revealed the main problems in the medical care delivery system, namely: a shortage of specialized specialists, excessive workloads on health care system employees, significant costs for the population for treatment, as well as inequality in the ability to receive high-quality medical care among different segments of society.

Given the unique nature of issues related to paid medical services, including contradictions between the private and public sectors, as well as the lack of transparent and reliable statistics, there is a need for a new approach to the provision of these services, especially in public health care institutions.

The existing contradictions and competition between private and public medical institutions, as well as the lack of reliable statistical information and the low level of transparency in the field of paid medical services, have led to the need to develop a new approach to the provision of paid medical services, mainly in public health care institutions [8].

During the study, in order to achieve this goal, an analysis of the main indicators of the healthcare system of the Sverdlovsk region was performed, covering a five-year period from 2017 to 2021.

The dynamics of morbidity rates in the adult population and the availability of medical personnel in the region were assessed. The medical services market was subjected to detailed analysis. Also, a survey of patients and doctors was conducted, which made it possible to identify the main factors determining their attitude towards paid medical services. The characteristics of the paid medical services provided in the region are given using the example of the State Autonomous Institution SO «SOKB No. 1». As a result, the information received became the basis for formulating a scientifically based model for organizing a system of paid medical services, using the example of a constituent entity of the Russian Federation.

At the initial stage of the study, an assessment was made of the state of the healthcare system in the Sverdlovsk region.

Thus, the level of morbidity of the population largely characterizes the state of health of the population, indicates the availability and quality of the organization of medical care, the degree of its specialization, the level of sanitary culture and medical activity of the population.

In the analyzed period, an increase in morbidity among the population of the Sverdlovsk region was noted, which partly reflects the degree of accessibility of medical care in the region.

In the structure of the causes of primary and general morbidity, diseases of the respiratory system, circulatory system, diseases of the digestive system, and endocrine system prevail. The direct relationship between the observed deterioration in population health and the number of medical personnel was confirmed by data analysis. The use of statistical methods has shown that the lack of qualified doctors in the region correlates with an increase in the incidence of diseases.

The results obtained show that it is critically necessary to address the issue of shortage of medical personnel in the region, taking into account both the size and structure of the population, and the capabilities of the existing network of health care institutions.

An important factor influencing the increase in the number of hospitalizations is not only the insufficient availability of medical care, but also its quality at the primary health care level, above all. However, the medical services market in the Sverdlovsk region is showing moderate growth, due to an increase in the number of appointments and prices for services, together with a demographic balance of predominantly working-age population. This implies a stable demand for outpatient medical care, including paid care.

In the healthcare sector of the Sverdlovsk region, private clinics predominate, accounting for 72.1% of the total number of medical institutions. This highlights the strong cross-sectoral competition not only within the private sector, but also between public and private clinics, especially in terms of the availability of services, the types of treatments provided and the qualifications of staff. A noticeable increase in interest in paid medical services is reflected in an increase in their share in the total volume of services and in the growth of their financial indicators for the period under review.

There are positive dynamics in the healthcare system of the Sverdlovsk region, indicating the strengthening of the outpatient department. Given the current environment, private clinics are focusing on strategic development to improve their market position, while government agencies are successfully implementing practices borrowed from the private sector.

The transparency of commercial medicine is increasing by reducing shadow payments for medical services, and consultations and diagnostic tests remain priority profiles for the provision of paid medical care.

A study of statistical and reporting methods in the healthcare sector indicates significant problems that make it difficult to accurately determine the possible need of the population for paid medical services. There is a lack of reliable statistical data on the reasons for visits to medical institutions and the impossibility of tracking the frequency of paid appointments.

A sociological study revealed an interesting trend: the majority of patients surveyed expressed their willingness to pay for medical services, given their high quality and accessibility compared to free medical care. Clients of commercial medicine have reported satisfaction with the results and do not mind additional costs in exchange for quality treatment. The main motives for choosing paid medical services among respondents were the efficiency and comfort of service, as well as difficulties with making an appointment with a doctor and the remoteness of institutions providing free medical care, which encourages patients to go to private clinics.

A survey conducted among doctors revealed a number of problems in public health care, including the discrepancy between the level of wages and material incentives for work with the expectations of doctors. There is an acute lack of modern equipment and a high workload. However, stability of employment, good relationships with colleagues and management, as well as opportunities for professional growth and regular training are noted as clear advantages. Doctors also recognize the importance of introducing paid services in public medical institutions in order to improve the quality and accessibility of medical care provided.

The need to develop an integrated platform for the provision of healthcare services on a commercial basis within a certain region, in both public and private healthcare institutions, is obvious. The goal is to ensure accessibility and high quality of medical care for all segments of the population, including in small towns remote from the regional center. This will contribute to a more efficient use of medical resources and

in the future should be integrated into the national health care system, with regulated and adapted uniform rules and standards for the provision of medical care.

In response to this challenge, we have developed a strategy for reforming the system for organizing the provision of paid medical services, based on the regulatory framework, local regulatory documentation, taking into account the availability of a full range of medical services for different groups of the population, which in turn contributes to a more efficient use of resources in the healthcare sector. To achieve efficiency and effectiveness in treating patients, it is critical to establish adequate routing of patients in the health system so that medical care is started in a timely manner and health care resources are used as efficiently as possible.

We have developed a three-level system for organizing the provision of paid medical services by state health care institutions at the regional level. Including a system of management and control over state medical institutions providing paid medical services in the region, consolidated in a medical institution at the regional level. This institution controls:

- for the integration of paid medical services provided by government institutions into the regional healthcare system;

- for the optimal use of telemedicine technologies by large medical centers to expand the availability of their services in remote areas;

- adequacy of patient routing in accordance with nosologies;

- assessment of the number and reasons for complaints from patients about the quality or conditions of paid medical services provided;

- for the timeliness and completeness of statistical indicators of the types and volumes of paid medical services provided.

Such centralization of the provision of paid medical services in a single information circuit will eliminate duplication of diagnostic services for patients, monitor the appropriateness of prescriptions, and implement a unified system for monitoring the quality and continuity of medical care provided.

Today, the Sverdlovsk Regional Clinical Hospital No. 1 is such an organizational and regulatory center.

Development of public-private partnerships; new areas of medical services focused on the needs of patients, including through the creation of comprehensive medical programs; provision of services in the field of laboratory research and radiation diagnostics on outsourcing; the provision of high-tech medical services within the framework of voluntary health insurance and as part of the development of medical tourism should become key links in public health institutions

The data obtained from the provision of paid medical care in the largest medical institution in the Sverdlovsk region, both in outpatient and inpatient settings, showed a growing interest in receiving high-quality medical care by the population on a paid basis.

A study of statistical and reporting methods in the healthcare sector indicates significant problems that make it difficult to accurately determine the possible need of the population for paid medical services. There is no reliable statistical data on the reasons for visiting medical institutions and it is impossible to track the frequency of paid appointments.

An analysis of data on the provision of medical care at the State Autonomous Institution of Social Institution «Social Clinical Clinical Hospital No. 1» revealed an interesting dynamic between the paid and free medical services provided in the institution. Reports show that paid services account for 10.5% of total medical visits.

We also had the opportunity to assess how great the need is for various types of medical services, both in the institution and in the region as a whole. In addition, shortcomings in material, personnel and financial support were identified, which is important for planning the future development of the institution and optimizing the routing of the flow of patients based on their needs.

The study identified the need for healthcare organizations to focus on key aspects of their marketing strategy. First of all, this concerns expanding the range of paid services offered, and it should be based on an analysis of the morbidity of the population and provide for the introduction into practice of new, modern methods of treatment and diagnosis. In addition, the emphasis should be on developing unique offers that can attract and retain the attention of patients who are committed to a given

medical institution. This also involves increasing the level of qualifications of medical personnel; further development of the service component and information technologies.

The need to develop an integrated platform for the provision of healthcare services on a commercial basis within a certain region, in both public and private healthcare institutions, is obvious. The goal is to ensure accessibility and high quality of medical care for all segments of the population, including in small towns and villages of the region. This will contribute to a more efficient use of medical resources and in the future should be integrated into the national health care system, with regulated and adapted uniform rules and standards for the provision of medical care.

In response to this challenge, we have developed a strategy for improving the system for organizing the provision of paid medical services, relying on the regulatory framework, specialized and local regulatory documentation, taking into account ensuring the availability of a full range of medical services for different groups of the population, which in turn contributes to more efficient use of resources in the health sector. To achieve efficiency and effectiveness in treating patients, it is critical to establish adequate routing of patients in the health system so that medical care is started in a timely manner and health care resources are used as efficiently as possible.

As part of strengthening the position of public health institutions in the medical services market in comparison with private clinics, the main directions of strategies were identified. These include the integration of paid medical services provided by government agencies into the regional healthcare system; the use of telemedicine technologies by large medical centers to expand the availability of their services in remote areas; strategy for the development of public-private partnerships; development of new areas of medical services focused on the needs of patients, including through the creation of comprehensive medical programs; provision of services in the field of laboratory research and radiation diagnostics on outsourcing; provision of high-tech medical services within the framework of voluntary health insurance and as part of the development of medical tourism. An increase in the number of patients and an increase in income can be achieved by public medical institutions through active participation in the field of medical tourism, which represents significant potential.

In order for public medical institutions to confidently compete with private clinics and take a dominant position in the market for paid medical services, it is extremely important to change the approach to the provision of paid medical services. Namely: improving the process of making appointments with specialists via Internet resources, expanding areas for convenient stay of patients, updating the patient registration system, as well as creating a clear organization of patient flows, dividing them into those who receive medical care for a fee and within the framework of compulsory medical insurance, regardless of depending on whether they are outpatients or inpatients.

As a result of our research and analysis of both domestic and foreign literature sources, we not only achieved our goal, but also formulated and confirmed the need for a comprehensive method for assessing the feasibility of providing paid medical services in public multidisciplinary healthcare institutions.

The need for accurate statistical control over paid medical services provided in medical institutions of all forms of ownership and subordination was identified, which will subsequently make it possible to predict the needs of the population for medical care of various types and volumes.

The need for accurate statistical control over paid medical services provided in medical institutions of all forms of ownership and subordination was identified, which will subsequently make it possible to predict the needs of the population for medical care of various types and volumes. The implementation of the model we developed provides new opportunities to improve the management of the healthcare system at the regional level, taking into account modern socio-economic conditions. The validity of the search for effective models of development of both outpatient and inpatient units is on the agenda. They must not only effectively respond to the increasing demands of the population regarding the quality of medical services provided, but also strive to reduce the financial costs of healthcare institutions. This task goes beyond local authorities, becoming a problem on a national scale.

FINDINGS

1. Morbidity indicators for the adult population of the Sverdlovsk region showed negative dynamics for the period 2017 – 2021, while the primary morbidity rate increased from 2017 by 33.1% to 2021, as well as the general morbidity rate, which increased by 9.4% in the study period, which may be due to a decrease in the level of medical staffing in the region by 4% from 2017 to 2021, a decrease in the planned capacity of municipal outpatient clinics by 9.5% and a reduction in bed capacity by 2.9 % in this period.

2. An assessment of the market for paid medical services in the Sverdlovsk region demonstrated an increase in the population's interest in paid medical services, namely, the number of paid appointments increased by 6.9% in the period 2017-2021, and the number of appointments in the VHI sector increased by 9 .2%, while at the same time there is a decrease in the number of appointments in the "shadow sector" by 8.1%. At the same time, the number of appointments in the shadow sector is 8.2%, which is 3 times higher than in the VHI sector and comparable to the legal sector (10.4%).

3. A survey of patients' opinions on the provision of paid medical services revealed that 45% of respondents were satisfied with the quality of paid medical services provided, 86% paid for medical care during the year, and 53% of respondents were ready to pay for it in the future.

4. A sociological survey of doctors showed that 65% of respondents are ready to provide paid medical services in public health care institutions, and 23% of doctors who participated in the survey are ready to work extra, overtime.

5. As a result of the research, a significant significance ($p = 0.038$) was established for the need to revise management approaches to organizing work in public medical institutions, the relevance of developing strategies for their growth and development, as indicated by the use of the SWOT analysis method, which made it possible to identify a high level of external surrounded by private medical institutions

(29% of the total number of medical institutions in the Sverdlovsk region) and increased price competition against the backdrop of limited resources.

6. The effectiveness of a systemic integrated approach in the provision of paid medical services, based on the combination of key links in healthcare efficiency, marketing tools and strategic development, has been proven; the introduction of comprehensive examination programs in outpatient settings made it possible to increase the size of the average bill by 32.52% in 2022 compared from 2021

7. The implementation of a public-private partnership project in a hospital setting on the basis of state multidisciplinary healthcare institutions in the form of an independent planned department makes it possible to replenish implementation costs in a 2-year period, while the project begins to make a profit in the second year of its existence, and by the third year of its existence operating profit is expected to grow by 29%, the return on investment ratio for 3 years is 269%.

8. The developed and implemented model of a three-level system for organizing the provision of paid medical services has shown medical, social and economic efficiency in the national health care system, based on a unified organizational and managerial approach to their provision, compliance with the principles of continuity with the compulsory health insurance system, which corresponds to the goals and objectives of the formation national healthcare system in the Russian Federation.

