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Modern achievements and prospects for the development of higher medical education: Ukrainian realities

Сучасні досягнення і перспективи розвитку вищої медичної освіти: українські реалії

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Abstract

The purpose of the study is to research and highlight modern achievements and prospects for the development of higher medical education in Ukraine. Theoretical and empirical methods were used to achieve the set goal and solve research problems. A modern doctor must perfectly master his professional competence. The main motive for reforming the medical field is the desire of students to master professional skills and practical skills, to deepen the acquired theoretical knowledge and apply it in practice, to develop skills regarding the standards of providing medical care, to gain experience in practical work, which will allow a modern student to successfully work independently in the future. It is also necessary to create a group that

Анотація

Мета дослідження – вивчити та висвітлити сучасні досягнення та перспективи розвитку вищої медичної освіти в Україні. Для досягнення поставленої мети та вирішення завдань дослідження використовувалися теоретичні та емпіричні методи. Сучасний лікар повинен досконало володіти своєю професійною компетенцією. Основним мотивом реформування медичної галузі є бажання студентів оволодіти професійними навичками та практичними навичками, поглибити набуті теоретичні знання та застосувати їх на практиці, розвинути навички щодо стандартів надання медичної допомоги, отримати досвід практичної роботи, що дозволить сучасному студенту в майбутньому

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would carefully study and propose a number of conceptual priority measures related to changes in legislation and aimed at coordination between universities in order to develop a clear, unified strategy for reforming medical education, to ensure the responsibility of higher education institutions for the quality of education and its guarantee, taking into account the interests of society.

Keywords: medical education, professional education, education in Ukraine, reforming professional education, the realities of medical education in Ukraine.

Introduction

The modern system of medical education is undergoing significant changes. The list of medical specialties is expanding, so many future specialists in addition to general medical education receive additional, narrow medical specialties. Genetic research methods are being introduced into many subspecialties, for example, in reproductive medicine. This approach requires dosed information for future specialists, when the general outlook of medical knowledge is preserved, and in addition to it, highly specialized knowledge is given. The use of distance education (including in connection with the COVID-19 pandemic) is expanding, as are methods of rapid online testing. Ukraine, one of the former republics of the Soviet Union, is still at the beginning of reform. Ukraine's educational system (including medicine) is still dominated by the Soviet educational system, which is already morally and intellectually obsolete. Students are most often offered textbooks that are 40 years old. At the same time, there have been some positive shifts. New educational technologies are being introduced for Ukrainian medical students. Ukraine remains today an attractive country for foreign students wishing to study medicine. At present, the theme of assessing the quality of education of Ukrainian medical students remains relevant, since no research in this direction has been conducted. This has determined the necessity of this research.

The purpose of the study is to research and highlight modern achievements and prospects for the development of higher medical education in Ukraine.

успішно працювати самостійно. Також необхідно створити групу, яка б ретельно опрацювала та запропонувала низку концептуальних першочергових заходів, пов'язаних зі змінами законодавства та спрямованих на координацію між університетами з метою вироблення чіткої, єдиної стратегії реформування медичної освіти, забезпечення відповідальності вищими навчальними закладами за якість освіти та її гарантування з урахуванням інтересів суспільства.

Ключові слова: медична освіта, професійна освіта, освіта в Україні, реформування професійної освіти, реалії медичної освіти в Україні.

The tasks of the research are:

- to determine the current directions of reforming medical education;
- to determine ways of implementing interdisciplinary connections in educational activities;
- highlight the conditions for implementing the updated system of medical education in Ukraine.

The research questions to the goals and objectives are as follows. What is the quality of medical education in Ukraine today? What areas of reforms in the system of medical education in Ukraine are the most relevant? Is there a possibility to implement interdisciplinary and international relations in the system of medical education? What are the conditions for introduction of innovative approaches in the system of medical education in Ukraine?

Theoretical Framework or Literature Review

Levels of Reform in the Global Medical Education System. The successive level system of higher education - bachelor's and master's - has recently become a new and unknown system for higher medical education in Ukraine, which was previously represented only by a specialist (Srichawla et al., 2022).

