

IMPROVING THE HEALTHCARE SYSTEM FROM THE PERSPECTIVE OF BIOETHICAL VALUES AND THE HISTORY OF MEDICINE

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Abstract

By the 18th century, the widespread dissemination of Enlightenment ideas across several European countries, combined with the socio-political conditions of the era, led to the realization of a need to provide medical care to various segments of the population, particularly the military and specific groups of civilians. To this end, the idea of establishing specialized medical services and institutions subordinate to government administrative bodies was proposed. Consequently, state authorities began to assume certain responsibilities for organizing medical care and managing the healthcare system.

Keywords: Bioethics, bioethical values, history of medicine, healthcare, system, medical ethics, medical innovations.

In the Russian Empire, however, the level and quality of state regulation of the healthcare system were considerably higher. This situation can be observed through two events that hold a significant place in the history of medicine.

Firstly, in 1755, the "General Hospital Regulations" were adopted, which established mandatory requirements and standards for the organization and operation of hospitals.

Secondly, the formation of the healthcare system accelerated during this period. In the 18th century, staff physicians appeared in almost all major cities. A system of military medicine was established, and government physicians even conducted medical supervision over the activities of penitentiary institutions.

As military and civilian medical institutions were established and their management systems formed, the state recognized a significant need for medical personnel. Consequently, the state began to actively engage with the medical education system. Issues concerning the development and reform of higher medical education started to involve not only state officials but also representatives of the tsarist government. From the perspective of medical history and bioethical concepts, the development of management and technological innovations within public healthcare institutions is of great importance today. Generally, the competitiveness of the Russian Federation's healthcare system is determined by the pace at which modern medical and scientific achievements are implemented, the range of medical services is expanded, and their

quality is improved. In this process, it is crucial to consider the historical experience of both national and Western medicine, as well as to provide bioethical support for medical innovations.

A retrospective analysis of the healthcare system's innovative development level, based on indicators such as human capital, the creation and practical implementation of new medical knowledge, the financing of medical innovations, and the development of the pharmaceutical market, reveals that the potential of qualified personnel is one of the most critical factors in stimulating innovative activity in the healthcare sector.

An analysis of our country's medical history reveals that activities within the medical field are largely dependent on the human factor. In particular, the scientific knowledge, organizational abilities, and practical experience of specialists are crucial for the formation and development of new medical knowledge and skills. According to historians, at the current stage of medical development, special attention must be paid to the effective practical application of specialists' intellectual potential.

An analysis of the history of modern medicine shows that a state's innovation policy in the medical field must take a number of important factors into account. Firstly, Russia possesses significant scientific potential and a knowledge base across many areas of fundamental science.

Secondly, in the medical field, there are specific challenges in transitioning from fundamental studies to practical medical technologies through research and development. In particular, the field of applied development is noted to be underdeveloped, and there is a lack of the necessary innovative infrastructure to introduce advanced medical technologies based on the principles of bioethics.

Thirdly, the financial resources of the public healthcare sector are often directed toward purchasing imported medical equipment. As a result, the economic value of high intellectual potential is primarily generated outside the country, and business sector funds are not sufficiently channeled into developing local medical research and innovations.

To stimulate innovation in the medical field, the activities of healthcare entities are important, but so is the collaboration between them. However, in practice, the institutions meant to foster cooperation among medical research centers, educational organizations, innovative companies, large medical corporations, and small to medium-sized innovative enterprises are underdeveloped.

Drawing upon historical experience, a number of tasks must be undertaken for the innovative development of medicine and the practical implementation of the core principles of the bioethics concept. In particular, it is essential to support scientific

research and experimental developments in priority areas for advancing medical science and technology, taking into account current trends in global medicine.

Additionally, key tasks include creating organizational and economic mechanisms to stimulate domestic market demand for medical innovations, as well as ensuring the development of vital applied medical research and projects. Furthermore, it is necessary to adapt the healthcare system to market relations and establish effective public-private partnerships in the advancement of medical science and technology.

One of the priorities for developing the healthcare sector in Russia is modernizing the system and implementing innovative changes. In this process, the extensive development and practical implementation of biomedical technologies are of particular importance.

To achieve this goal, several key conditions must be met. First and foremost, it is essential to improve the biomedical and biotechnological education system and to establish robust educational, research, and production centers based on a cluster model, in cooperation with leading higher education institutions.

Additionally, it is crucial to promote fundamental biomedical research and to refine the mechanisms for creating applied scientific programs aimed at developing modern technologies and products based on foundational developments.