PRACTICAL RECOMMENDATIONS

1. Recommend that the heads of medical institutions review the development strategy of institutions, including the development of extra-budgetary activities. These tools are applicable both to institutions providing primary health care and specialized, including high-tech.

2. Initiate the creation of specialized forms of statistical reporting that will reflect data on the provision of paid medical services at the regional level by institutions of all forms of ownership. These reports should take into account both the volumes and sources of financing of paid services provided, and indicators that characterize the provision of medical care both in outpatient and inpatient settings, including types of care, nosology and staffing.

4. For the successful and optimal organization of the provision of paid medical services in public health care institutions, it is necessary to use the model we have developed for organizing the provision of paid medical services in a constituent entity of the Russian Federation.

5. Implement the project of the Association of Private Clinics at the level of the Sverdlovsk region in order to consolidate data on paid medical services provided in the region, as well as stimulate their expansion and development in this region.

6. Using the results of the dissertation research as part of an educational program for training specialists in the specialty “Public Health and Healthcare” is appropriate.

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APPENDIX A. Questionnaire

Dear colleague!

The management of State Autonomous Healthcare Institution of the Sverdlovsk Region «Sverdlovsk Regional Clinical Hospital №1» asks you to fill in the proposed questionnaire. Taking into account your opinion will help in the development of measures to improve the quality and efficiency of the institution. Please tick the answer options that you think are suitable for you, or, if necessary, add additional answers. The survey is anonymous. You do not need to sign the questionnaire.

Thank you in advance for participating in the survey!

1. Indicate your age (number of full years, from and to?) _____

2. Your gender:

a) male

b) female

3. Your speciality (specify?)_____

4. Please indicate your length of service (from and to?) ____

5. Please indicate your qualification category:

a) no category

b) second category

c) first category

d) highest category

6. Do you have an academic degree?

a) no degree

b) candidate of medical sciences

c) Doctor of Medical Sciences

7. In your opinion, who can provide paid medical services?

a) all doctors can provide paid medical services

b) only highly qualified doctors

c) average medical personnel

c) other _____

8. In your opinion, at what time should paid medical services be provided?

a) only outside working hours

b) only during working hours

c) it is possible to combine working hours, in case of free from appointments?

c) don't know

9. **Do you think it is necessary to provide paid medical services in state and municipal medical organisations? (Your attitude to paid medical services)**

a) it is necessary due to insufficient financial support of the labour remuneration fund

b) it is possible to provide them, but only if patients' rights to free medical care are respected

c) I think that paid services should be provided only in commercial medical organisations

d) it is not necessary, my attitude is negative

9A. If you have a negative attitude, state the main reason.

a) it is necessary for the Government to develop free services on the basis of the State guarantees of medical aid provision

b) it is not necessary to mix paid and free medical services in state and municipal medical centres

c) other reason specifies_____

10. What, in your opinion, are the possible reasons for a patient to turn to paid medical services?

a) high quality of medical care

b) speed and comfort of medical care

c) remoteness of medical organisations providing free care

d) problems with making an appointment to see a doctor at the right time in a medical organisation that provides medical care free of charge

e) all of the above

11. Are you satisfied with the size of your salary?

a) not at all satisfied

b) more likely to be satisfied than not

c) I cannot say whether it satisfies or not

d) rather unsatisfactory

e) not at all satisfied

12. Does your organisation have a social package (paid holiday, sick list, paid training, meals)?

a) not present

b) present

13. How do you receive remuneration for participation in paid medical services?

a) directly in the form of additional payment to salary

b) bonus

c) incentive bonus

d) «grey» salary

e) other

13A. Have you had to receive remuneration from patients in various forms?

a) yes.

b) no

c) it is difficult to answer.

13 B. In what form have you received remuneration from a patient?

a) an inexpensive gift, flowers

b) a sum of money in an envelope

c) help in solving household and family problems

d) other

c) thanks, from patients in an envelope

14. Are you satisfied with working conditions (repairs, sanitary and hygienic working conditions, etc.)?

a) not satisfied at all

b) rather satisfied than not

c) I cannot say whether I am satisfied or not

d) rather not satisfied

e) not satisfied at all

15. Are you satisfied with the existing relations with your colleagues?

a) not at all satisfied

b) rather satisfied than not

c) I cannot say whether I am satisfied or not

d) rather unsatisfied

e) not satisfied at all

16. Are you satisfied with your relationship with your superiors?

a) not at all satisfied

b) rather satisfied than not

c) I cannot say whether I am satisfied or not

d) rather unsatisfied

e) not satisfied at all

17. Do you have an opportunity for regular training and professional development?

a) none at all

b) more likely than not

c) yes, of course

18. Are you satisfied with your workload (number of patients per day)?

a) not at all satisfied

b) rather satisfied than not

c) I can't say whether I am satisfied or not

d) rather not satisfied

e) not satisfied at all

19. Do you consider the possibility of moving to another job or changing the nature of work?

a) no, I would not like to move anywhere

b) yes, I would like to move to another state/municipal medical institution

c) yes, would like to move to a private/commercial medical centre

d) yes, would like to set up a private practice

e) yes, would like to change to another profession

APPENDIX B. Questionnaire

Dear patient!

The management State Autonomous Healthcare Institution of the Sverdlovsk Region «Sverdlovsk Regional Clinical Hospital №1» of asks you to fill in the proposed questionnaire. Taking into account your opinion will help to develop proposals to improve the quality and availability of paid medical services to the population of the region. Please tick the answer options that you think are suitable for you or, if necessary, add additional answers. The survey is conducted anonymously. It is not necessary to sign the questionnaire.

Thank you in advance for participating in the survey!

1. Indicate your age (number of full years):

a) under 18 years of age

b) 18-35 years

c) 35-55 years

d) 55-65 years old

e) 65 and over

2. Your gender is:

a) male

b) female

3. Your place of residence:

a) urban

b) rural area

4. Your level of education:

a) incomplete secondary

b) secondary

c) specialised secondary

d) incomplete higher

e) higher

5. Your social status:

a) an employee (worker) of a state institution

b) an employee (worker) of a non-state institution

c) pupil (student)

d) non-working pensioner

e) working pensioner

f) temporarily not working

g) other _____

6. How do you assess the level of material security of your family?

a) high

b) above average

c) average

d) below average

e) low

6A. The average level of income per person in a family?

a) up to 20 thousand.

b) from 20 to 45

c) From 45 to 70 thousand.

d) Over 70 thousand.

7. Do you have a compulsory health insurance policy?

a) yes

c) no

8. To which specialists have you applied for paid medical services?

_____(please indicate)

9. What services did you receive

a) laboratory tests

b) specialist consultations

c) radiation diagnostics (computed tomography, magnetic resonance tomography)

d) inpatient medical care

e) surgical interventions

f) rehabilitation

10. In your opinion, does the quality of paid medical care differ from that of free medical care?

a) yes, and very much

b) yes

c) no, it does not differ

d) I find it difficult to answer

10 A. If it is different, what are the differences?

a) more attentive and polite doctors

b) qualified nursing staff

c) better working reception and administration of the paid services department

d) better conditions in the lobby and waiting rooms

e) more visual information about the services provided

f) other

11. Have you applied to the system of paid medicine in the last 12 months?

a) yes

b) no

11A. To which medical organisations did you apply?

a) state and municipal medical organisations

b) private medical organisations

c) to a doctor working outside the medical organisation (private practice)

d) to a nurse for medical activities (injections or drips at home, etc.).

e) other

11B. Have you ever had to thank doctors in the following form?

a) money in an envelope

b) an inexpensive gift

c) a household favour.

d) assistance in finding a job

e) help to your family

f) other

12. When applying to the system of organised paid medical care, are you informed about the possibility to receive medical care free of charge?

a) yes

b) no

13. How do you pay for medical services?

a) through the cash desk

b) directly to the doctor

c) both to the doctor and through the cash desk

14. What types of medical services do you mainly use?

a) free medical care

b) voluntary health insurance

c) I pay for medical services myself at the cash desk of a medical organisation

d) I pay personally to a doctor, medical worker

15. Are you satisfied with the medical organisation where you received the necessary paid medical services?

a) yes

b) no

16A. If you were dissatisfied, what are the reasons for dissatisfaction?

a) poor quality of medical care provided

b) unsatisfactory level of service

c) the service did not differ from that in a state medical centre

d) too expensive

17. Are you satisfied with the quality of paid medical care?

a) yes

b) no

17A. Why were you dissatisfied with the quality of the medical service provided?

a) did not receive new data

b) there was a mistake in the diagnosis and prescribed treatment

c) no result from the prescribed treatment

18. In which medical organisations do you prefer to receive paid medical services?

a) commercial

b) state

c) I don't see any difference

d) did not apply

19. How often do you apply for paid medical care?

a) as needed?

b) once a week

c) once a month

d) once every six months

e) once a year or less

f) none

20. Are you ready to pay extra for quality medical care?

a) yes

b) no

21. Under what conditions are you ready to allocate funds to apply to the paid health care system?

a) through voluntary health insurance, as quality control is ensured

b) direct payments (I do not want to have intermediaries)

c) on condition of applying only to state medical organisations

d) on condition of strict quality control on the part of supervisory authorities

22. Would you agree with the opinion that paid medicine should be banned?

A) disagree

B) agree

C) it is difficult to answer

APPENDIX C. Total indicators for the Sverdlovsk region

Indicators	Total number for the Sverdlovsk region (regional + municipal with private medical organisations in Ekaterinburg + federal medical organisations included in the report to the Ministry of Health of the Russian Federation)				
	2017	2018	2019	2020	2021
Number of medical organisations	159	158	159	160	158
Hospital medical organisations	99	100	99	99	99
Dispensaries	7	7	7	7	7
Independent outpatient polyclinic organisations	37	37	37	37	37
including dental clinics	28	28	28	28	28
General medical practices	259	241	230	222	222
Feldsher-midwifery and obstetric and feldsher stations	561	560	580	585	585
Number of beds in 24-hour hospitals	31110	30768	30824	30349	30678
Provision with beds, per 10,000 permanent population	74,8	74,0	74,3	73,2	74,4
Hospitalisation rate, per 100 people	20,3	20,2	203,7	174,7	192,2
Average bed occupancy per year, days	299,6	299,1	299,9	250,8	265,5
Average length of stay of a patient in hospital, days	11,1	11,0	11,0	10,6	10,6
Bed turnover, persons per year	27,1	27,3	27,6	24,0	26,3
Lethality rate, %	2,0	2,15	2,24	3,36	4,4
Number of beds in day care centres, total	8331	5329	5268	7950	5773
Number of places in day					

care centres, total					
- inpatient	1126	827	823	728	728
- outpatient	7145	4442	4385	4597	4875
- at home	60	60	60	2625	170
Bed capacity, per 10,000 population	20,0	12,8	12,7	19,2	14,0
Planned capacity of outpatient polyclinic organisations, visits per shift	95117	95243	95215	94906	95043
Provision of outpatient polyclinic organisations, per 10,000 permanent population (according to planned capacity)	228,6	229,0	229,4	228,9	230,5
Actual capacity of outpatient and polyclinic care, per 10,000 permanent population	135,0	132,1	132,1	101,3	121,8
Number of doctor's visits, per 1 inhabitant	6,8	6,7	6,7	5,5	6,5
Number of physicians	12822	12618	12471	12537	12239
Provision with doctors, per 10,000 permanent population, without Federal Medical-Biological Agency of Russia	30,8	30,3	30,0	30,2	29,7
Provision with doctors, per 10,000 of the resident population with Federal Medical-Biological Agency of Russia	29,6	29,2	28,9	29,1	28,5
Number of nurses and paramedics	36115	35386	34882	34590	33583
Availability of nursing staff, per 10,000 permanent population,	86,8	85,1	84,0	83,4	81,5

without Federal Medical-Biological Agency of Russia					
Availability of nursing staff, per 10,000 permanent population with Federal Medical-Biological Agency of Russia	83,4	81,8	80,8	80,2	78,3
Share of doctors with a category, in %	44	44	41	39	40
Share of secondary medical workers with a category, %	65	64	62	58	58

APPENDIX D. Mortality rates by main classes of causes of death in the Sverdlovsk Region 2017-2021 (per 100,000 population)

Factor	2017	2018	2019	2020	2021	Growth rate*, %	Growth rate*, %
Diseases of the circulatory system	27789	28272	27763	31750	29599	6,51	-0,09
Neoplasms	9455	10067	10060	9864	9022	-4,58	6,40
Injuries and poisonings	5536	5389	5236	5152	5155	-6,88	-5,42
Inaccurately recognised conditions	4245	4559	4291	4487	4448	4,78	1,08
Diseases of the digestive organs	3276	3430	3559	3623	3585	9,43	8,64
Respiratory diseases	1785	1558	1321	1689	1322	-25,94	-25,99
Infectious and parasitic diseases	2162	2275	2050	1923	1700	-21,37	-5,18
Diseases of the nervous system and sensory organs	733	781	883	972	906	23,60	20,46
Tuberculosis	440	405	368	338	313	-28,86	-16,36
Diseases of urogenital system	458	495	470	511	450	-1,75	2,62
Diseases of the endocrine	652	794	943	1036	778	19,33	44,63

system							
Diseases of perinatal period	124	110	104	93	82	-33,87	-16,13
Congenital anomalies	88	80	94	90	76	-13,64	6,82
Diseases of skin and subcutaneous fibre	148	150	175	128	159	7,43	18,24
Diseases of blood and hematopoietic tissues	49	52	49	39	29	-40,82	0,00
Diseases of the musculoskeletal system	64	62	57	50	53	-17,19	-10,94
Mental disorders	19	19	38	22	16	-15,79	100,00
Complications of pregnancy and labour	7	4	6	4	4	-42,86	-14,29
Coronavirus infection caused by COVID virus - 19	-	-	-	5927	19182		

