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Современные тенденции развития учебной и научной дисциплины «Общественное здоровье и здравоохранение»: ее методологическая роль и интегративная функция

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АННОТАЦИЯ

Актуальность. В современных условиях развития общества меняются акценты в отношении определения не только общественного, но и индивидуального здоровья. Сохранение и укрепление здоровья населения — задача комплексная, предусматривающая взаимодействие различных специалистов. Эта интеграция, комплексность взаимодействия в вопросах сохранения и укрепления здоровья населения, несомненно, должна находить отражение в подготовке специалистов, и в первую очередь на этапе высшего медицинского образования.

Цель. Определить роль дисциплины «Общественное здоровье и здравоохранение» (ОЗЗ) в преподавании вопросов здоровья населения и интеграции кафедр различного профиля в изучении индивидуального, группового и популяционного здоровья в современных условиях.

Статья представляет собой дискуссию о современных тенденциях развития учебной и научной дисциплины ОЗЗ на основании мнения студентов, преподавателей и опыта Сеченовского университета. Так, студенты, обучающиеся по направлениям подготовки «Лечебное дело», «Педиатрия», «Медико-профилактическое дело», считают, что изучение вопросов общественного здоровья является задачей врачей любой клинических специальностей (69,4–76,7%), врачей-гигиенистов (< 60,0%), задачей врачей-эпидемиологов (< 30,0%). Интеграция в преподавании вопросов ОЗЗ, по мнению преподавателей кафедр ОЗЗ, по таким видам деятельности, как учебная работа, воспитательная, общие научные проекты, совместные печатные труды, учебники и учебные пособия, совместные инновационные проекты, в основном осуществляется с преподавателями профилактических учебных дисциплин, значительно в меньшей степени — с преподавателями клинических и фундаментальных дисциплин.

Заключение. Необходим интегративный подход к определениям, терминам, понятиям в вопросах изучения здоровья индивидуума, групп населения и популяции при значительном разнообразии дисциплин и кафедр, их преподающих. Методологическая роль в преподавании данных вопросов является прерогативой дисциплины ОЗЗ.

Ключевые слова: *здоровье населения; общественное здоровье; общественное здоровье и здравоохранение; интеграция в преподавании; персонализированная профилактика; междисциплинарный подход; Приоритет-2030*

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Modern Trends in Development of Educational and Scientific Discipline 'Public Health and Healthcare': Its Methodological Role and Integrative Function

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ABSTRACT

INTRODUCTION: In modern conditions of social development, there is a change of emphasis in definitions concerning not only public, but also individual health. Preserving and strengthening the health of the population is a complex task that implies the interaction of various specialists. This integration, the complexity of interaction in issues concerning preserving and strengthening the health of the population, should undoubtedly be reflected in the training of specialists, and, first of all, in higher medical education.

AIM: To determine the role of the discipline 'Public Health and Healthcare' (PHH) in teaching population health issues and in the integration of departments of various profiles in the study of individual, group and population health in modern conditions.

The article presents a discussion about modern trends in the development of the educational and scientific PHH discipline based on the opinions of students, teachers and the experience of Sechenovskiy University. Thus, students of profiles 'General Medicine', 'Pediatrics', 'Medical and Preventive Care' think that studying public health issues is the task of doctors of all clinical specialties (69.4%–76.7%), of hygienists (< 60.0%), of epidemiologists (< 30.0%). Integration in the teaching of PHH issues, according to teachers of PHH departments, in such types of activities as academic work, educational work, general scientific projects, joint printed works, textbooks and teaching aids, joint innovative projects, is mainly carried out with teachers of preventive educational disciplines, to a much lesser extent with teachers of clinical and fundamental disciplines.

CONCLUSION: An integrative approach to definitions, terms, and concepts is needed in the study of the health of individuals, population groups and population with a significant variety of disciplines and departments teaching them. The methodological role in teaching these issues is the prerogative of the PHH discipline.