The reform of the healthcare system provides for updated requirements for education and training of specialists in accordance with new standards. The modern development of medicine makes it necessary to make corrections in the training of future medical personnel and improve the qualifications of medical workers in accordance

with international standards. That is, medical education should ensure high-quality training of students and become an important component of reforming the health care sector and implementing the social priorities of the state, since the quality of medical care for the country's population and the quality of life of the population depend on the level of training of future doctors (Matalon et al., 2020).

A modern doctor must perfectly possess his professional competence, communication skills and personal and professional culture, be able to explain and transfer knowledge to students or colleagues, as well as adapt to changes in the legislative nature, to the performance of professional duties. This will enable health care specialists to work in a single, generally accepted professional space, using global experience in protocol management (Akoob et al., 2022).

Ways to optimize the medical education system. To create an updated model of the health care system, it is necessary to change the basic secondary and higher medical education in order to optimize the opportunities of medical students and strengthen the competitiveness and prospects of future nurses and doctors. After all, it is common knowledge that the decrease in the level of knowledge and the quality of educational services of future specialists in the medical field has a negative effect on the quality of providing medical care to the population, on the knowledge, skills and desire to help the patient. The World Federation of Medical Education (WFME) developed standards for doctors called "Continuing Professional Development" back in 2003. The following motto is embedded in the series of these standards: "Education cannot be considered preparation for life, because education is life."

Upcoming directions for the development of the medical education system. That is why it is necessary to single out the key strategic directions for the further development of medical education in the context of reforming the healthcare sector of Ukraine and preparing priority measures for implementation in universities (Srichawla et al., 2022).

Thus, higher medical education in the magistracy, according to the current version of the List of areas of training for higher education - magistracy, can be obtained within the framework of two areas of training: "public health" and "nursing management", but at the moment it is implemented only 1st direction of preparation (Nickerson, 2019).

Methodology

The study was conducted from September 2020 to December 2021 in Ukraine (Kyiv, Sumy, Cherkasy).

The theoretical methods of research were used to disclose the research question of the relevance of medical education and its quality. Theoretical and empirical research methods were used to investigate the state of implementation of interdisciplinary relations in the system of medical education. Finally, empirical methods were used to identify the ability to implement the latest methods of education. The essence of each of methods is given below.

- theoretical: comparative analysis of pedagogical and medical literature, retrospective analysis, synthesis, comparison and content analysis during the study of normative documents in the fields of medical education, educational programs, curricula of professional training of future specialists, study and generalization of the experience of scientific and pedagogical activity - to analyze the state of development of a scientific problem in pedagogical theory and the educational process of domestic and foreign institutions of higher education; abstraction - to determine the essence and structure; specification and detailing - to identify and theoretically substantiate the pedagogical conditions for the development of medical education in Ukraine; system analysis, modeling and generalization;
- empirical: observations, questionnaires during the study of the current state of formation of the professional identity of future specialists in physical therapy, occupational therapy in institutions of higher education.

Results and Discussion

The analysis of literary sources on medicine and methods of teaching medical specialties in higher education institutions, as well as legal norms, revealed such trends. The analysis was performed separately for bachelor's and master's degrees Quality of medical education for different specialties in Ukraine. The direction of training "nursing" (bachelor's degree) as a specialty is presented in the law "On the approval of the Regulations on internships" (Srichawla et al., 2022).

Qualification requirements for medical and pharmaceutical workers with higher education in

the direction of training "health and medical sciences" (hereinafter - Qualification requirements) for the specified specialty provide for the following positions: general practice nurse, palliative care nurse, preventive care nurse, nurse for rehabilitation.

Thus, bachelor's degree graduates in the direction of training "nursing" have formal opportunities in terms of professional implementation.