Note. * In 2021 compared to 2017, $p<0.05$

**In 2019 compared to 2017, $p<0.05$

APPENDIX E. Medical personnel by main positions in medical organisations of municipal, regional and federal subordination in the Sverdlovsk Region 2017-2021

Position	2017	2018	2019	2020	2021	Growth rate*, %
Physicians - total	12822	12618	12471	12537	12239	-4,55
Physicians - specialists: heads of organisations and their deputies (health care organisers)	475	465	459	460	465	-2,11
Obstetricians - gynaecologists	869	847	819	782	753	-13,35
Allergologists - immunologists	33	33	33	30	30	-9,09
Anaesthesiologists - reanimatologists	771	775	762	757	749	-2,85
Gastroenterologists	82	84	85	81	84	2,44
Haematologists	34	34	33	34	37	8,82
Dermatovenerologists	208	191	192	181	172	-17,31
Infectious disease specialists	184	177	186	181	193	4,89
Cardiologists	265	282	287	271	260	-1,89
Paediatric cardiologists	29	29	30	32	37	27,59
Clinical laboratory diagnosticians	364	348	328	324	322	-11,54
Coloproctologists	13	16	16	15	15	15,38
Methodologists	114	120	128	130	132	15,79
Neurologists	580	564	557	544	515	-11,21
Neurosurgeons	67	65	67	57	62	-7,46
Neonatologists	176	176	164	160	147	-16,48
Nephrologists	45	47	51	54	50	11,11
General Practitioners (family practice)	160	143	135	123	123	-23,13
Oncologists	152	155	166	179	187	23,03
Paediatric oncologists	14	14	15	15	16	14,29
Otorhinolaryngologists	212	197	194	192	195	-8,02
Ophthalmologists	298	290	287	281	268	-10,07
Pathologists	97	96	97	95	96	-1,03
Paediatricians - total	1107	1099	1088	1095	1082	-2,26
Reception department	66	64	66	158	100	51,52
Occupational therapists	16	18	16	15	16	0,00

Psychiatrists	326	314	303	299	279	-14,42
Psychiatrists - narcologists	97	95	92	86	84	-13,40
Psychotherapists	21	20	19	17	17	-19,05
Pulmonologists	58	61	58	53	52	-10,34
Radiologists	31	27	29	9	12	-61,29
Radiotherapists	8	11	12	32	33	312,50
Rheumatologists	46	50	52	49	49	6,52
Radiologists	441	436	422	4115	417	-5,44
Ambulance doctors	206	195	171	154	138	-33,01
Stomatologists	166	178	193	211	226	36,14
Forensic medical experts	99	92	94	93	88	-11,11
Surdologists - otorhinolaryngologists	14	14	13	13	12	-14,29
Therapists	1226	1196	1162	1134	1180	-3,75
Traumatologists - orthopaedists	289	299	294	278	280	-3,11
Transfusiologists	71	64	62	64	60	-15,49
Ultrasound diagnosticians	274	273	280	263	272	-0,73
Urologists	147	139	142	136	141	-4,08
Physiotherapists	88	83	82	74	67	-23,86
Phthisiatrists	206	201	204	193	186	-9,71
Functional diagnostics	232	232	213	213	206	-11,21
Surgeons	480	470	470	435	431	-10,21
Cardiovascular surgeons	58	59	63	65	65	12,07
Thoracic surgeons	13	14	14	16	16	23,08
Maxillofacial surgeons	30	31	31	30	29	-3,33
Endocrinologists	133	132	132	131	126	-5,26
Endoscopists	94	92	95	92	90	-4,26
Epidemiologists	131	131	135	133	130	-0,76

Note. * In 2021 compared to 2017, $p < 0.05$

APPENDIX F. Staffing of medical personnel positions in medical organisations of municipal, regional and federal subordination in the Sverdlovsk Region by individuals, %

Name of the position	2017	2018	2019	2020	2021	Growth rate*, %
Physicians - total	65	66	64	60	61	-4
Physicians - specialists: heads of organisations and their deputies (health care organisers)	91	95	91	91	88	-3
Obstetricians - gynaecologists	69	70	68	64	62	-7
Allergologists - immunologists	77	73	75	68	69	-8
Anaesthesiologists - reanimatologists	53	53	51	45	47	-6
Gastroenterologists	86	87	83	80	77	-9
Haematologists	83	76	66	68	72	-11
Geneticists	80	80	70	78	75	-5
Geriatricians	0	40	45	14	44	44
Dermatovenerologists	88	82	80	75	75	-13
Infectious disease specialists	71	68	71	50	57	-14
Cardiologists	74	78	76	67	64	-10
Paediatric cardiologists	71	72	74	75	90	19
Clinical laboratory diagnosticians	61	62	60	58	57	-4
Coloproctologists	50	55	62	52	53	3
Labouratorians	47	49	36	12	-	-
Chiropractors	40	70	70	73	50	10
Methodists	58	62	65	65	61	3
Neurologists	72	72	71	68	66	-6
Neurosurgeons	55	54	58	45	51	-4
Neonatologists	68	69	68	65	60	-8
Nephrologists	57	63	68	71	61	4
General Practitioners (family practice)	67	59	59	59	60	-7
Oncologists	71	67	67	61	60	-11
Paediatric oncologists	79	119	77	88	85	6
Otorhinolaryngologists	70	67	66	65	67	-3
Ophthalmologists	77	76	77	75	75	-2
Pathologists	55	54	53	49	51	-4

Paediatricians total	71	73	73	71	72	1
Reception department	25	25	21	40	27	2
Profpatologists	37	41	36	36	37	0
Psychiatrists	70	65	63	59	58	-12
Psychiatrists - narcologists	57	56	53	45	54	-3
Psychotherapists	41	44	43	43	44	3
Pulmonologists	69	73	67	57	64	-5
Radiologists	79	77	75	64	83	4
Radiotherapists	46	56	62	60	65	19
Rheumatologists	76	87	88	81	79	3
Radiologists	63	64	61	55	57	-6
Ambulance doctors	50	50	45	44	40	-10
Stomatologists	77	80	78	78	82	5
Forensic medical experts	75	72	77	73	71	-4
Surdologists - otorhinolaryngologists	98	97	84	84	81	-17
Therapists	64	65	64	54	63	-1
Traumatologists - orthopaedists	59	60	58	53	54	-5
Transfusiologists	49	46	48	49	47	-2
Ultrasound diagnosticians	53	51	51	47	48	-5
Urologists	65	64	66	61	66	1
Physiotherapists	71	69	73	70	64	-7
Phthisiatrists	55	54	58	52	51	-4
Functional diagnostics	62	62	58	56	55	-7
Surgeons	61	61	61	54	56	-5
Cardiovascular surgeons	63	67	70	68	68	5
Thoracic surgeons	54	57	52	44	58	4
Maxillofacial surgeons	77	85	75	71	66	-11
Endocrinologists	78	81	80	74	75	-3
Endoscopists	52	51	49	49	44	-8
Epidemiologists	77	78	79	75	75	-2

Note. * In 2021 compared to 2017, $p < 0.05$

APPENDIX G. Medical personnel of the Sverdlovsk Region (medical organisations of regional, federal, municipal subordination, with private medical organisations of Ekaterinburg)

Indicator	2017	2018	2019	2020	2021	Growth rate*, %
Number of full-time medical posts (F.30 t 1100)	20171,50	19753,75	19970,0	21604,50	20654,0	2,39
Number of occupied medical posts (f.30 t. 1100)	18689,0	18394,25	17944,75	18898,25	17755,00	-5,00
Number of individuals in occupied medical positions (f.30 t. 1100)	13260	13081	12957	13008	12674	-4,42
Number of physicians (by occupied positions) per 10,000 population (f.30)	44,9	44,2	43,2	45,6	43,1	-4,01
Provision of the population with doctors (by the number of physical persons of the main employees in occupied positions) per 10 thousand population (f.30)	31,9	31,4	31,2	31,4	30,7	-3,76
Staffing of medical posts (by occupied posts) (f.30)	93	93	90	87	86	-7,53
Staffing of medical posts by physical	66	66	65	60	61	-7,58

persons (f.30)						
Coefficient of doctors' compatibility (f.30)	1,41	1,41	1,38	1,45	1,40	-0,71

Note. * In 2021 compared to 2017, $p<0.05$

APPENDIX H. Primary morbidity of the adult population (18 years and older) by classes of diseases (Form 12, Vol. 3000, per 1000 of the corresponding population)

Disease classes	2017	2018	2019	2020	2021	Growth rate*, %	Growth rate*, %	Growth rate*, %
Total	554,0	523,6	542,7	618,3	737,5	33,1	-2,04	35,89
Infectious diseases	16,2	15,8	14,8	13,0	13,2	-18,5	-8,64	-10,81
Neoplasms	12,0	12,1	12,7	10,2	9,8	-18,3	5,83	-22,83
Diseases of blood and hematopoietic tissues	2,1	2,0	1,9	1,6	1,7	-19,0	-9,52	-10,53
Diseases of endocrine system	14,4	12,2	13,4	10,5	12,3	-14,6	-6,94	-8,21
Mental disorders	3,7	3,8	3,7	3,1	3,1	-16,2	0,00	-16,22
Diseases of the nervous system	9,5	6,0	7,2	6,6	7,0	-26,3	-24,21	-2,78
Diseases of the eye	28,7	25,7	24,3	20,8	21,9	-23,7	-15,33	-9,88
Diseases of the ear	24,3	22,9	22,4	19,1	19,3	-20,6	-7,82	-13,84
Diseases of the circulatory system	35,7	36,8	42,7	38,0	38,4	7,6	19,61	-10,07
Diseases of the respiratory system	160,6	161,6	177,0	241,9	265,5	65,3	10,21	50,00
Diseases of the digestive organs	21,7	19,4	18,4	15,5	17,0	-21,7	-15,21	-7,61
Diseases of skin and subcutaneous fibre	29,8	29,9	25,5	21,1	24,3	-18,5	-14,43	-4,71
Diseases of the musculoskeletal	28,2	24,4	24,6	21,7	23,8	-15,6	-12,77	-3,25

system								
Diseases of urogenital system	44,4	38,3	38,2	32,3	34,3	-22,7	-13,96	-10,21
Complications of pregnancy and childbirth	21,6	16,4	16,7	15,9	15,9	-26,4	-22,69	-4,79
Congenital anomalies	0,02	0,1	0,0	0,0	0,0	-100,0	-100,00	-
Inaccurately labelled conditions	1,7	2,0	2,7	1,6	0,0	-100,0	58,82	-100,00
Injuries and poisonings	99,3	94,2	96,6	83,3	86,5	-12,9	-2,72	-10,46
COVID - 19				61,9	143,4			-

Note. * In 2021 compared to 2017, $p<0.05$

**In 2021 compared to 2019, $p<0.05$

***In 2019 compared to 2017, $p<0.05$Приложение №9

Total morbidity in the adult population (18 years and older) by class of disease (Form 12, Vol. 3000, per 1,000 of the corresponding population)

APPENDIX I. Total morbidity in the adult population (18 years and older) by class of disease (Form 12, Vol. 3000, per 1,000 of the corresponding population)

Disease classes	2017	2018	2019	2020	2021	Growth rate*, %	Growth rate*, %	Growth rate*, %
Total	1354,0	1319,1	1344,8	1337,8	1482,3	9,48	-0,68	10,22
Infectious diseases	39,2	38,9	38,2	33,5	33,3	-15,05	-2,55	-12,83
Neoplasms	60,9	57,6	59,7	58,6	56,3	-7,55	-1,97	-5,70
Diseases of blood and hematopoietic tissues	8,5	8,1	8,4	7,5	7,6	-10,59	-1,18	-9,52
Diseases of endocrine system	86,3	84,0	87,4	82,7	84,5	-2,09	1,27	-3,32
Mental disorders	39,1	39,4	38,5	36,6	40,0	2,30	-1,53	3,90
Diseases of the nervous system	42,8	41,3	40,6	35,1	36,2	-15,42	-5,14	-10,84
Diseases of the eye	98,0	96,0	94,3	76,0	79,5	-18,88	-3,78	-15,69
Diseases of the ear	36,8	35,4	36,7	28,3	32,1	-12,77	-0,27	-12,53
Diseases of the circulatory system	238,1	232,5	242,5	223,8	231,3	-2,86	1,85	-4,62
Diseases of the respiratory system	198,5	199,3	213,1	278,4	300,0	51,13	7,36	40,78