It is also crucial to support and advance biotechnological research from a bioethical perspective. Furthermore, the development of the field hinges on several important conditions: creating an effective system for managing medical knowledge, ensuring a continuous exchange of knowledge and experience between various medical organizations, and strictly adhering to bioethical principles throughout this process.

The formation of a system for managing medical knowledge and ensuring the continuity of medical knowledge and skills in healthcare organizations is considered a crucial concept aimed at the effective utilization of a medical institution's intellectual capital. By the late 1990s, this approach had evolved into a comprehensive technology, incorporating a set of methods, mechanisms, and software-technological tools designed to increase the operational efficiency of a medical organization and facilitate the processes of free knowledge exchange and creation.

A number of scholars, who were active in fields outside of medicine and who advocated for an interdisciplinary approach, also made a significant contribution to the development of this concept. Among them are researchers such as L. Prusak, T. Davenport, I. Nonaka, H. Takeuchi, D. Stapleton, C. Despres, D. Chavel, W. Bukovich, R. Williams, T. Stewart, and B.Z. Milner.

The experience of organizations that have implemented knowledge management technology shows that this process is, first and foremost, closely intertwined with the human factor. Specifically, several factors can complicate this process. These include the limited capacity of individuals and organizations to acquire knowledge, the reluctance of some employees to share their knowledge with others, the complexity of the knowledge transfer process, and the fear of appearing incompetent in a particular field. Furthermore, the difficulty of acquiring new knowledge or the incomplete adoption of the "knowledge management" concept in organizations rigidly adhering to traditional management methods also affects this process.

Implementing knowledge management technology into the operations of medical organizations primarily requires its integration into the institution's management strategy. This also entails incorporating modern knowledge into the structure of patient treatment and observation protocols and developing practical mechanisms for their continuous improvement.

In general, knowledge management in healthcare institutions is the process of collecting, processing, and disseminating knowledge generated across an organization's various departments. Through this process, vital information and scientific data are delivered to medical personnel in a timely manner. This, in turn, helps achieve optimal results in the diagnosis, treatment, and medical decision-making for patients.

In the context of the healthcare system, the term "knowledge management institute" refers to the established set of formal and informal relationships, rules, and norms that exist among employees of medical facilities, other healthcare organizations, and government bodies. This system, which operates at both federal and regional levels, relies on a methodological framework designed to enhance the efficiency and quality of medical services.

Several tasks can be identified as priority areas of Russian state policy for stimulating the development of medical science and technology. These include advancing important applied medical research and development, forming an independent innovation subsystem within the healthcare system, increasing the efficiency of implementing research results into medical practice, preserving and developing human resource potential in the medical field, and expanding international scientific cooperation in medicine.

In this regard, it is essential to address a series of complex tasks within the healthcare sector. Primarily, this requires defining priority areas for innovation, focusing on the adoption and advancement of key medical innovations. Furthermore, it is crucial

to strengthen state regulation and support for research and development in the field of competitive medical technologies.

Furthermore, urgent priorities include developing the human resource potential of the nation's medical science, creating the necessary conditions to ensure the continuity of scientific schools, and advancing the innovative activities of organizations involved in the commercialization of medical technologies. At the same time, the effective use of public-private partnership mechanisms in implementing large-scale, state-significant innovative projects is also a crucial factor in the sector's development.

To foster the innovative development of the medical field, it is crucial to ensure the effective operation of the sector's innovation subsystem, which serves to translate new medical knowledge into practical services and modern technologies. This system necessitates a competitive scientific sector that facilitates the "creation of medical knowledge" based on fundamental and applied research and development.

There is compelling evidence for the necessity of improving the investment climate in the healthcare sector. However, this alone is insufficient to ensure the industry's stable and dynamic development. It is crucial to channel available resources into priority areas that will realize the competitive advantages of the medical field. To ensure historical continuity in the development of medical science and innovation, a series of measures must be implemented.

Specifically, it is important to clearly define the priority areas for state support in healthcare and to establish a system for directing federal budget funds to these key areas. It is also necessary to introduce mechanisms for the comprehensive support of innovative medical projects, encompassing the stages of "creating medical knowledge — developing medical technologies — implementing medical technologies into practice."

Furthermore, it is crucial to improve the mechanisms for implementing comprehensive medical projects, involving young scientists in research, and developing the technical and instrumental base of the healthcare system. The effective use of public-private partnership mechanisms is also a key factor in carrying out large-scale, nationally significant innovative projects for the development and adoption of advanced medical technologies.