The situation is different with the direction of training "public health", which is not in the Nomenclature of Specialties of Specialists with Higher Medical and Pharmaceutical Education, and therefore does not appear in the Qualification Requirements. For the direction of training "management of nursing activities" the situation is similar due to its recent appearance. In turn, the Qualification Requirements include the specialty "Nursing Management", which was acceptable according to the scheme of vocational education: a specialty in the specialty "Nursing" and an internship in the specialty "Nursing

Management", which is currently not possible for implementation due to abolition of specialty and internship (Oswald et al., 2020).

It is also necessary to note the presence of the specialty "organization of healthcare and public health" in the Qualification requirements. For this specialty, the following requirements for the level of professional education are established: higher education - a specialist in one of the specialties: "General Medicine", "Pediatrics", "Dentistry", "Medical Preventive Care". Preparation for internship / residency in the specialty "health organization and public health". This specialty ("organization of health care and public health") is noted here due to the obvious similarity with the direction of preparation of the master's program "public health".

The scale of implementation of undergraduate and graduate programs in the field of education "health and medical sciences" can be assessed by the volume of admission targets for these programs (Figure 1).

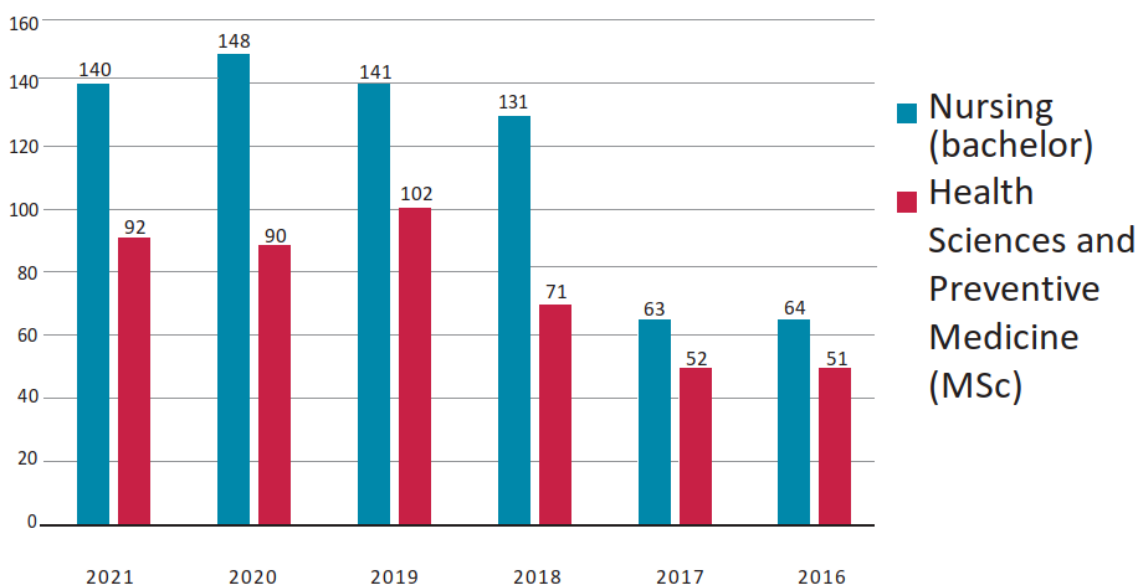


Figure 1. Total volumes of target figures by years of admission to educational programs of higher education at the expense of federal budget appropriations.

The presence of admission targets in the direction of training "nursing" (bachelor's) is understandable, but for "health science and preventive medicine" (master's) - not quite. This aspect is considered here from the point of view of the admission of graduates of the educational program to medical activities, since the direction of training "public health", related to the field of education "health and medical sciences", is not presented in the Qualification requirements.

Thus, at present, in the direction of training "public health", masters cannot carry out medical activities in any specialty, although their first graduations have already taken place, taking into account the fact that the term for obtaining full-time education is 2 years. Since there is no corresponding medical specialty for them (masters), the procedure for primary accreditation of specialists is not possible. Master's degree in the direction of training

"public health", as one of the areas of professional activity, the field of "health" is provided (in the field of organizing the health care system in order to ensure public health).