Keywords: *population health; public health; public health and healthcare; integration in teaching; personalized prevention; interdisciplinary approach; Priority-2030*

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ECO•VECTOR

LIST OF ABBREVIATIONS

COVID-19 — Coronavirus Disease 2019
CULI — credit unit of labor intensity
MPC — medical and preventive care
PHH — public health and healthcare

INTRODUCTION

Currently, with the occurring economic and political changes, a trend to increasing value of health is noted among the population with the underlying pandemics of the new Coronavirus Disease 2019 (COVID-19). The population changes the attitude to health, and different groups of the population focus the attention on support of health. Scientific areas and digital technologies are rapidly developing and are being rapidly introduced into healthcare. There occurs integration of scientific specialties with changes in the priorities of training specialists. Accordingly, the task of the healthcare today, first of all, consists in *training specialists who are capable of taking into account the speed and characteristics of changes in the social, political and public life of the country* [1].

As a scientific and educational discipline, 'Public Health and Healthcare' (PHH) reflects all the features of the development of research on the formation, preservation and strengthening of public health, both at the group and population level, as well as issues of improving the organization of medical care to the population, introducing new organizational technologies, development of economic issues, planning, financing and management of medical organizations. At each stage of its development, PHH, combining elements of public, social and political sciences, *undergoes changes in accordance with ongoing reforms in society and healthcare* [2].

Modern reality requires continuous professional development of teaching staff of PHH departments and of students. At the same time, it should be noted that the task of preserving and strengthening the health of the population is a complex task, involving the interaction of various specialists. This integration, the complex character of interaction in matters of preserving and strengthening the health of the population, undoubtedly, should be reflected in the training of specialists, and primarily in higher medical education.

The **aim** of this study to determine the role of the educational and scientific discipline 'Public Health and Healthcare' in educating the population in health issues and the integrating departments of various profiles in the study of individual, group and population health in modern conditions.

Change of Paradigm of Medicine and Prevention in the 21st Century

The modern conditions of the development of the society are characterized by changes emphasis in the definition of not only public, but also individual health. Previously, public health was mainly understood as a *medical*, *demographic* and *social category*, reflecting physical, mental and social well-being of people realizing their vital activity within certain social communities. At present, the priority is given to the interests of *an individual*.

In the 21st century, the paradigm in medicine and preventionchanged:

- currently speaking about health management, its preservation, strengthening and development, one should also take into account measures aimed at the formation and development of a person's ability to adapt to and manage his health in conditions of social, mental and physical problems;
- paradigm of medicine of the 21st century has an individual character and preventive orientation. It is called 4P medicine (from: *predictive, personalized, preventive, participatory medicine*) [3–7].

The relevance of personalized prevention is currently determined by such circumstances as:

- consulting the population, its education in healthy life style;
- consulting (risk factors, healthy lifestyle) clinicians, their support;
- determining the role and place of medical and preventive specialists, maintaining employment of personnel;
- solving the issues of primary, secondary and tertiary prevention;
- solving the problem of changing the status of 'healthcare organization';
- emphasizing the relevance of addressing issues of preserving and strengthening public health.

It should be noted that the mission of the personalized prevention is to improve health of the population, reduce the primary morbidity, improve individual health, health of the population groups united by a common characteristic (age, gender, occupationand so on), improve the quality of life of an

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individual and of the quality of family life. Personalized prevention is a transition from health of an individual to the health of families, groups and population as a whole [8, 9]. It can be represented schematically as follows (Figure 1).

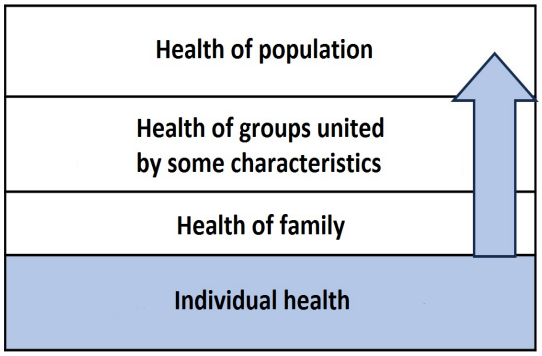

Fig. 1. Change of paradigm of medicine and prevention in the 21st century.

Based on the above, the following definition becomes relevant: health of population is a complex of individual health levels that characterizes the viability of society and forecasts its further socio-economic development. Thus, public health is a medical and social resource and the potential of society, determined by the complex influence of social, behavioral and biological factors, the improvement of which will contribute to increasing the quality and duration of life and well-being of people, the harmonious development of the individual and society, and ensuring the national security of the country.