Furthermore, it is necessary to establish a coordinating organizational system that, while introducing new approaches to the development of medical innovation infrastructure and making decisions on the advancement of medical science, technologies, and equipment, also considers the interests of the state, the public, business, and the scientific community, as well as bioethical principles.

To ensure medical innovation in healthcare organizations, a system comprising several functional and incentive-based components must be established. These include components for creating new medical knowledge, developing new medical technologies, and implementing them in practice. Additionally, an institutional framework for medical research and development based on bioethical principles, a sectoral innovation infrastructure, and components for developing innovative management within medical organizations are also of great importance.

According to medical historians, primary scientific research in medicine should focus on several priority areas. These include nanomedicine based on nanosystems and nanomaterials, the study of living systems, the rational use of natural resources, and promising technologies in informatics and electronics for medical needs. Furthermore, improving management technologies for medical research organizations and higher education institutions, as well as supporting the medical research of young scientists and creative individuals, are also considered crucial priorities for advancing medical science.

Currently, stimulating innovative medical activity is a critical condition for ensuring the competitiveness of the healthcare system. In this process, providing the medical field with information is of particular importance. Specifically, it is necessary to create and provide access to databases on ongoing or completed scientific research, dissertations, patents, inventions, and trademarks. Furthermore, providing information about government competitions, tenders, and contracts also serves to support innovative activity.

Experience shows that state medical organizations have a great need for this type of data, whereas in private small and medium-sized medical structures, this demand is relatively low. This situation can be explained by the low level of specialized competition among private medical enterprises. The small number of patents for inventions held by small medical business entities also indirectly supports this idea. Furthermore, cases of unfair competition and violations of intellectual property rights are also observed in this field.

In conclusion, a number of important factors influence the innovative development of national medicine. These include international and national regulatory legal acts in the field of bioethics, primarily the "Universal Declaration on Bioethics and Human Rights" adopted by UNESCO; a system of ethics committees that regularly review bioethical issues; scientific congresses dedicated to bioethical issues; and documents and institutions such as the "Ethical Code of the Russian Physician" adopted in 1997. These factors are essential for ensuring the sustainable development of the medical field on scientific, technological, and ethical foundations.

Conclusion: Bioethics plays a vital role in ensuring patient safety in medical practice, conducting scientific research in accordance with ethical standards, and upholding human dignity in the work of a physician. In modern medicine, bioethics has become an integral part of a doctor's professional culture and is of key importance in the training system for medical specialists.

Bioethical principles ensure adherence to ethical standards in the professional activities of doctors, foster effective collaboration within the medical community, and help correctly establish the relationship between "doctor, patient, and disease." This, in turn, serves to reduce the number of medical errors and increase the effectiveness of the treatment process.

The article suggests that analyzing medical processes through the lens of bioethical concepts helps students understand how to make sound decisions in clinical practice. A bioethical approach is particularly important for making an accurate diagnosis and selecting the most appropriate treatment plan for the patient.

One of the key sections of the article is dedicated to juvenile bioethics. This field addresses the ethical, legal, and social aspects of providing medical care to children. In the United States, for instance, healthcare is provided to children from birth up to the age of 21. The scope of these services includes long-term medical care using specialized equipment, provision of medication, physical therapy, inpatient treatment, rehabilitation services, social support, and family education. The primary goal of these services is to maximize the physical and intellectual potential of every child.

Among the children in need of such medical assistance are those with conditions such as asthma, cerebral palsy, spinal defects, scoliosis, epilepsy, neurological diseases, immune system disorders, hydrocephalus, Down syndrome, congenital heart defects, diabetes mellitus, and genetic and orthopedic diseases. In the USA, this medical care is provided in strict accordance with bioethical principles and is yielding positive results.

In addition, a number of important tasks in the field of childhood immunizations need to be addressed. These include conducting clinical trials to license new domestic and foreign vaccines, monitoring their use, scientifically studying potential post-vaccination side effects, and developing practical recommendations for their prevention and management.

Furthermore, it is crucial to identify rare or new reactions in children during the vaccination process, to assess vaccine safety for children with special medical needs, and to develop universal scientific and practical recommendations for vaccination in pediatric medical facilities.

In conclusion, it is worth noting that the development of modern medicine, particularly in resolving challenges within pediatric healthcare, demands substantial scientific and practical efforts. When this process is guided by the principles of bioethics, the quality and safety of medical services are further enhanced.

The presented article was prepared based on an interdisciplinary approach and meets the requirements of the third-generation federal state educational standards. According to the authors, these materials serve to prepare future doctors comprehensively, systematically, and at a high professional level.

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