Diseases of the digestive organs	92,0	85,9	83,4	69,7	75,3	-18,15	-9,35	-9,71
Diseases of skin and subcutaneous fibre	48,1	48,9	45,7	37,3	41,2	-14,35	-4,99	-9,85
Diseases of the musculoskeletal system	128,5	120,8	121,4	104,1	109,8	-14,55	-5,53	-9,56
Diseases of urogenital system	105,9	107,4	109,1	93,4	99,8	-5,76	3,02	-8,52
Complications of pregnancy and childbirth	29,1	26,9	25,9	25,4	24,7	-15,12	-11,00	-4,63
Congenital anomalies	0,7	0,7	0,7	0,6	0,6	-14,29	0,00	-14,29
Inaccurately labelled conditions	2,3	2,0	2,7	1,6	0,0	-100,00	17,39	-100,00
Injuries and poisonings	99,3	94,2	96,6	83,3	86,5	-12,89	-2,72	-10,46
COVID - 19				61,9	143,4			

Note. * In 2021 compared to 2017, $p<0.05$, **In 2019 compared to 2017, $p<0.05$, ***In 2021 compared to 2019, $p<0.05$

APPENDIX J. Performance indicators of the bed stock of medical organisations (F.30, Table 3100)

Year	Bed capacity of medical organisations by subordination	Bed capacity per 10,000 inhabitants	Bed occupancy (days per year)	Bed turnover (persons per year)	Average length of hospital stay (days)	Discharged patients (persons)
2017	Total for the region	75,89	299,3	27,1	11,1	844255
	Municipal	45,51	288,8	35,6	8,2	238540
	Regional	90,27	302,6	24,9	12,2	593014
	Federal	1,63	286,6	18,8	15,3	12701
2018	Total for the region	75,08	298,6	27,3	11,0	843115
	Municipal	44,36	287,9	36,0	8,0	241245
	Regional	89,87	301,7	25,1	12,1	588709
	Federal	1,64	294,4	19,1	15,3	13161
2019	Total for the region	75,3	299,9	27,6	10,9	844727
	Municipal	43,5	292,5	36,7	8,0	241353
	Federal	1,6	293,9	19,4	15,1	13281
	Regional	57,6	302,1	25,3	12,0	590093
2020	Total for the region	74,2	251,1	24,1	10,6	717739
	Municipal	43,3	258,1	32,2	8,2	206199
	Federal	1,6	292,4	19,7	14,8	13127
	Regional	56,7	247,8	21,9	11,4	498413

2021	Total for the region	75,5	264,4	26,3	10,1	794072
	Municipal*	-	-	-	-	-
	Regional	57,7	261,6	23,9	11,0	551881
	Federal	1,7	261,9	21,1	12,4	14154
Growth rate **,%	Total for the region	-0,51	-11,66	-2,95	-9,01	-5,94
	Municipal ***	-4,86	-10,63	-9,55	0,00	-13,56
	Regional	-36,08	-13,55	-4,02	-9,84	-6,94
	Federal	4,29	-8,62	12,23	-18,95	11,44

Note. * In official sources no information provided, **In 2021 compared to 2017, $p<0.05$, ***In 2020 compared to 2017, $p<0.05$

APPENDIX K. Dynamics of the main indicators of the medical services market in the Sverdlovsk Region 2017-2021

Market sector health services	2017	2018	2019	2020	2021	Growth rate*,%
Number of completed medical appointments 2019-2021 (thousand appointments)						
Compulsory health insurance	19 931,90	20 195,60	21 415,40	22 450,40	22 070,20	10,73
Budget	2 892,00	2 704,40	2 530,80	2 637,70	2 488,20	-13,96
Legal commercial sector	3 474,80	3 431,80	3 407,90	3 504,40	3 517,80	1,24
Voluntary health insurance	497,28	563,44	589,09	571,21	542,86	9,17
Shadow sector	3 167,90	3 083,40	2 990,40	2 960,20	2 913,90	-8,02
Total	29 964,00	29 978,60	30 933,60	32 124,00	31 533,00	5,24
Medical services market turnover 2017-2021 (RUB mn)						
Compulsory health insurance	20 639,90	24 872,20	27 569,20	30 951,70	32 331,30	56,64
Budget	7 588,70	8 265,90	8 508,80	9 564,40	8 978,60	18,32
Legal commercial sector	8 961,40	9 412,90	9 877,10	11 086,00	11 924,00	33,06
Voluntary health insurance	977,12	1167,78	1307,83	1377,05	1389,55	42,21
Shadow sector	4 800,30	4 890,10	4 943,10	5 115,60	5 252,10	9,41
Total	42 967,40	48 609,10	52 205,90	58 094,60	59 875,80	39,35
Average price of medical appointments (RUB per appointment)						
Compulsory health insurance	1026,9±78	1218,9±96,6	1273,6±102,5	1377,1±51,9	1457,4±57,7	41,92
Budget	2612,2±261	3080,1±288,2	3415,8±306,1	3668,8±336,7	3657,3±332,4	40,01
Legal commercial sector	2479,0±213,3	2636,3±227,0	2785,3±239,9	3023,8±271,8	3225,4±299,9	30,11
Voluntary health	1783,1±319,8	1875,5±343,8	2002,1±377,0	2171,3±410,3	2302,2±437,4	29,11

insurance						
Shadow sector	1465,6±58,9	1525,6±65,7	1582,1±72,3	1649,9±76,1	1716,2±80,6	17,10
Total	1411,1±105,6	1606,9±85,1	1677,7±77,5	1789,1±86,6	1870,6±94,6	32,58
Average annual medical care costs (RUB thousand per person)						
Compulsory health insurance	10,1±0,09	12,2±0,07	13,4±0,1	15,0±0,21	15,7±0,13	54,32
Budget	12,1±1,06	13,8±0,95	14,9±1,0	16,2±1,17	15,8±1,07	30,19
Legal commercial sector	14,9±1,78	15,7±1,92	16,4±2,1	18,0±2,44	19,2±2,57	28,77
Voluntary health insurance	9,1±0,47	10,1±0,5	11,0±0,61	11,8±0,61	12,2±0,61	33,78
Shadow sector	6,3±0,56	6,4±0,65	6,5±0,69	6,8±0,66	7,0±0,77	12,22
Total	21,1±0,66	23,8±0,07	25,5±0,19	28,2±0,24	29,1±0,26	37,46
Number of consumers of medical services 2019-2021 (thousand people)						
Compulsory health insurance	2013,9	2023,3	2032,7	2041,2	2049,8	1,78
Budget	590	567	545	559,3	539,5	-8,56
Legal commercial sector	610,6	607	605	614,4	616,1	0,90
Voluntary health insurance	109,65	117,17	120,2	117,91	114,49	4,41
Shadow sector	717	707,2	696,6	692,9	687,2	-4,16
Total	2017,2	2026,5	2035,6	2045,3	2054,9	1,87

Note. * in 2021 compared to 2017 ($p<0.05$)

APPENDIX L. Comparative ranking of specialities by the share of admitted patients in 2017-2021 (paid consultations)

Speciality	2017	2018	2019	2020	2021	Share 2017, %	Share 2021, %	Growth rate*, %	Growth rate**, %	Growth rate***, %
Obstetrician-gynaecologist	2441	2738	3057	2091	2349	6,05	6,39	25,24	-23,2	-3,8
Physician-allergologist-immunologist	1545	1629	1648	941	1474	3,83	4,01	6,66	-10,6	-4,6
Gastroenterologist	1756	1851	1430	1088	1419	4,35	3,86	-18,55	-0,8	-19,2
Haematologist	1444	1522	1593	726	1699	3,58	4,62	10,34	6,7	17,7
Dermatovenerologist	361	381	432	286	300	0,90	0,82	19,54	-30,6	-17,0
Cardiologist	3386	3570	3601	2963	3278	8,39	8,91	6,34	-9,0	-3,2
Coloproctologist	1135	1197	1584	555	296	2,81	0,80	39,51	-81,3	-73,9
Neurologist	3051	3217	2863	2360	3186	7,56	8,66	-6,18	11,3	4,4
Neurosurgeon	332	350	368	259	405	0,82	1,10	10,85	10,1	22,0
Nephrologist	982	1035	1312	604	580	2,43	1,58	33,64	-55,8	-40,9
Oncologist	1554	1638	1524	818	839	3,85	2,28	-1,91	-44,9	-46,0
Otorhinolaryngologist Physician	2352	2480	2680	1747	2069	5,83	5,63	13,93	-22,8	-12,0
Ophthalmologist	2912	3070	3240	2045	2504	7,22	6,81	11,26	-22,7	-14,0
Pulmonologist	830	875	1278	512	1030	2,06	2,80	53,98	-19,4	24,1
Rheumatologist	1667	1757	2077	1239	1532	4,13	4,17	24,63	-26,2	-8,1
Physician-cardiovascular surgeon	2746	2895	2970	1838	1983	6,81	5,39	8,16	-33,2	-27,8
General practitioner	2513	2649	2681	1944	2636	6,23	7,17	6,70	-1,7	4,9

Orthopaedic trauma surgeon	1558	1643	1572	1053	1514	3,86	4,12	0,87	-3,7	-2,9
Urologist	3991	4208	4137	3130	3851	9,89	10,47	3,65	-6,9	-3,5
Surgeon	1048	1105	1183	742	1332	2,60	3,62	12,87	12,6	27,1
Oral and Maxillofacial Surgeon	409	431	433	224	349	1,01	0,95	5,91	-19,4	-14,6
Endocrinologist	2066	2178	2321	1644	1915	5,12	5,21	12,35	-17,5	-7,3
Total	40345	42534	44119	28918	36776	100	100	9,35	-16,6	-8,8

Note * In 2019 compared to 2017 ($p<0.05$)

** In 2021 compared to 2019 ($p<0.05$)

*** In 2021 compared to 2017 ($p<0.05$)

APPENDIX M. Number of chargeable admissions to inpatient wards, 2017-2021

Department	2017	2018	2019	2020	2021	Growth rate*, %	Growth rate**, %	Growth rate***, %
Ophthalmology	646	671	562	275	570	-11,76	-13,00	1,42
Allegological and Pulmonology Department	18	18	11	3	7	-1,64	-38,89	-36,36
Arrhythmology	21	21	19	7	10	-52,38	-9,52	-47,37
Gastroentrology	24	23	15	19	26	8,33	-37,50	73,33
Haematology	61	64	17	9	20	-67,21	-72,13	17,65
Gynaecology	296	309	281	134	291	-1,69	-5,07	3,56
Purulent surgery	39	40	41	18	35	-10,26	5,13	-14,63
DDS	73	77	51	26	63	-13,70	-30,14	23,53
Dialysis	38	40	38	12	44	15,79	0,00	15,79
Cardiological	68	71	64	36	32	-52,94	-5,88	-50,00
Cardiosurgical	18	19	13	7	10	-44,44	-27,78	-23,08

	196	204	158	60	130	-33,67	-19,39	-17,72
	125	130	158	111	268	114,40	26,40	69,62
Neurological	54	57	53	24	32	-40,74	-1,85	-39,62
Neurosurgical	30	31	27	10	20	-33,33	-10,00	-25,93
Nephrology	27	29	33	9	26	-3,70	22,22	-21,21
Rheumatology	26	27	31	19	26	0,00	19,23	-16,13
Cardiovascular Surgery	31	32	36	10	21	-32,26	16,13	-41,67
Traumatology	45	47	44	14	45	0,00	-2,22	2,27
Urology	255	265	254	119	200	-21,57	-0,39	-21,26
Surgical department	156	162	170	83	162	3,85	8,97	-4,71
Endocrinology Department	20	21	11	12	7	-65,00	-45,00	-36,36
TOTAL	3617	3763	3645	1921	3107	-0,22	0,77	-0,99

Note. * In 2021 compared to 2017 ($p<0.05$)
** In 2019 compared to 2017 ($p<0.05$)
*** In 2021 compared to 2019 ($p<0.05$)

APPENDIX N. Porter's five force model

COMPANY	STATE MEDICAL CENTRE			
MARKET:	EKATERINBURG, SVERDLOVSK REGION			
Product:	PAID MEDICAL SERVICES			
1.1. Competitiveness of the company's product and the level of competition on the market				
Goods - substitutes	Paid medical services in private clinics in Yekaterinburg, Sverdlovsk region			
Evaluation parameter	Comments	Parameter estimation		
		3	2	1
Goods-substitutes «price-quality»	Able to provide the same quality at the same prices	exist and have a high market share	exist, but have only just entered the market and their share is small	do not exist
		3		
TOTAL SCORE		3		
1 point		low threat substitute products		
2 points		average threat level from substitute products		
3 points		high level of threat substitute products		