In general, when speaking about PHH, one should differentiatebetween the concepts of 'public health' and 'public healthcare'. *Public health* is understood as a medical and social resource and potential of society, determined by the complex influence of social, behavioral and biological factors, the improvement of which will contribute to increasing the quality and duration of life and well-being of people, the harmonious development of the individual and society, and ensuring the national security of the country. While public healthcare should be understood as a system of scientific and practical measures and structures of a medical and non-medical nature supporting them, aimed atstrengthening the health of the population, preventing diseases and injuries, increasing the duration of active life and working capacity by combining the efforts of society. *Public healthcare* is considered as the system of life support of the population.

Changing the paradigm of medicine with taking into account the personalized and preventive focus of activities, encourages the development of its other components: prognostic and partnership components. Speaking about the partnership approach in the implementation of prevention activities, it should be noted that the *study of health problems, both public, group and individual, is the prerogative of departments of various directions*, working in close interrelation: departments of fundamental disciplines, clinical, genetics, pedagogy and psychology, departments of epidemiology and evidence-based medicine, hygienic profile (Figure 2).

Such a multidisciplinary approach and integration of departments not only provides a comprehensive approach to the study of the main problems of PHH, but also permits to determine the main directions of preventive measures taking into account risk factors for infectious and non-infectious diseases, psychophysiological and psychosocial characteristics of individuals and their impact on health, the relationship of genetic composition of a nation and health of population, problems of physical development of youth, the influence of reproductive behavior and individual health on public health, and to determine a personalized approach to the formation of public health, develop modern effective health-saving technologies.

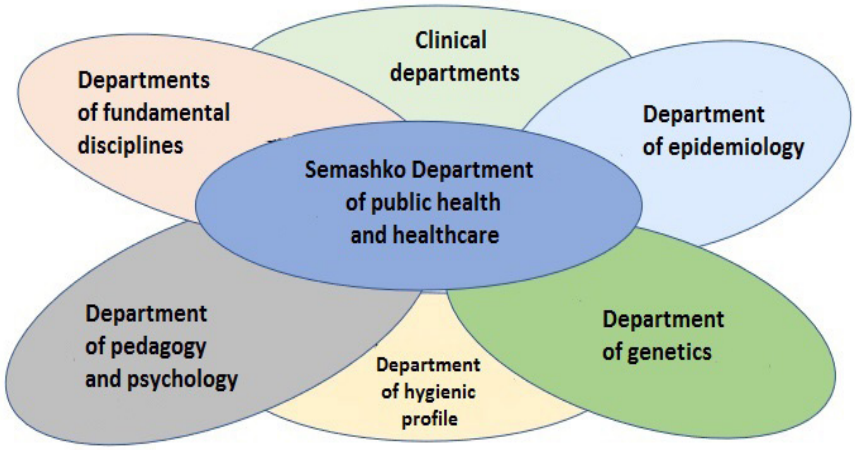

Fig. 2. Scheme of multidisciplinary approach and integration of departments in study of individual, group and population health.

Students' Opinions on the Relationship between Departments in Teaching Public Health and Healthcare Issues at the Stage of Higher Medical Education

In order to study the prospects of an interdisciplinary approach, 515 students were surveyed at Semashko Department of PHH of Sechenov University, *who completed studying of the department*. The surveyed students studying the disciplines'General Medicine' and 'Medical and Preventive Care (MPC)' pointed out the interdisciplinary connections of PHH subject with *bioethics, epidemiology, law, evidence-based medicine, life safety, obstetrics and gynecology, philosophy* (Figure 3).

