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REVIEW

Foreign scientific consultant for the doctoral thesis of Kusmoldayeva Zhazira Nurasylovna on the topic: "Effective management of innovative activities in the health care of the Republic of Kazakhstan", submitted for the degree of Doctor of Philosophy (PhD) in the specialty "6D051700 - Innovative Management"

The thesis work consists of introduction, three sections, conclusion, list of references.

The first section includes three theoretical parts. In the first part of the work, the author made an analysis of materials of foreign and domestic literature on innovation, innovation management. The doctoral candidate reviewed key specific terms that helped explain the features of management in the industry and identify the underlying factors in the health care management system. The study of these definitions related to the effectiveness of innovation management in the medical industry.

Author's definitions characteristic of the management system are also characteristic of the innovation management system in health care. These indicators in the management system are planning, organization of activities, a system of motivation, quality monitoring and control, development of an innovative development strategy.

These definitions allowed the author of the thesis to conduct a comparative analysis of generally accepted concepts used in management practice, with terminology used in medical practice. These scientific findings also helped to understand the features of healthcare in terms of innovation management.

In the second part of the work, the researcher identifies and analyzes various types of innovations: medical technological innovations, organizational innovations, economic innovations, information technological innovations, medical-pharmaceutical innovations, medical-technical innovations, product and process innovations.

Also in this part of the work, the key features of innovation in the medical field are shown, which also became a scientific result in the thesis.

The author also argues that the special importance for the optimal functioning of innovative processes in the health care system is due to effective state regulation and implementation of state innovation policy, which is associated with the organization of innovative budget support for the development of advanced technologies in the medical industry.

The third part describes modern approaches to assessing economic efficiency in health care and the methods used for this. The conclusion about the effectiveness of economic analysis to solve the problem of the distribution of financial resources that are directed to the needs of health care.

The second section of the thesis includes three parts devoted to a comprehensive and practical analysis of the economic efficiency of innovation management in the health care of the Republic of Kazakhstan

In the first part of the work, the author believes that there are features of economic analysis in health care that come down to the difficulties of finding a universal methodology for the effectiveness (innovation) of management in the health care system.

The author of the study attempted to systematize various methods of measuring the effectiveness of health care. These techniques include health technology assessment, cost minimization, cost-benefit assessment method, cost-effectiveness assessment method, utility-cost assessment method, prevented economic damage assessment method, method of determining the equivalent of human life (or cost of living), methods of assessing the economic effect of the health service, the method of assessing the economic efficiency of the industry.

In the second part of the work, the most significant problems of introducing innovative management in the health system of Kazakhstan are analyzed. These problems include:

- the lack of a single, accessible database of ready-made innovative medical products (works and services);
- low level of information exchange between authors and innovators, as well as practicing doctors and medical institutions;
- lack of funding for innovation in the industry;
- the lack of clear, uniform regulatory documents governing the promotion and implementation of innovative developments in the practice of health care in Kazakhstan;
- low wages in the public health sector, etc.

In the third part of the work was shown the author's economic and mathematical model. The content of the model boils down to the fact that sustainable innovation development leads to the economic development of the country and provides higher growth rates of the gross regional product, smoothes uneven regional development and improves the quality of life of the population of the regions, which is the main indicator of the country's welfare.

According to the Kuznets environmental curve, the thesis explains the degradation of the environment, the aggravation of the ecological situation and the subsequent increase in the scale of decline in the health indicators of the population of the regions of Kazakhstan. In terms of the quality of the environment and the health of citizens, one of the most unfavorable regions among the regions of Kazakhstan in the study identified the Karaganda region.

The author comes to the conclusion that the transition to sustainable innovation development and its management is a very long process, since it requires the solution

of unprecedented social, economic and environmental problems. The conclusion of this part addresses the issue of implementing the principles of sustainable innovation development.

The third section is devoted to the analysis of the strategic goals of health development based on its qualitative characteristics, which are reflected in the Strategic Development Plan of the Republic of Kazakhstan until 2030. The paper analyzes the priority tasks of the industry development for 2026. The priority areas include such areas as:

- the continuation of the introduction of innovative projects and the transfer of advanced medical care technologies to the overall health care system;
- improving standards of care in accordance with international standards;
- introduction of modern management tools, corporate governance principles in the public sector;
- development of public private partnerships, effective mechanisms for resource conservation;
- improving the structure and content of the training of health professionals; further development of the Unified Health Information System in the framework of the State Program "Information Kazakhstan 2030".

In the first part of the third (final) section of work, the author summarizes that the innovative management of the industry rests on the dynamics of the positions of three parties in the person of the state, employers (business) and the citizens themselves, who act as participants in the process of improving the quality of public health in terms of ensuring social responsibility.

The author of the dissertation research, the development of quality in the health care system, and the innovative development of the medical industry are the basic factors seen through the interpretation of the system, where quality assurance is possible through the use of innovative tracking methods.

According to the author of the dissertation research (in the second part of the work), in general, the effectiveness of the health management system includes such innovative management tools as quality management of medical care, which means the development of management and corporate governance in health care, human resource management, new drug policy, medical equipment technology, the formation of a national health information system.

The paper formulates innovative principles of scientific and methodological support for health care reforms, proposes a new structure for managing innovation activities in the health care system. The elements of this structure are state scientific centers; business incubators; temporary creative teams, etc. A new structure for managing innovations in the health care system can be a good tool for increasing efficiency in other sectors of the economy.

In the summary of the dissertation, the author identified the scientific novelty and methodology of the research performed. The scientific results of the work are listed in detail. The author also formulated the theoretical significance and practical value of the work. The reviewer agrees with such characteristics of the work formulated by its author.

As follows from the above, the dissertation of Zhusira Kusmoldayeva is a practically completed scientific research and it can be admitted for defense.

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