1.2 Assessment of the level of intra-industry competition				
Evaluation parameter	Comments	Parameter evaluation		
		3	2	1
Number of players	The more players in the market, the higher the level of competition and the higher the risk of losing market share	High level of market saturation	Average market saturation level (3-10)	Small number of players
			2	(1-3)
Market growth rate	The lower the market growth rate, the higher the risk of permanent market redistribution	Stagnant or declining market volume	Slowing but growing	
			2	
Level of product differentiation in the market	The lower the product differentiation, the higher the product standardisation - the higher the risk of consumer switching between different companies in the market	Companies sell a standardised product	The goods on the market are standardised in key features, but differ in additional benefits	The companies' products are meaningfully different from each other
				1
Restriction on price increases	The less opportunities for price increases, the higher the risk of profit loss with constant cost increases	Stiff price competition in the market, no room for price increases	There is an opportunity to increase prices only to cover cost increases	There is always room for price increases to cover cost increases and increase profits
				1

TOTAL SCORE		6		
4 points		Low level intra-industry competition		
5-8 points		Average level intra-industry competition		
9-12 points		High level intra-industry competition		
1.3 Assessing the threat of entry of new players				
Valuation parameter	Comments	Оценка параметра		
		3	2	1
Economies of scale in the production of a good or service	The greater the volume of production, the lower the cost of purchasing materials to produce a good, the less the fixed costs of production affect a unit of output	absent	exists only with a few market players	Значимая
			2	
Strong brands with high levels of knowledge and loyalty	The stronger the existing brands feel in the industry, the more difficult it is for new players to enter.	major players are absent	2-3 major players hold about 50% of the market	2-3 major players hold more than 80% of the market
			2	
Product differentiation	The greater the diversity of goods and services in an industry, the more difficult it is for new entrants to enter the market and occupy a free niche	low level of product variety	there are micro niches	all possible niches are occupied by players
			2	

Level of investment and cost to enter the industry	The higher the initial level of investment to enter the industry, the more difficult it is for new players to enter the industry.	low (pays for itself in 1-3 months of operation)	medium (pays for itself in 6-12 months of operation)	high (pays off in more than 1 year of operation)
				1
Access to distribution channels	The harder it is to reach the target audience in the market, the lower the attractiveness of the industry	access to distribution channels is fully open	access to distribution channels requires moderate investment	access to distribution channels is limited
				1
Government policies	The government can limit and close off the possibility of entry into an industry through licensing, limiting access to sources of raw materials and other important resources, and regulating price levels	no restrictive acts on the part of the state	government intervenes in the industry, but at a low level	government fully regulates the industry and sets restrictions
				1
Willingness of existing players to reduce prices	If players can reduce prices to maintain market share, this is a significant barrier to entry for new players.	players will not reduce prices	large players will not reduce prices	any attempt to introduce cheaper supply, existing players reduce prices
		3		
Industry growth rate	The higher the growth rate of an industry, the more willing new players are to enter the market.	high and rising	slowing	stagnation or decline
				1

2	12
8 points	Low level of threat to entry of new players
9-16 points	Medium level of threat to entry of new players
17-24 points	High level of threat to entry of new players

CONSUMER THREATS

2.1 The buyer's market power

Valuation parameter	Comments	Parameter estimation		
		3	2	1
Share of customers with high sales volume	If buyers are concentrated and purchase on a large scale, the company will be forced to make concessions to them on a regular basis	more than 80% of sales are to a few customers	A small part of customers keeps about 50% of sales	Sales volume is evenly distributed among all customers
				1
Tendency to switch to substitute products	The lower the uniqueness of the company's product, the more likely it is that the buyer will be able to find an alternative and not incur additional risks.	the company's product is not unique, there are complete analogues	the company's product is partly unique, there are distinctive features that are important for customers	the company's product is completely unique, there are no analogues
			2	

Price sensitivity	The higher the price sensitivity, the higher the probability that the customer will buy the product at a lower price from competitors.	the customer will always switch to a lower priced product	the customer will switch only if there is a significant price difference.	the customer is absolutely insensitive to price
			2	
Consumers are not satisfied with the quality of existing products on the market	Dissatisfaction with quality generates latent demand that can be satisfied by a new market player or competitor	dissatisfaction with key characteristics of the product	dissatisfaction with secondary characteristics of the product	complete satisfaction with quality
			2	
TOTAL SCORE		7		
4 points		Low level of threat of clients leaving		
5-8 points		Medium level of threat of customers leaving		
9-12 points		High level of threat of loss of clients		
Threats to business from suppliers				
Evaluation parameter	Comments	Parameter estimation		
		2	1	
Number of suppliers	The fewer suppliers, the greater the likelihood of unreasonable price increases	Few suppliers or monopoly	Wide range of suppliers	
			1	
Limited supplier resources	The more limited suppliers' resources are, the higher the probability of price increases	volume constraint	unlimited volume	
		2		

Switching costs	The higher the switching costs, the higher the threat of price increases	High switching costs to other suppliers	Low switching costs to other suppliers	
			1	
Priority of direction for the supplier	The lower a supplier's prioritisation of an industry, the less attention and effort they put into it, the higher the risk of poor performance	Low priority of the industry for the supplier	High industry priority for the supplier	
			1	
TOTAL SCORE		5		
4 points		low level		
5-6 points		supplier influence		
7-8 points		medium level		

Parameter	Significance	Description	Line of work
Threat from substitute goods	High level of threat from substitute products	The presence on the market of competitors offering identical services at comparable prices, quality and higher level of service is a high threat to the product.	1.It is recommended to adhere to the strategy of brand strengthening and concentration on such target market for which the quality of medical services, high reputation, unique competences, expert opinions are important. 2. The company should focus its main efforts on building a high level of service and developing patients' awareness of the availability of this type of services.
Threats from intra-industry competition	Medium level of intra-industry competition	The market is highly competitive and promising. There is no possibility of full comparison of products of different companies.	
Threats from	Average level of	Medium risk of entry of new players.	

new players	threat of new entrants	New companies are rare due to high barriers to entry and high initial investment.	3.To maintain competitiveness, it is necessary to constantly develop existing and develop new competences and types of services. 4. Reduce the impact of administrative barriers on the consumer. 5. It is recommended to expand the market and packages of services. 6. Develop special package products for any level of consumers.
Threat of losing current customers	Average level of threat of customers leaving	Medium level of threat of customer departure, as high reputation of the institution, affordable prices contribute to the continuing flow of patients.	
Threat of supplier instability	Average level of supplier influence	The system of competitive procurement in a public health care institution guarantees availability of consumables and equipment, unlike private health care operating outside the Federal Law No. 44- of 04.05.2013, ensuring lower price of consumables.	

APPENDIX O. Regulation on the department for rendering paid medical services

1. GENERAL REGULATIONS

The present Regulation on the department of paid medical services «Medical Centre» of the State Autonomous Health Care Institution of the Sverdlovsk Region « Sverdlovsk Regional Clinical Hospital No.1» (hereinafter referred to as the Regulation) is developed in accordance with the Federal Law No. 323-FL dated 21.11.2011 «On the Basis of Health Protection of Citizens in the Russian Federation» (hereinafter referred to as the Regulation). «On the Basics of Health Protection of Citizens in the Russian Federation», Federal Law No. 326-FL dated 29.11.2010 «On Compulsory Medical Insurance in the Russian Federation», Resolution of the Government of the Russian Federation No. 736 dated 11 May 2023 «On Approval of the Rules for Provision of Paid Medical Services by Medical Organisations». The provision of paid medical services to the population is organised in order to better meet the population's demand for certain types of medical care, as well as to fill the funding gap to the standard of the state guarantee programme, and to provide citizens of the Russian Federation with free medical care. Paid medical services are provided in addition to, and not in lieu of, activities financed from the budget and compulsory health insurance funds.

1.1 The «Medical Centre» (hereinafter referred to as the Centre) shall be a structural subdivision of the state health care institution and is subordinated to the Deputy Chief Physician for extra-budgetary activities;

1.2 The Centre shall be organised on the basis of the order of the chief physician of the medical institution;

1.3 The Centre is guided in its activity by the Constitution of the Russian Federation, Federal Laws of the Russian Federation, Decrees and Orders of the President of the Russian Federation, Resolutions and Orders of the Government of the Russian Federation, legal acts of the Ministry of Health of the region, the Statute of the State Health Care Institution, Orders and Orders of the Chief Physician of the medical institution, and the present Statute.

2. OBJECTIVES OF THE TASK OF THE «DEPARTMENT FOR PROVISION OF PAID MEDICAL SERVICES»

2.1 Objectives

To ensure the rights of citizens to receive medical care on a contractual basis, over and above the «Territorial Programme of State Guarantees of Free Medical Care for Citizens of the Russian Federation».

2.2 Tasks

- Organisation of provision of medical care to the population on a paid basis in the presence of voluntary desire of a citizen, absence of the patient: citizenship of the Russian Federation, compulsory medical insurance policy, doctor's referral;

- Increasing the volume of medical care provided to the population;

- Provision of medical assistance beyond the established guaranteed volume defined by the programme of state guarantees to provide citizens of the Russian Federation with free medical assistance;

- expansion of the structure of medical services to the population;

- attracting additional sources of funding for the production and social development of the state health care institution.

2.3 Functions of the «Department for the provision of paid medical services»

- Co-operation with insurance companies, administrative territories and enterprises on issues of medical care in the state health care institution, including voluntary medical insurance;

- Interaction with structural subdivisions and specialists of the medical institution on issues of medical care;

- Providing patients with a favourable environment for consultations and examinations by maintaining a double shift schedule, Saturdays, and escort services;

- Maintain operational records, prepare and submit reports and references on issues related to the activities of the health centre.

3. STRUCTURE OF THE «MEDICAL CENTRE»

3.1 The general management of the activities of the department for rendering paid medical services to the population shall be carried out by the chief physician of the medical centre, who shall, in accordance with the established procedure:

- approves the staff schedule of the unit, job descriptions for each employee;

- hires and dismisses the personnel of the department, including part-time employees in accordance with the procedure established by the labour legislation;

- is responsible for organisation of work on rendering paid services, financial and economic activity of the subdivision;

- concludes contracts and agreements necessary for the activity of the subdivision, controls the activity of subordinates on their observance of financial and labour discipline, safety of property, material and other valuables, working out of time and volumes on the main work;

3.2 The deputy chief physician for extra-budgetary activities, appointed by the chief physician of the institution, directly manages the activities of the department for the provision of paid medical services to the population.

3.3 The rights and duties of the head of the department shall be determined depending on the volume and types of services rendered and shall be reflected in job descriptions approved by the head of the institution.

3.4 Paid medical services are rendered by full-time employees of the department during the main time, and by part-time employees and specialists of other departments of the institution during the time additional from the main work.

3.5 The department of paid medical services of the state health care institution is obliged to provide the population with free, reliable and accessible information:

- about the working hours of the department of paid medical services;

- about the procedure of providing and receiving paid medical services;

- the procedure for providing and receiving paid medical services;

- availability of a licence for medical activity;

- medical workers involved in the provision of paid medical services, their professional education and qualifications;

- the list of paid medical services with indication of their cost and payment procedure;

- other circumstances related to the receipt of paid medical care.

3.6 When providing paid medical services, the established mode of operation of the institution, the volume, availability and quality of medical care provided under the programme of state guarantees for the provision of citizens of the Russian Federation residing in the territory of the region shall be preserved.

4. SOURCES OF FUNDING

4.1 The sources of funding for the office shall be:

- funds received under contracts from individuals and legal entities;

- funds received as payment for medical services are considered as income of the institution.

4.2 The received funds shall be spent by the institution in accordance with the cost estimate approved in accordance with the legislation in force.

5. PROCEDURES FOR DISTRIBUTION OF EARNED FUNDS

5.1 The salary fund of the «Department of paid medical services» is formed monthly in the form of a percentage allocation of earned funds, according to the order of the chief physician of the health care institution, based on the decision of the economic council.

5.2 Salaries of the employees of the department are accrued in accordance with the Regulation on labour remuneration of the employees of the «Department of paid medical services».

6. REGULATORY DOCUMENTS

6.1. Federal Law No. 323-FL dated 21 November 2011 «On the Fundamentals of Health Protection of Citizens in the Russian Federation».

6.2. Federal Law No. 2300-1 of 7 February 1992 «On Protection of Consumer Rights».

6.3. «Rules for the Provision of Paid Medical Services, approved by Resolution of the Government of the Russian Federation No. 736 of 11 May 2023».

6.4 «Regulations on the procedure for organising and carrying out income-generating activities in a health care institution».

6.5. «Regulations on the department for provision of paid consultative, diagnostic and therapeutic medical services to the population in the state medical institution».

6.6 Rules for provision of paid medical services to the population in the «Department for provision of paid medical services» of the state health care institution.

7. Responsibilities OF THE PARTIES

7.1 For non-fulfilment or improper fulfilment of obligations under the contract, the Contractor shall be liable in accordance with the legislation of the Russian Federation.

7.2 The damage caused to the patient's life or health as a result of the provision of poor-quality paid medical services shall be compensated by the provider in accordance with the legislation of the Russian Federation.

7.3 The Federal Service for Supervision of Consumer Rights Protection and Human Welfare shall exercise control over compliance with these Regulations within the established powers.

APPENDIX P. RULES of provision of paid medical services to the population in the «Department for rendering paid medical services»

Location:

The rules are made on the basis of:

1. Federal Law No. 323-FL dated 21 November 2011 «On the Fundamentals of Health Protection of Citizens in the Russian Federation»;

2. Law of the Russian Federation from 07 February 1992 № 2300 - 1 «On Protection of Consumer Rights»;

3. Resolution of the Government of the Russian Federation of 11 May 2023 n. 736 «On Approval of the Rules of Provision of Paid Medical Services by Medical Organisations».