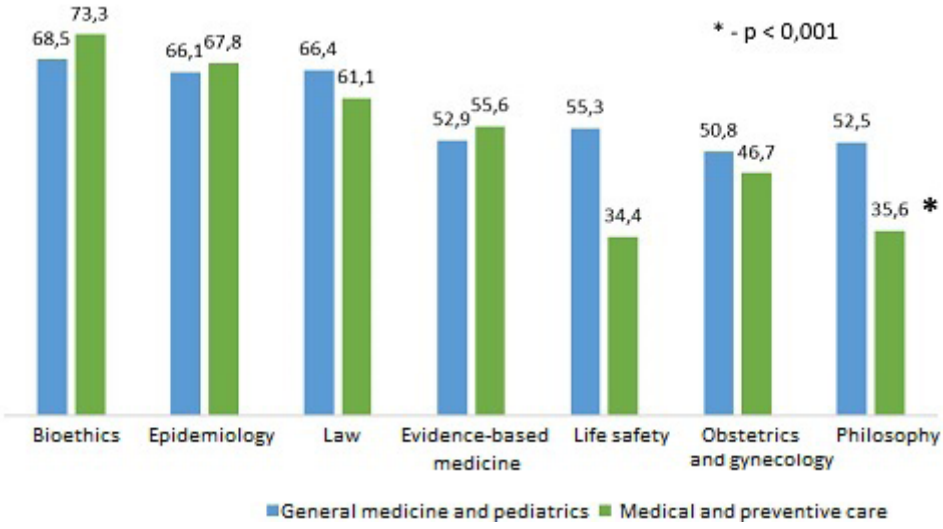

Fig. 3. Interdisciplinary connections of the subject 'Public Health and Healthcare' in the opinion of students, per 100 of respondents.

Notes: LS is the life safety; MPC is a medical and preventive care.

At the same time, answering the question about specialists whose task is to study health (Figure 4), they indicated (in descending order) a doctor of any clinical specialty, a health care organizer, a hygienist, an epidemiologist. At the same time, 11.4% of students studying in the direction 'MPC' and 14.6% of students studying in the field 'General Medicine' believe that this is the *task of the executive authorities*.

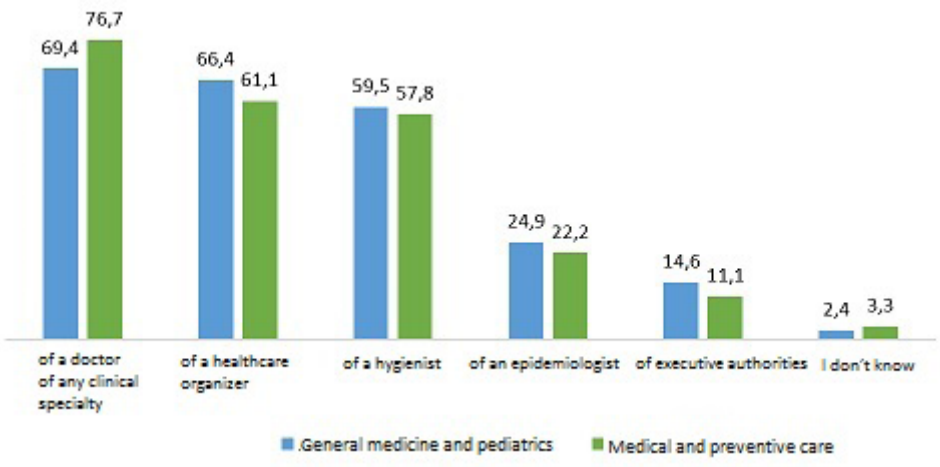

Fig. 4. Students' answers to the question: 'Whose task, in your opinion, is studying public health?', per 100 of respondents.
Note: MPC is a medical and preventive care.

A multidisciplinary approach to the study of individual, group and population health permits to provide an integrated approach to the study of the main problems of public health or health of individual groups, to determine the main directions of preventive measures taking into account risk factors for infectious and non-infectious diseases, psychophysiological and psychosocial characteristics of individuals and their impact on health, the relationship between the genetic composition of a nation and health of the population, problems of physical development of youth, the influence of reproductive behavior and individual health on public health, as well as to determine a personalized approach to the formation of public health and develop modern effective health-saving technologies.

Expert Assessment of Teaching the Discipline 'Public Health and Healthcare'

Forty teachers from four universities (Sechenov University, Voronezh, Saratov and Ryazan State Medical Universities) were interviewed on issues of professional interaction of various departments (preventive, clinical, natural science and fundamental disciplines) within PHH discipline. The intensity of interaction was determined in points (from 0 to 4, Table 1).