Thus, taking into account the terms and stages of accreditation of specialists, as well as categories of persons with a medical or other education and subject to accreditation of specialists, it is obvious that it is necessary to amend the Qualification Requirements.

Ways to reform and optimize the system of medical education in Ukraine. One of the directions for the development of higher medical education in the magistracy "public health" and "nursing management") could be a purposeful

continuation of the education of bachelor's graduates in it in the direction of training "nursing". Such "purposefulness" can be achieved by regulatory and legal improvement of admission to medical activities, i.e., amending the Qualification Requirements and Professional Standards (if any).

An option for such an improvement could be the addition of the section "Level of professional education" of the specialty "nursing management" of the Qualification requirements for medical and pharmaceutical workers with higher education in the direction of training "health and medical sciences" with the following formalization (Table 1).

Table 1.
Specialty "management of nursing activities"

Level of professional education	Higher education - specialty in the specialty "nursing". Internship training in the specialty "Nursing Management" or Higher education - bachelor's degree in the direction of training "nursing" and master's degree in one of the areas of training: "public health", "management of nursing activities"
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Source: author's development

The second direction of development of higher medical education in the magistracy can be the alternative of the magistracy in the direction of

training "public health" to residency in the specialty "health organization and public health" (Table 2).

Table 2.
Specialty "health organization and public health"

Level of professional education	Higher education - a specialist in one of the specialties: "General Medicine", "Pediatrics", "Dentistry", "medical and preventive work". Training in internship/residency in the specialty "organization of health care and public health" or training in the magistracy in the field of study "public health"
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Source: author's development

Such alternativeness can be brought to life not only by making additions to the Qualification Requirements, but, most importantly, to the relevant professional standard. By introducing the necessary additions and changes to the specified professional standard, it is possible to achieve selective differentiation in the positions

of medical workers, taking into account generalized labor functions and skill levels.

Interdisciplinary and international connections. It is worth noting that in 2018 the Ukrainian-Swiss project "Development of Medical Education" was launched (Figure 2).

News



Figure 2. MED Project.
Source: author's development.

The Medical Education Development Project (Project, MED) is implemented in Ukraine by the Swiss Institute of Tropical and Public Health (Swiss TPH) with the financial support of the Swiss Agency for Development and Cooperation (SDC). The first four-year phase of the project started in December 2018 and will last until the end of 2022. The budget for the four-year implementation phase is 4.9 million Swiss francs. The project is implemented in cooperation with the Ministry of Health of Ukraine, focusing on priorities that are established with the aim of providing medical education effectively and meeting the existing needs of health care in Ukraine. It is widely recognized that the availability of properly trained and motivated staff in highly resourced, equipped facilities is a critical factor in delivering quality interventions that will improve population health outcomes. Therefore, the overall goal of the "Development of Medical Education" Project is to improve the quality of health care in Ukraine by improving the medical education system for representatives of the primary health care sector. The main focus of the project is on primary health care (doctors and nurses), both in terms of practical primary health care and in building the capabilities and skills of management personnel. The project covers all levels of medical education - undergraduate medical education, postgraduate education (internship), as well as continuous professional development, providing expert, regulatory and

educational support in the process of improving the quality of education for primary care workers (Medical Education Development, 2022).

The increased demand of society for progressive changes in the modern conditions of global competition in medicine determines the consideration of medical universities as important drivers of the transformation of medical education. The integration of medical education into the European space involves the coordination of the methods and content of education with the holistic picture of the modern world, the relationship and mutual influence of social and humanitarian disciplines in the formation of personality through the use of interdisciplinary integration; selection of problematic tasks and arguments that require creative thinking and intelligence combined with knowledge (Pietrzak et al., 2018). The development of innovative integrated courses with the use of modern technologies develops the competencies necessary for a modern physician in practical activities." That is why the reform in medical education is considered as a collective matter of students, teachers, scientists, doctors, managers, even politicians, in accordance with international standards and processes in educational policy (Cheng et al., 2020; da Silva, 2018).