1. GENERAL PROVISIONS

1.1 These rules define the procedure and conditions for providing paid medical services to the population in a public health care institution.

1.2 The basic concepts used in the rules:

«paid medical services» - medical services provided on a reimbursable basis at the expense of personal funds of citizens, funds of legal entities and other funds on the basis of contracts, including contracts of voluntary medical insurance (hereinafter - Contract);

«consumer» - an individual intending to receive or receiving paid medical services personally in accordance with the Contract. A consumer receiving paid medical services is a patient covered by the Federal Law dated 21.11.2011 N 323-FL «On the Fundamentals of Health Protection of Citizens in the Russian Federation»;

«customer» - an individual (legal entity) intending to order (purchase) or ordering (purchasing) paid medical services in accordance with the contract in favour of the consumer;

«Contractor» - a medical organisation providing paid medical services to consumers under the contract of paid services provision, in this case the State

Autonomous Health Care Institution of the Sverdlovsk Region « Sverdlovsk Regional Clinical Hospital No.1»;

1.3 Paid medical services are provided to the state health care institution in accordance with the list of types of works (services) specified in the licence by concluding a contract of paid services.

1.4 The requirements to paid medical services, including their volume and terms of rendering, shall be determined by agreement of the parties to the contract, unless federal laws, other regulatory legal acts of the Russian Federation stipulate other requirements.

2. CONDITIONS OF PROVIDING PAID MEDICAL SERVICES

2.1 The work schedule of the «Paid medical services department», as well as the work schedule of doctors (hours and days of reception) are approved by the chief physician of the health care institution, and is brought to the attention of patients by placing information on the official website and information boards located in the registration desk of the «Paid medical services department».

Working hours of the «Paid Medical Services Department»:

Monday - Friday from 7:30 to 20:00, double shift (first shift from 7:30 to 14:00, second shift from 14:00 to 20:00).

Saturday from 8:30 to 14:00.

On public holidays the working mode is regulated by the order of the chief physician, which is posted on the information stand and on the website of the institution, for access to an unlimited number of people.

Fixed time of consultative reception for 1 patient for both primary and repeated reception in the schedule of medical information system is not more than 30 minutes, not more than 20 minutes for ultrasound examination.

2.2 Reception of doctors of all specialities is carried out according to the schedule prepared and approved by the deputy chief physician for non-budgetary activities of the state health care institution. The work schedule for the next month shall be submitted before the 15th day of the current month to the senior administrator of the

«Department of paid medical services», agreed and approved by the deputy chief physician for extra-budgetary activities.

2.3 Paid medical services are provided to patients on the basis of the price list valid on the day of rendering medical services, approved by the chief physician, the content of which is brought to the attention of patients by placing information on the official website of the institution and information stands located in the registration desk of the «Department for the provision of paid medical services».

2.4 A public health care institution shall provide paid medical services:

- on other conditions than provided for by the Territorial Programme of State Guarantees, operating in the territory of the region, at the request of the consumer (customer), including but not limited to:

- citizens of foreign countries, stateless persons, except for persons insured under compulsory medical insurance, and citizens of the Russian Federation who do not reside permanently in its territory and are not insured under compulsory medical insurance, unless otherwise provided for by international treaties of the Russian Federation;

- when citizens independently apply for medical services, except for cases and procedures provided for in Article 21 of the Federal Law «On the Fundamentals of Health Protection of Citizens in the Russian Federation» and cases of emergency, including specialised emergency medical assistance and medical assistance provided in urgent or emergency form.

2.5 When providing paid medical services, the medical institution shall comply with the procedures for the provision of medical care approved by the Ministry of Health of the Russian Federation.

2.6 Paid medical services shall be rendered in the full scope of the standard of medical care approved by the Ministry of Health of the Russian Federation, or at the request of the consumer in the form of individual consultations or medical interventions, including in the scope exceeding the scope of the performed standard of medical care.

2.7 Information about the medical organisation, which is available on the medical organisation's website, information stands located on the territory of the

hospital, is accessible to an unlimited number of persons during all working hours and contains the following information:

- name and company name of the medical institution, location address;

- Certificate of entry in the Unified State Register of Legal Entities;

- Licence to carry out medical activities;

- Price list for medical services provided to the population at their request in the medical centre;

- Territorial programme of state guarantees in force on the territory of the region;

- information about medical workers involved in providing paid medical services, their professional education and qualifications;

- mode of operation of the health care facility, work schedule of medical personnel involved in the provision of paid medical services;

- addresses and telephone numbers of the executive authority of the constituent entity of the Russian Federation in the field of public health protection, territorial body of the Federal Service for Supervision of Health Care and territorial body of the Federal Service for Supervision of Consumer Rights Protection and Human Welfare.

2.8 At the request of the consumer or customer, a copy of the licence for medical activity with a list of works (services) constituting this activity shall be provided.

2.9 Paid medical services are rendered by the health care institution within the framework of written contracts:

- with individuals;

- with legal entities - organisations, enterprises, insurance companies, individual entrepreneurs, etc.

2.10. At the conclusion of the contract, at the request of the consumer and (or) customer, they are provided with information about paid medical services in an accessible form, containing the following information:

- the procedure of rendering medical care and standards of medical care applied in the provision of paid medical services;

- information about a particular medical worker providing the relevant paid medical service (his/her professional education and qualifications);

- information on methods of medical care, associated risks, possible types of medical intervention, their consequences and expected results of medical care;

- other information related to the subject of the contract.

2.11. Prior to the conclusion of the contract, the healthcare institution shall notify the consumer (customer) in writing that non-compliance with the instructions (recommendations) of the provider (medical worker providing the paid medical service), including the prescribed treatment regime, may reduce the quality of the provided paid medical service, entail the impossibility of its completion in time or adversely affect the health condition of the consumer.

2.12. The contract shall be drawn up in 3 copies, one of which shall be kept by the medical centre, the second by the client and the third by the consumer. If the contract is concluded by the consumer and the health care institution, it shall be drawn up in 2 copies.

2.13. If the provision of paid medical services requires the provision of additional medical services on a reimbursable basis, which are not provided for in the contract, the health care institution shall warn the consumer (customer) about it.

2.14. The institution shall not provide additional medical services on a reimbursable basis without the consumer's (customer's) consent.

2.15. If the consumer refuses to receive medical services after the conclusion of the contract, the contract is cancelled. The health care institution informs the consumer (customer) about the cancellation of the contract on its initiative, and the consumer (customer) pays to the institution the expenses actually incurred by the provider related to the fulfilment of obligations under the contract.

2.16. Payment for the provided medical services shall be made by the consumer (customer) within the terms and in the manner specified in the contract, in cash through the cash desk of the institution with the use of cash control machines, or by non-cash transfer of funds to the account of the medical institution.

2.17. After the execution of the contract, the Institution shall issue medical documents (copies of medical documents), extracts from medical documents reflecting the state of health of the consumer (legal representative of the consumer) after receiving paid medical services.

2.18. Conclusion of a voluntary medical insurance contract and payment for medical services provided under the said contract shall be made in accordance with the Civil Code of the Russian Federation and the Law of the Russian Federation «On Organisation of Insurance Business in the Russian Federation».

2.19. Paid medical services are provided in the presence of informed voluntary consent of the consumer (legal representative of the consumer), given in accordance with the procedure established by the legislation of the Russian Federation on the protection of the health of citizens.

2.20. The healthcare institution shall provide the following information to the consumer (legal representative of the consumer) upon his/her request and in a form accessible to him/her:

- about the consumer's state of health, including information about the results of examination, diagnosis, treatment methods, associated risk, possible options and consequences of medical intervention, expected results of treatment;

- about medicines and medical devices used in the provision of paid medical services, including their expiry dates (warranty periods), indications (contraindications) for their use.

2.21. When providing paid medical services, healthcare institutions shall comply with the requirements established by the legislation of the Russian Federation for the execution and maintenance of medical documentation and accounting and reporting statistical forms, the procedure and terms of their provision.

2.22. When signing the contract, the patient gives his/her voluntary consent to collection, processing, storage, distribution and use by the provider of the patient's (customer's) personal data, which will become known to him/her in the process of fulfilment of the contract, in accordance with the Federal Law No. 152-FL «On Personal Data». All actions with personal data are necessary only for the purposes of

fulfilment of the subject of the contract - provision of medical services, as well as the requirements of the legislation of the Russian Federation.

3. PROCEDURE FOR CONCLUDING A CONTRACT AND PAYMENT FOR MEDICAL SERVICES

3.1 The contract on rendering paid medical services is a contract of reimbursable rendering of services;

3.2 During the initial application to the «Department for provision of paid medical services» the patient is informed about the possibility of receiving similar medical services within the framework of the programme of state guarantees of compulsory health insurance in the medical institution at the place of his/her attachment;

3.3 Before signing a contract for the provision of paid medical services in accordance with clause 15 of the Resolution of the Government of the Russian Federation No. 736 of 11.05.2023, the patient signs a notification form on the consequences of non-compliance with the instructions (recommendations) of the medical organisation;

3.4 Contracts for paid medical services, signing of informed consents and notifications are executed by the administrators of the «Paid Medical Services Department» at the first patient's first visit. For this purpose, the standard form of the agreement and informed consent approved by the order of the chief physician of the health care facility shall be used;

3.5 On the part of the health care institution, the contract shall be signed by the responsible person authorised to perform this action. On the part of the Patient, the Agreement shall be signed by the Patient in person, except in cases when the Agreement is signed by the Patient's parent under 18 years of age or the legal representative of a Patient who is partially or fully incapacitated;

3.6 The patient (customer) is obliged to pay for the medical services provided by the medical institution in full. In case of concluding a contract for the software products of the «Paid Medical Services Department», the advance payment shall be made under the terms and conditions of the concluded contract;

3.7 Payment for medical services shall be made by cash or non-cash settlements in the «Department for Paid Medical Services» with the use of a cash register machine, electronic payment terminals.

3.8 The patient (customer) shall be given a document confirming the payment for the rendered medical services in the form of a cash register receipt.

4. PROCEDURE FOR EXECUTION OF MEDICAL DOCUMENTS AND PROVISION OF INFORMATION

4.1 The main documents on rendering medical services to the patient are the outpatient card, contract for paid medical services and annexes to the contract on rendering medical services. These documents reflect the history of examination and treatment of the patient and are the property of the clinic;

4.2 Information about the patient's state of health, including the fact that the patient has sought medical assistance, is a medical secret, and its non-disclosure is protected by the laws of the Russian Federation;

4.3 Information on the patient's state of health may be provided on the grounds established in the Federal Law «On the Fundamentals of Health Protection of Citizens in the Russian Federation», namely for the purposes of medical examination and treatment, if the citizen cannot express his/her will, in case of threat of spread of infectious diseases, mass poisoning and lesions, at the request of bodies of enquiry and investigation, court, at the request of prosecutor's offices, bodies of the penal enforcement system;

4.4 The patient's outpatient card shall be kept in the archive of the «Paid Medical Services Department» for 25 years from the date of the patient's last request;

4.5 Storage of medical records by the patient himself/herself at home, its transfer to other medical institutions or third parties is not allowed;

4.6 Upon preliminary request, the patient can receive documents for tax deduction. Production and issuance of the necessary package of documents is carried out on the basis of the procedure for issuing a certificate of payment for medical services to receive a tax deduction;

4.7 Upon written application to the chief physician of the medical institution, the patient may be issued a copy of the medical record. Such an application may be submitted by the patient in person or by his/her legal representative with the obligatory presentation of a document confirming the authorisation to represent the patient's interests. A proper copy shall be made within ten (10) working days from the day of submission of the application.

5. RIGHTS, DUTIES AND RESPONSIBILITIES OF THE PATIENT

5.1 When applying to the «Department for rendering paid medical services», the patient has the right to:

5.1.1. To choose a doctor, to receive consultations of medical specialists;

5.1.2. To choose the date and time of visit to a specialist of the «Department for Paid Medical Services», including postponement of the previously agreed date and time of the visit to another date and time agreed by the parties, if it is objectively possible on the part of the medical institution;

5.1.3 To receive reliable, timely and complete information about the state of his/her health;

5.1.4 Protection of information constituting medical confidentiality;

5.1.5. Refusal from medical intervention;

5.1.6. Compensation for the damage caused to his/her health during the provision of medical assistance;

5.1.7 The chief physician of the health care institution is responsible for the realisation of the patient's rights in the «Paid Medical Services Department»;

5.2 When applying to the «Paid Medical Services Department», the patient is obliged to:

5.2.1 Observe these rules;

5.2.2 When visiting the «Paid Medical Services Department», comply with the rules of stay of patients and visitors. These rules are freely available for familiarisation directly in the «Paid Medical Services Department»;

5.2.3 Follow the prescriptions, orders and recommendations of the doctor;

5.2.4 Observe the rules of hygiene, order and regime, sanitary norms while staying in the «Paid medical services department»;

5.2.5. Respectfully treat other patients and visitors of the «Paid medical services department», medical and non-medical personnel of the health care institution, observe generally accepted rules of ethics and behaviour;

5.2.6 Take care of his/her health;

5.2.7 Provide the doctor of the «Paid Medical Services Department» with full information and available documents (copies of documents) concerning the state of his/her health before rendering medical services, which he/she has at the moment of conclusion of the contract of paid medical services and during its validity, namely, related to the life history, medical history, inform about all previous diseases, including chronic, infectious and venereal diseases, all kinds of allergic reactions, existing neuro-psychiatric diseases, as well as any other health problems.