Table 1. Teachers' Assessment of Professional Interaction of Various Departments within the Discipline 'Public Health and Healthcare', points, M ± σ (rank)

Types of activities	Educational Disciplines			
	preventive	clinical	science	fundamental
Academic work	3.50 ± 1.38 (1)	2.88 ± 1.70 (2)	2.63 ± 1.66 (3)	2.53 ± 1.72 (4)
Educational work	3.05 ± 1.66 (1)	2.65 ± 1.76 (2)	2.48 ± 1.84 (3,5)	2.48 ± 1.83 (3,5)
Work on joint scientific projects	3.25 ± 1.46 (1)	2.83 ± 1.66 (2)	2.60 ± 1.77 (3)	2.40 ± 1.88 (4)
Printed work	3.33 ± 1.51 (1)	2.88 ± 1.74 (2)	2.35 ± 1.93 (3)	2.15 ± 1.85 (4)
Textbooks, teaching aids	2.85 ± 1.64 (1)	2.20 ± 1.77 (4)	2.28 ± 1.84 (2)	2.23 ± 1.89 (3)
Innovations	3.10 ± 1.58 (1)	2.58 ± 1.78 (2)	2.50 ± 1.80 (3)	2.30 ± 1.91 (4)

The analysis showed that teachers of PHH departments gave the highest rating to *preventive educational disciplines*. The interaction with teachers of clinical departments is rated lower — cooperation mainly occurs within the 'Organization of Healthcare' section, and is especially weak in the preparation of joint textbooks and teaching aids. There is even less interaction with teachers of natural science departments. Finally, the least interaction was noted with teachers of departments of fundamental disciplines.

We think that these results indicate the need to integrate not only the goals and content of academic disciplines within the training programs, but also to develop the cooperation between departments teaching them, with the aim of jointly developing not only universal, but also professional competencies of students.

Experience of Semashko Department of Public Health and Healthcare of Sechenov University

As part of the implementation of the strategic academic leadership program Priority-2030, Semashko Department of Public Health and Healthcare at Sechenov University realizes an additional professional program 'Strengthening Public Health' within additional professional education in the amount of 36 academic hours, which can be used by other medical universities for training students. As part of this program, students can obtain additional professional competencies, among other things, on issues of personalized prevention.

When discussing the staged development of the study of personalized prevention issues and their implementation in training, it becomes reasonable to create a separate module with a volume of no more than three credit units of labor intensity (CULI), i. e. no more than 90 hours in accordance with the Federal State Standards of Higher Education and the main educational programs on the specialties 31.05.01 'General Medicine', 32.05.01 'Medical and Preventive Care', 31.05.02 'Pediatrics', 31.05.03 'Dentistry'.

We believe that this will allow studentsto acquire additional comprehensive knowledgeand skills on issues of health protection, hygienic training and education of the population and its individual groups, within the educational process, as well as to acquire knowledge and skills in health preservation among students, taking into account their individual needs.

At Sechenov University, the educational policy within the Priority-2030 program is aimed at preparing a *qualitatively* new graduate who can *influence changes* in the Russian healthcare industry and has the competencies required for the international cooperation in order to obtain new knowledge and create advanced technologies in the field of life sciences. Currently, personnel training is being carried out aimed at realizing its strategic goal ensuring the *global competitiveness* of Russian education, fundamental and applied research and development in the field of biomedicine.

The ongoing changes in the status and development of Sechenov University from a discipline-specific medical university to auniversity of life sciences, which is currently being such, suggest its further (by 2030) transformation into a world-class research medical university. These changes are promoted by the strategic development program 5-TOR100, the strategic academic leadership program Priority-2030, and the development of advanced engineering schools.

The ongoing reforms are accompanied, first of all, by a change in goal setting, as well as changes in the focus ofthe activity and in the internal contour of the university, in accordance with which the educational policy of Sechenov University has changed. Today it is aimed at preparing a qualitatively new graduate capable of influencing changes in the Russian healthcare and possessing the competencies necessary for international cooperation in order to obtain new knowledge and create advanced technologies in the field of life sciences, such as research, professional, creative competencies and soft skills, biomedical and technical competencies, digital and entrepreneurial competencies [10].