The organization of the educational process in medical universities is regulated by the current

regulatory and legal documents of Ukraine, the standards of higher education of Ukraine, taking into account the principles of the formation of the European area of higher education. The educational process is carried out taking into account innovative educational technologies, mechanisms and procedures determined by the Ministry of Education and Science and the Ministry of Health of Ukraine, which correspond to the principles of medical education of the European Higher Education Area (Komarraju et al., 2018). The content of training of specialists is determined by industry standards of higher education, and the content of higher education in the medical direction is implemented in unified approaches to educational and qualification characteristics and educational and professional programs at the stages of undergraduate and postgraduate training of specialists, developed in accordance with the order of the Ministry of Education and Science of Ukraine. It is important to note that the educational and qualification characteristics of a graduate of a higher educational institution reflect the goals of educational and professional training, determine the specialist's place in the structure of the health care system and the requirements for his competence (Pesapane et al., 2018a).

The educational and qualification characteristics establish branch qualification requirements for social and industrial activity and state requirements for the characteristics and qualities of a person. Though there is no supervisory committee that would monitor and check compliance with all the listed standards in educational institutions and identify gaps in the training of specialists (Idowu, 2018).

Introduction of new methods and technologies in the system of medical education in Ukraine. Despite the fact that institutions of higher education have enough autonomy, conservatism levels modern approaches both to learning and to the cultural and ideological component of the modernization of the teaching process; the passivity of thinking of the teaching staff has a destructive effect on the initiative and creativity of students; insufficient quality control of practical training leads to inappropriate professional competence in the future; improper material and financial stimulation of the work of teachers makes it impossible to desire to form the professional competence of students; insufficient funding of science, outdated or missing educational base inhibit progressive and innovative approaches, etc (Wartman and Combs, 2019).

However, not all teachers use modern information technologies in the educational process; there is no single developed and agreed modern textbook that students could use when preparing for qualifying exams, because most of the textbooks are from the last century, and the educational material is completely outdated and out of date; there are no models on which medical students should improve practical skills, that is, there is a gap between theoretical knowledge and practical skills (Abuzaid et al., 2018).

Therefore, the social significance of medical education involves, first of all, its modernization in accordance with the regulatory, legal and educational and methodological world standards of the field of medicine, preventive measures and preservation of the health of the nation thanks to the actualization of educational policy problems taking into account European standards, ensuring and implementing the latest achievements of medical science. Therefore, professional training in higher education institutions of Ukraine should be aimed at students' mastery of modern competencies, which are based on the culture, morality and ethics of the individual as the basic components of medical education (Duong et al., 2019). The scientist singles out the following components in the content of professional competence: adaptation and civilization; social and organizational; subject-methodical; communicative; value and content, which medical students should acquire in the process of studying in medical institutions of education. Everyone knows that the Ukrainian system of continuous professional development for doctors does not meet the standards of the WFME (Spieler et al., 2020).

Over the past two years, new forms of continuous professional development have been actively developed, discussed and implemented (Smith et al., 2018). The representatives of the European Commission in Ukraine have developed the Concept of higher education, which is based on the following forms: training and internship based on improvement cycles (from one to four weeks), distance learning, internships in Ukrainian clinics and abroad, participation in meetings, congresses, work meetings and other scientific forums, gaining experience in modern clinics, sharing experience, etc (Park et al., 2019).

However, this Concept was not actively supported and implemented in the educational process.

The patient's life and health should be the basic human and professional values of medical professionals. High-quality medical care is impossible without changing the cultural paradigm and creating a new professional environment - self-reproducing and independent (Pesapane et al., 2018b). The implementation of the Strategy is designed for 10 years and involves the creation of a high-quality system of medical education with a high level of training of specialists, namely:

- improving the quality of higher medical education;
- qualitative change in postgraduate education;
- provision of effective financing and management;
- rethinking of academic culture;
- stimulating the development of scientific research.