5.2.8 Show up for consultations, prescribed procedures and preventive examinations on time. In case of impossibility to come to the consultation, procedure or examination, to notify the staff of the «Paid Medical Services Department» (administrator or doctor) not later than one day before the consultation (procedure, examination) during the working hours of the «Paid Medical Services Department» specified in section 2.1. of these rules.

5.2.9. To pay for the actually rendered medical services, including additional services, within the term and in the amount established by the agreement on rendering paid medical services;

5.2.10. To accept the rendered services, to strictly follow the prescriptions and recommendations of the attending physician, as well as to comply with these rules;

5.2.11. To inform the doctor about all changes in the activity of his/her organism (well-being and visible changes), if even the patient believes that these changes do not affect the provision of medical services;

5.2.12. The patient has the right to refuse to receive the medical service at any time and receive the paid amount with reimbursement to the medical institution for the

actually rendered medical services according to the current price list at the time of rendering the services;

5.2.13. To grant the health care facility permission to engage for the provision of medical services any medical worker from the staff, as well as other external specialists, the need for whose professional opinion arises during the examination, treatment;

5.3 Patients staying in the premises of the health care facility shall be obliged to comply with these rules and the doctor's recommendations.

5.3.1 Violation of these rules, medical and safety, sanitary and anti-epidemic regimes and sanitary and hygienic norms shall entail liability established by the legislation of the Russian Federation;

5.3.2 Violations of these rules shall mean the following patient behaviour:

5.3.2.1. rude or disrespectful attitude to the staff of the medical institution, foul language;

5.3.2.2. non-appearance or late attendance to the doctor's appointment without a valid reason;

5.3.2.3. failure to comply with the requirements and recommendations of the doctor;

5.3.2.4. taking medication without a doctor's prescription;

5.3.2.5. other medical organisation without the doctor's knowledge and permission;

5.3.2.6. endangering the life and/or health of employees or patients of the medical institution;

5.3.2.7. non-performance or inadequate performance of his/her duties by the patient, resulting in deterioration of the quality of the rendered medical service, removes the doctor's responsibility for the quality of the medical service;

5.3.2.8. for damage to furniture, equipment and inventory caused by the patients' fault, the latter bear material responsibility in the amount of the value of the damaged item.

6. RIGHTS AND OBLIGATIONS OF THE CLINIC

6.1 When carrying out medical activities, the health care institution shall have the right to:

6.1.1 Determine independently the schedule of consultations, procedures and work schedule of doctors;

6.1.2. To deviate from the planned treatment schedule in case the patient is late and/or the doctor directly performing the treatment is busy, to cancel the appointment and/or reschedule it for another time;

6.1.3 Replace the doctor in case of objective impossibility to be treated by this specialist, as well as refer the patient to other specialists for consultation if necessary;

6.1.4 To independently choose the tactics and methods of treatment, method of anaesthesiological aid, selection of materials and medicines, determine the number of radiological images to be taken, carry out other diagnostic, prophylactic and therapeutic measures, provided that there is a need to carry them out;

6.1.5 To prescribe medical drugs both included in the list of vital and essential drugs for medical use and medical drugs not included in the said list.

6.1.6 Recommend to the patient certain materials and (or) medicines, the cost of which exceeds similar materials (medicines) if there are medical indications for their application (use) and (or) greater therapeutic effect;

6.1.7 Refuse to provide services to the patient in cases where the patient has at least twice unreasonably refused the appointments of medical specialists of the healthcare institution;

6.1.8 Refuse to continue the provision of medical services in cases where the patient violates the terms of these rules with mandatory recording of the refusal of treatment and the reasons for such refusal in the medical records. Refusal to continue treatment is possible only when formulating medical recommendations for further treatment and is not allowed in the presence of an acute stage of the patient's health condition;

6.1.9 Refuse to provide a patient with a scheduled appointment with a doctor, if the patient is late for the appointment by more than 50% of the appointment time

without a valid excuse, or reschedule the appointment for another time, as agreed by the parties;

6.1.10. Obtain from the patient an appropriate receipt of refusal of medical intervention in case of his/her refusal of services that could, in the opinion of the medical institution, reduce or eliminate the danger to his/her health.

6.1.11. Not to admit a minor child, incapable/partially capable citizen without a legal representative (parents, guardians, custodians, other legal representatives on the basis of a duly executed power of attorney).

6.1.12. Not to admit a patient in case of refusal to sign an informed voluntary consent for medical interventions.

6.2 When providing medical services, the healthcare institution shall:

6.2.1 Treat the patient respectfully and humanely;

6.2.2. Agree with the patient on the nature and scope of medical services;

6.2.3 Provide the patient with services according to the price list, the quality of which corresponds to the modern achievements of medical science, and cannot be lower than the established quality standards and procedures of medical care;

6.2.4 Fully inform the patient, his/her attorney or legal representative about the revealed health status, taking into account the patient's consent to receive this information and in accordance with the current legislation;

6.2.5 To inform the patient about the licence to provide medical services, these rules, as well as other information about the medical institution as a provider of medical services, in the content and to the extent that objectively allows the patient to make an informed decision about applying to the health care institution, including information about its legal status, mode of operation, contact telephone number, information about specialist physicians directly providing medical services; 6.2.6. To provide the patient with information about the medical institution, including information about the legal status of the health care institution, the mode of operation of the health care institution, the contact telephone number, and information about the physicians providing medical services.

6.2.6 Provide the patient with binding instructions (recommendations), provide the patient with accessible and reliable information about the service provided;

6.2.7. taking into account the individual characteristics of the patient, independently choose the health improvement measures required by the patient, as well as set the schedule of visits to the medical institution after the treatment.

7. QUALITY GUARANTEES

7.1 When rendering medical services, the medical institution shall guarantee

- safety, which is ensured by strict compliance with all stages of disinfection and sterilisation of medical instruments and medical equipment through sanitary and epidemiological measures in accordance with sanitary and epidemiological norms and rules, as well as the use of technologies and materials approved for use by the Ministry of Health of the Russian Federation;

- provision of complete, reliable and accessible information on the patient's health status, taking into account the patient's right and willingness to receive it voluntarily;

- provision of types of medical services in accordance with its own licence, in case of involvement of co-executors with the co-executors' licence;

- provision of treatment by specialist doctors with appropriate education and certificates confirming the right to perform this type of medical activity;

- careful observance of treatment technologies, which implies professional training of doctors and nurses;

- measures to eliminate and reduce complications that may arise during or after the provision of the service;

- control examinations - by indications, after complicated treatment or in case of necessity to prevent undesirable consequences;

- dynamic monitoring of the process of recovery, rehabilitation and the results of the medical service.

8. OTHER PROVISIONS

8.1 Control over the activities of the health care institution and the quality of paid medical services is carried out within their competence by state bodies and

organisations, which in accordance with the laws and other legal acts of the Russian Federation are entrusted with the inspection of the activities of the medical organisation;

8.2 In the event of a conflict between a patient and a doctor, middle or junior medical staff, the disputed issue shall be submitted for consideration of the Medical Commission. The Medical Commission shall be formed on the basis and in accordance with the procedure specified in the Regulations on the Medical Commission of a health care institution and the Order of the Ministry of Health of the Russian Federation «On Approval of the Procedure for Establishment and Operation of the Medical Commission of a Medical Organisation»;

8.3 Based on the Federal Law «On Information», citizens and organisations have the right to receive and use information in any lawful manner, including audio and video recording. If the patient plans to make a video recording (audio recording) of the appointment, such video recording (audio recording) must be agreed with the administration of the health care facility, and the patient must warn all persons present during the filming that their conversations and actions will be recorded on a video carrier (audio carrier);

8.4 To avoid disclosure of medical confidentiality, an audio recording (video recording) may only contain information about the patient making the recording. The presence of other patients of the medical centre during the recording is strictly prohibited;

8.5 The Book of Feedback and Suggestions is available at the registration desk of the «Paid Medical Services Department»;

8.6 Any changes to these rules shall be made in writing, approved by the order of the chief physician of the medical centre and shall be an integral part of these rules.

9. RESPONSIBILITY AND CONTROL OVER THE PROVISION OF PAID MEDICAL SERVICES

9.1 For failure to fulfil or improper fulfilment of obligations under the contract, the medical institution shall be liable as provided for by the legislation of the Russian Federation.

9.2 The harm caused to the patient's life or health as a result of the provision of poor-quality paid medical services shall be compensated by the medical institution in accordance with the legislation of the Russian Federation.

9.3 Patients shall be liable for causing harm to the Institution in accordance with the procedure established by law.

9.4 Claims and disputes arising between the consumer and the medical institution shall be resolved by agreement of the parties or in court in accordance with the legislation of the Russian Federation.

In order to exercise control over the organisation and provision of paid medical services in the health care facility, the following responsible persons have been appointed:

Heads of structural subdivisions of the health care facility on issues related to the provision of paid medical and non-medical services directly in the structural subdivisions.

APPENDIX Q. Regulation on the regional Contact Centre for provision of paid medical services to the population

1. GENERAL PROVISIONS

1.1 The Contact Centre (hereinafter referred to as the Centre) is an independent organisation and the Ministry of Health of the region.

1.2 The Centre is organised on the basis of the order of the Minister of Health of the region.

1.3 In its activity the Centre is guided by the Constitution of the Russian Federation, Federal Laws, Decrees and Orders of the President of the Russian Federation, Resolutions and Orders of the Government of the Russian Federation, legal acts of the Ministry of Health of the Russian Federation, the Ministry of Health of the region, orders and instructions of the Head of the Contact Centre, this Statute.

1.4 The Centre receives, processes and makes calls on the basis of fixed telephony.

1.5. The Centre shall use a single telephone number - 8 - 800 .... - to carry out its activity.

2. MAIN GOALS, OBJECTIVES AND FUNCTIONS OF THE CONTACT CENTRE

2.1 Objectives.

2.1.1 To ensure the realisation of citizens' rights to receive necessary and reliable information about the procedure for obtaining paid medical care in the territory of the region, peculiarities and rules of patients' admission, as well as about specialists of medical institutions of the region providing paid medical services.

2.2 Tasks.

2.2.1 Creation and maintenance of the system of unified information field of the health care system of the region on the issues of paid medical services.

2.2.2 Timely provision of information to citizens on the procedure of rendering paid medical services by means of telephone service and Internet technologies.

2.2.3 Assist public health care institutions of the region in increasing the volume of extra-budgetary activities.

2.2.4 Effectively manage the flow of patients wishing to receive paid medical services in public health care institutions of the region.

2.3 Functions.

2.3.1 Processing of enquiries received from citizens via telephone and information and telecommunication network «Internet» about the procedure for providing paid medical services in the region.

2.3.2 Sorting out enquiries on the subject: telephone calls, e-mails, requests from the website, messengers and other communication channels. Transferring the enquiry to an employee or institution that has the necessary information to respond.

2.3.3 Providing patients with reference information concerning paid medical services, rules and terms of their provision, possible cost.

2.3.4 Regulation of the flow of citizens to create an even load on doctors, as well as more rapid provision of medical care and its distribution by types of care, based on the «Three-tier model of paid medical services at the regional level.

2.3.5 Providing patients with information on the procedure for making appointments with doctors, the rules of preliminary remote appointment of residents of the region, the mode of operation of health care institutions in the region, specialists and their work schedule.

2.3.6 Enrolment of Russian citizens to see specialists of regional health care institutions in accordance with the «Three-tier model of paid medical services at the regional level».

2.3.7. Informing the population about paid services of hospitals, their cost, work schedule of specialists, types of medical care provided.

2.3.8. Pre-registration of patients for specialist appointments, diagnostic tests, medical procedures on a reimbursable basis.

2.3.9. Daily notification of patients to remind them about consultative appointments and to warn patients about schedule changes.

2.3.10. Maintaining the «Waiting list» of citizens to sub-specialists for paid appointments and recording a patient who needs a doctor's appointment on the vacated place in the schedule.

2.3.11. Participate in creation and editing of reference and information documentation.

2.3.12. Gathering information for formation of the «Unified structured directory-catalogue of medical institutions of the region».

2.3.13. Formation of reports on the results of the Centre's activity: statistics of incoming and processed calls, patients' needs in specialists, analysis of incoming information.

2.3.14. Collection of information: suggestions, wishes, complaints from patients, partners and employees of health care institutions.

2.3.15. Information by phone is provided both in automatic mode and through direct dialogue with the caller.

3. CONTACT CENTRE STRUCTURE

3.1 The Contact Centre is headed by a director reporting to the Minister of Health of the region. The Contact Centre Director is appointed and dismissed by the order of the Minister of Health of the region.