As part of the design of educational programs, the training program being formed is created in accordance with the requirements of the regulatory framework of the Federal State Educational Standards of Higher Education and contains universal competencies, general and professional. At the same time, an organization independently determinesprofessional competencies on the basis of professional standards. Preparation involves the developmentof educational programs, where, as part of the formation of universal, general professional and professional competencies, taking into account the regulatory framework of Federal State Educational Standard 3++, the developed program envisagescrreation of a single educational bioengineering nucleusin the 1st, 2nd and 3rd years; in the 1st–2nd years the formation of universal competencies, in the 3rd–4th years the formation ofgeneral professional competencies, and in the 5th –6th years professional competencies.

In accordance with this, Sechenov University is currently making changes in the training of students, which also involve training inthe PHH discipline. The educational activities of Semashko PHH Department in the implementation of educational programs only within the specialists' program, without bachelor's and master's programs, are presented in Table 2.

Table 2. Educational Activity of Semashko PHH Department of Sechenov University in Implementation of Specialist's Degree Programs

Training Program	Discipline	Volume	Realization
32.05.01 Medical and preventive care	PHH	12 CULIs, 432 hours	8th и 9th semesters
31.05.01 General medicine	PHH	6 CULIs, 216 hours	6th, 7th semesters; since 2023–2024 academic years — 5th и 6th semesters
31.05.01 General medicine (research doctors, personalized medicine)	PHH	6 CULIs, 216 hours	6th и 7th semesters
31.05.01 General medicine (studying in English)	PHH	6 CULIs, 216 hours	6th, 7th semesters; since 2023–2024 academic years — 5th и 6th semesters
31.05.01 General medicine (Baku affiliate)	PHH	6 CULIs, 216 hours	6th и 7th semesters
31.05.02 Pediatrics	PHH	6 CULIs, 216 hours	9th и 10th semesters
31.05.03 Dentistry	PHH	3 CULIs, 108 hours	6th semester
31.05.03 Dentistry (studying in English)	PHH	3 CULIs, 108 hours	6th semester
30.05.01 Medical biochemistry	PHH	3 CULIs, 108 hours	6th, 7th semesters
30.05.02 Медицинская биофизика	PHH	3 CULIs, 108 hours	7th semester

Notes: CULI — credit unit of labor intensity; PHH — public health and healthcare

Thus, PHH discipline in training program 'General medicine', starting from 2023–2024, was shifted to the 3rd year as part of training in the Priority-2030 program with highlighting nuclear disciplines for the formation of competencies of different levels. These students study this discipline before studying clinical disciplines, which has certain peculiarities. On the one hand, these third-year students are taught organization of medical care, while they have not yet studied clinical aspects. On the other hand, studentsobtain a basic approach to assessing population health;by studying public healthwith the determiningfactors and methods of study, they understand that public health is a complex of individual levels of health, and the health of those patients with whom they may later meet in their professional activities.

At Semashko Department of PHH at Sechenov University, integration in the teaching of healthcare is realized at different levels of cooperation between specialists: departmental, interdepartmental (with employees of the departments of Erisman Institute of Public Health, with employees of other institutes of Sechenov University, with external part-time workers),andat the international level.

CONCLUSION

At the current stage of development of society with a change in the paradigm of medicine in the 21st century and reforming higher medical education in the studying and teaching public health issues, with all the diversity of specialized departments participating in the organization and implementation of the educational process, it is necessary to elaborate:

- a *unified* approachto definitions, terms, concepts in studying the health of an individual, population groups and populations at theoretical, clinical, hygienic departments;
- *identical ideas* about risk factors and their impact on the health of individual groups;
- a *unified* methodology for identifying and studying risk factors;
- *common approaches* to the mechanism of formation of a healthy lifestyle, hygienic education and training of the population;
- *common* understanding of the rational use of healthcare resources, etc.

It should be noted that the *methodological role* in teaching these issues in modern conditions still belongs to the scientific and educational discipline 'Public Health and Healthcare' as a discipline that forms research, general professional and entrepreneurial competencies in students.

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At the same time, the *integrative function* of the educational and scientific discipline 'Public Health and Healthcare'consistsin its integration with other academic disciplines that study aspects of public health, attracting specialists from related departments, as well as specialists from other departments of the university and external specialists for teaching. One of the possible ways to implement this cooperation is the creation of public health institutes at universities to form the integration of scientific and educational components of training specialists in the field of health protection.

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