It is worth noting that medical education should be developed based on the latest achievements of medical science and practical achievements of world medicine, which requires knowledge of a foreign language.

In order to be able to use the achievements of world medicine and be a competitive specialist, one must be motivated, adhere to bioethical and ethical-deontological norms, and be a highly qualified and humanistically oriented specialist (Hall et al., 2020).

It is worth noting that the Internet plays a great role in the training system of a modern specialist in the medical field. Internet self-education has become a new and quite effective form of self-education with the application and use of a computer and the Internet, which must also be used in the process of training medical students. Its possibilities are extremely diverse: from instant access to a huge amount of information to the possibility of taking online courses that allow you to watch video lectures by well-known specialists in various fields of medicine and dentistry, test your knowledge using tests, communicate with other students, teachers, exchange experiences, opinions, participate in forums, conferences (Cassidy et al., 2020).

It is worth noting that continuous professional development is necessary not only for doctors, but also for teachers of medical universities. In order to teach students, one must be aware of the latest news, treatment tactics or diagnostic techniques, innovations in medicine at the international level, etc. That is, educational

programs must correspond to the latest achievements of medical science. However, without changing the paradigm of basic secondary and higher medical education in Ukraine, it is impossible to bring the health care system closer to world standards, carry out its reform, and provide quality medical care to the population in the future (Sivarajah et al., 2019).

Therefore, the need to reform the medical field is reinforced by the regularity of overcoming the contradictions that exist in the modern medical education system, since the Ukrainian medical field is in a long process of reformation, therefore the full use of university clinical bases should be a priority direction for students to master important professional competencies and necessary practical skills for undergraduate stage (Bank et al., 2019).

Having analyzed the problems and outlined the directions for the development of medical education, which will be implemented by the Ministry of Health of Ukraine in the future, special attention should be paid to the environment that forms the personality and lays the necessary character qualities (Awan et al., 2019). The educational environment generates motivation regarding the model of behavior that students observe in the educational institution, take an example from teachers, focusing even on the manner of conducting a dialogue or treating a patient (Koontz et al., 2018). Therefore, a successful and cultural environment plays an important role in the formation and development of the future doctor.

Scientists believe that the educational process should correspond to the available scientific and pedagogical potential, the material and educational and methodological base of the university; a mandatory condition should be modern information technologies of education with a focus on the formation of an educated, harmoniously developed personality, capable of constant updating of scientific knowledge, academic and professional mobility, rapid adaptation to changes and development in all areas. That is, the quality of education in higher educational institutions must be improved through effective organization and informatization of the educational process, introduction of advanced scientific developments into teaching practice, ensuring high professionalism of teachers, creation of a modern educational and methodological base in all educational fields, in particular, medical (Randriambelonoro et al., 2018).

Conclusions

The quality of medical education for different specialties in Ukraine and ways to reform and optimize the system of medical education in Ukraine. The authors believe that the main motive for reforming the medical field is the desire of students to master professional skills and practical skills, to deepen the acquired theoretical knowledge and apply it in practice, to develop skills regarding the standards of providing medical care, to gain experience in practical work, which will allow a modern student to successfully work independently in the future. Interdisciplinary and international connections. The implementation of interdisciplinary connections in educational activities is one of the necessary didactic means of forming students' professional knowledge and skills, that is, the opportunity to comprehensively solve the tasks of medical practice based on interdisciplinary integration. Introduction of new methods and technologies in the system of medical education in Ukraine. The updated system of medical education should be based on modern approaches, guarantee quality and ensure compliance with higher education standards, should be focused on informatization and implementation of the high potential of computer and telecommunication information technologies in the process of teaching professional disciplines. It is also necessary to create a group that would carefully study and propose a number of conceptual priority measures related to changes in legislation and aimed at coordination between universities in order to develop a clear, unified strategy for reforming medical education, to ensure the responsibility of higher education institutions for the quality of education and its guarantee, taking into account the interests of society.

We see the prospect of further research in a comparative analysis of the system of higher medical education in Ukraine and the United States of America.

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