3.2 In the absence of the director of the department, his/her duties shall be performed by a person appointed by the order of the Minister of Health.

3.3 The structure and staff schedule of the Centre shall be approved by the Director, based on the conditions and peculiarities of the activity of the health care institutions of the region, upon the submission of the Director.

3.4 Dispatchers shall be members of the Centre and shall be directly subordinated to the Director. The employees of the Centre shall be hired and dismissed by the order of the Director.

4. RIGHTS OF THE CONTACT CENTRE

The employees of the Centre shall have the right to:

4.1. To participate in the development of information programmes, plans and schedules related to the provision of paid medical and service services, as well as to take part in their implementation;

4.2. participate in meetings, sessions on issues related to the activity of the Centre;

4.3. To request and receive from all medical institutions of the region the information necessary for carrying out its activity;

4.4. give explanations, recommendations and instructions on issues within the competence of the Centre;

4.5. Request assistance from the Director of the Centre in the exercise of his/her functions and rights;

4.6. To make proposals to the administration of medical institutions regarding the improvement of the quality of paid medical services, as well as the organisation of the working conditions of the employees of the department;

4.7. to cooperate with health care institutions in order to exchange information in the process of the Centre's work;

4.8. The employees of the Centre shall not provide information about a patient under treatment in a medical institution by telephone:

- information about the fact of the citizen's application for medical assistance, his/her health condition and diagnosis, other information obtained during his/her medical examination and treatment shall constitute a medical secret (p.1 of Article 13 of the Federal Law dated 21.11.2011 N323-FL «On the Fundamentals of Health Protection of Citizens in the Russian Federation»);

- information about the patient's state of health may be disclosed to close relatives in the absence of the patient's prohibition (Clause 2, Article 22, Federal Law of 21.11.2011 N323-FL «On the Fundamentals of Health Protection of Citizens in the Russian Federation»).

5. RESPONSIBILITY OF THE CONTACT CENTRE

The Centre shall be responsible for:

5.1. timely provision of information to the Ministry of Health and chief physicians of health care institutions on the results of the Centre's activity;

5.2. timely and qualitative performance of functional duties by the employees of the Centre;

5.3. observance of the legislation in force, industrial and labour discipline, internal regulations and labour protection;

5.4. disclosure of information constituting official or commercial secrets of health care institutions of the region;

5.5. failure to comply with orders and instructions of the Ministry of Health;

5.6. damaging the business reputation of health care institutions in the region;

5.7. disclosure of patients' personal data.

6. ENVIRONMENT

To carry out its activity, the Centre shall be provided with premises, equipment, organisational machinery, means of communication and office supplies.

APPENDIX R Job description Director of the Regional Contact Centre

1. GENERAL PROVISION

1.1 This job description defines the functional duties, rights and responsibilities of the Director of the Contact Centre (hereinafter referred to as the Centre).

1.2 The Director of the Centre shall report directly to the Minister of Health of the Region.

1.3 The Director of the Centre shall supervise the personnel of the Centre and shall be responsible for the work of the department. His orders shall be binding for the employees of the Centre.

1.4. In his/her work, the Director of the Centre shall be guided by:

- Civil Code of the Russian Federation;
- Labour Code of the Russian Federation;
- The Charter of the Contact Centre;
- internal regulations, orders and instructions of the Ministry of Health of the region and the Director of the Contact Centre;
- Regulations on the Contact Centre;
- this job description.

2. JOB DUTIES

2.1 The Director of the Centre shall manage the Centre's team, in accordance with the legislation in force, in order to achieve the objectives of the Centre:

- ensures the effective work of the Centre;
- organises and supervises the work of the dispatchers, controls their telephone conversations, coordinates the work of the Centre;
- defines the strategy of the Centre's activity, develops and prepares perspective plans of the Centre's work development;
- supervises the quality of work of the Centre's employees;
- organises the necessary professional training of new employees and holds regular training seminars to improve the qualification of operators;

- control the provision of the Centre with the material resources necessary for its work;

- distributes duties among the employees of the Centre, structures the Centre's activities;

- selects, hires and dismisses employees in compliance with the labour law;

- is responsible for creating a favourable working environment;

- draws up the working schedule;

- supervises the observance of the internal labour regulations of the hospital by the employees of the Centre;

- draws up and approves the holiday schedule of the Centre's employees.

2.2 Supervise the completion of the «Unified structured directory of the Ministry of Health of the region» and the «Waiting list for specialists of the institutions of the region».

2.3 Interact with all health care institutions of the region, as well as with the heads of health care institutions of the region on the issues of providing medical assistance on a reimbursable basis to the population of the region (individuals and legal entities), the Russian Federation and other countries, coordinating the dates of admission for consultation or hospitalisation.

2.4 Participates in the formation and adjustment of the work schedule of specialists of the region's institutions.

2.5 Maintains monthly reports on the Centre's activities (call statistics, analysis of the flow of appointments to specialists and information on incoming requests).

2.6 Trains the staff to work in the MIS programme and virtual ATC to pre-register patients for paid services (consultative appointments and diagnostic manipulations).

2.7 Organises the collection of information: suggestions, wishes, complaints from patients, partners and hospital staff.

2.8. Possesses the full functionality of a dispatcher.

2.9. Makes proposals to the Ministry of Health, heads of health care institutions on improving the quality of paid medical services, organisation of working conditions

of the Centre's employees, amendments and additions to the Regulations on the Contact Centre (functional duties of employees, main functions, financing, etc.).

2.10. Controls incoming information: phone calls, emails, requests from the website, messengers and other communication channels.

3. QUALIFICATION REQUIREMENTS

A person with higher professional education and at least 3 years of work experience, including at least 1 year of work experience in a medical institution, shall be appointed to the position of the Centre Director.

4. RIGHTS OF THE CONTACT CENTRE DIRECTOR

The Head of the Centre shall have the right to:

4.1. To request from all health care institutions of the region the information necessary for fulfilment of his/her official duties and assigned tasks;

4.2. submit for consideration of the Minister of Health and chief physicians of medical institutions on improvement of provision of paid medical services to the population;

4.3. to receive assistance from the Ministry of Health in fulfilment of his/her official duties and rights;

4.4. to receive from the Ministry of Health and chief physicians of health care institutions information necessary for the performance of his/her activities;

4.5. give explanations, recommendations and instructions on issues within the competence of the Director of the Centre;

4.6. sign documents within his/her competence.

5. RESPONSIBILITY

The Director of the Centre shall be responsible for:

5.1. non-performance or improper performance of his/her official duties, stipulated by this Instruction, within the limits defined by the current Labour Law of the Russian Federation;

5.2. failure to fulfil orders, instructions of the Ministry of Health and chief physicians of health care institutions;

5.3. disclosure of information constituting official or commercial secrets of the Contact Centre;

5.4. damaging the business reputation of health care institutions in the region;

5.5. failure to comply with safety, fire safety, and other rules that endanger the Contact Centre's activity and its employees;

5.6. non-compliance with the Internal Labour Regulations and discipline;

5.7. failure to ensure the safety of inventory of the Contact Centre.

6. PROCEDURE FOR AMENDING THE JOB DESCRIPTION

6.1 The job description of the Contact Centre Director shall be approved by the Minister of Health of the region.

6.2 This job description may be amended by the order of the Minister of Health.

6.3 Amendments made to the Job description shall not affect the essential terms and conditions of the Labour Agreement. The new version of the Job description shall come into force from the moment of its approval and shall remain in force until it is replaced by a new Job description.

6.4 All amendments to the Job description shall be notified to the Contact Centre Director in due time.

APPENDIX S. Contract for the provision of paid medical services

Ekaterinburg city, date: _____

State health care institution (Licence of the Ministry of Health...), hereinafter referred to as the «Contractor», represented by the Chief Physician Ivan Ivanovich Ivanov, on the one hand _____ hereinafter referred to as the «Customer (Consumer)», on the other hand, jointly referred to as the «Parties», have concluded the following agreement:

1. Subject of the contract

1.1 The Contractor undertakes on behalf of the Customer (Consumer) to provide medical services of the agreed type and volume during the term of the Agreement, and the Customer (Consumer) undertakes to pay for such medical services. The list of medical services is specified in the Agreements to the Agreement, the number of Agreements during the term of validity of the Agreement is not limited. The basis for execution of Agreements is an Application for provision of paid medical services.

1.2 Upon conclusion of the Agreement, the Customer (Consumer) is notified of the possibility to receive the relevant types and volumes of medical care without charging a fee within the framework of the territorial programme of state guarantees of free medical care for citizens (hereinafter referred to as the territorial programme).

1.3 This contract is concluded for the provision of medical services:

(a) on conditions other than those stipulated by the territorial programme and (or) target programmes;

b) citizens of foreign countries or citizens of the Russian Federation not permanently residing in the territory of the Russian Federation who are not insured under compulsory medical insurance;

c) when applying for medical services independently

1.4 At the Customer's (Consumer's) request, medical services shall be provided, the name and quantity of which are specified in the Agreements to the Contract.

1.5 Upon signing the Agreements, the Customer (Consumer) shall be warned of the need to use consumables not included in the price of medical services (hereinafter referred to as consumables) during the provision of medical services.

1.6 Upon signing the Agreement, the Customer (Consumer) is notified that citizens under treatment, in accordance with the Federal Law «On the Fundamentals of Health Protection of Citizens in the Russian Federation» are obliged to comply with the treatment regime, including that determined for the period of their temporary incapacity for work, and the rules of patient behaviour in medical organisations.

2. Conditions and terms of service provision

2.1 Medical services shall be rendered in outpatient conditions at the location of the Contractor.

2.2 The services under this Agreement shall be rendered immediately after the conclusion of the relevant Agreement, the date of rendering the services may be agreed upon by the parties additionally (the fact of rendering medical services to the Customer (Consumer) confirms the agreement of the parties on the terms of rendering medical services).

3. Cost of services. Terms and procedure of calculations.

3.1 The cost of medical services is determined by the price list (tariffs) in force at the Contractor at the time of signing the Agreements to the contract. The total amount of the present contract is determined by the cost of services specified in the Agreements to the contract. The cost of consumables (if any) is determined by the retail price.

3.2 Form of payments - cash and non-cash payment, through the Executor's cash desk using receipts or cash cheques, which are strictly accountable documents.

3.3 Settlement procedure - the cost of services and consumables (if any) specified in the Agreements to the Contract shall be paid by the Customer (Consumer) by way of prepayment immediately upon signing of the relevant Agreement.

4. Rights and obligations of the parties

4.1 The Contractor undertakes to provide medical services that meet the requirements for diagnostic and treatment methods authorised in the territory of the Russian Federation.

4.2 The Customer (Consumer) undertakes to pay for medical services within the terms stipulated in the Agreement.

4.3 The Customer (Consumer) undertakes to comply with the rules and procedure for the provision of services established by the Contractor, including careful treatment of the Contractor's property, compensation for damage caused to the Contractor's property.

4.4 The Customer (Consumer) undertakes to sign and hand over to the Contractor's representative the One-Time Visit Coupon immediately after the provision of services, or to submit motivated objections. The Customer's (Consumer's) signature on the coupon confirms the fact of receiving the medical service. In the absence of written motivated objections within three working days from the date of service provision, medical services are recognised by the parties as accepted without comments.

4.5 Upon completion of the service and upon readiness of the result (if applicable), the Contractor shall issue to the Consumer (his/her legal representative) medical documents (conclusion, certificate, extract, protocol or other) reflecting the state of health of the Consumer after receiving paid medical services, without charging an additional fee. Medical documents (copies thereof) and extracts therefrom shall be issued in accordance with the Procedure approved by the order of the Ministry of Health of the Russian Federation.

5. Responsibility of the parties.

5.1 For failure to fulfil or improper fulfilment of the terms and conditions of the agreement, the parties shall be liable in accordance with the current legislation.

5.2 In case of disagreements, the parties shall take all measures to resolve them through negotiations.

6. Procedure for modification and cancellation of the agreement.

6.1 This Agreement may be amended by agreement of the Parties.

6.2 This Agreement may be terminated early by agreement of the Parties.

6.3 If the Customer (Consumer) refuses to receive medical services after the conclusion of the contract, this contract shall be cancelled. In this case the Customer (Consumer) shall pay to the Contractor the expenses actually incurred by the Contractor

in connection with the fulfilment of obligations under the Agreement within 5 (five) working days from the moment of termination of the Agreement.

7. Final provisions.

7.1 In everything that is not stipulated by this Agreement, the Parties shall be guided by the current legislation of the Russian Federation.

7.2 The Parties agree to use facsimile reproduction of signature by means of mechanical or other copying means when signing the present contract, annexes and agreements to it.

7.3 This Agreement shall come into force since the signing by the Parties and shall remain in force till 31 December of the current year.

7.4 The Appendix (List of works (services) constituting medical activity of the Contractor in accordance with the Licence) and Agreements to the Agreement (after signing by the Parties) shall be an integral part of this Agreement.

7.5 The present contract is made and signed in 2 copies, one for each party.

Contractor....	Customer (Consumer)
Chief Medical Officer of the Ministry of Health	_____
	Data of the identity document:
	Passport series _____ No. _____
	Phone _____
	_____ / FULL NAME