

Formation and development of public health teaching in the system of higher medical education (From social hygiene to public health and health care)

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Abstract

The article deals with the historical ways of formation and development of the educational and scientific discipline “Public Health and Healthcare”, underlines the role of N.A. Semashko in the formation and development of the educational and scientific discipline, in the foundation and holding the first Department of Social Hygiene in Russia. The features of teaching the discipline at the stage of formation, the content of the first Russian manual on Social Hygiene are highlighted in this article. The stages of the formation and development of the discipline in Russia since the 20s of the last century until the present, the peculiarities of teaching the discipline at each of the stages, the reasons for changing the name of the discipline are considered. The special role of the Department of Public Health and Health Care Organization, among other departments dealing with the study of health, is highlighted. The article substantiates the leading, methodological role of the Department in teaching the issues of preserving, strengthening and restoring public health, presents the modern requirements for the departments of Public Health and Health Care Organization, as well as for teachers, shows special aspects of teaching the discipline, the content of the national education program and differences from foreign programs. The ways of development of the academic discipline and the Departments teaching it are also presented.

Keywords: Nikolai Aleksandrovich Semashko, public health, Social Hygiene, Public Health and Healthcare, the Department of Public Health and Health Care Organization, teaching Public Health and Healthcare.

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The development of the system and methodology for teaching public health issues in Russia has started in the early XX century. Considering the historical aspects of the formation of this academic discipline, which is based on teaching of public health issues, nowadays, public health and healthcare is understood as an educational and scientific discipline that focuses a wide range of social, organizational, economic, legal, ethical, and other problems of medicine, as well as public health, its monitoring, protection, and restoration. The discipline and science, being at the confluence of social, political, and economic problems of society at all stages of their formation, reflect all the changes occurring in a society.

Problems of studying health, preventing diseases, and prolonging human life in different years have been the focus of many researchers. In 1700, Bernardino Ramazzini, in his work “De morbis ar-

tificum diatribe,” highlighted the relationship of workers’ diseases with their profession, which became the basis for the development of issues of occupational hygiene [1].

In 1779–1827, Johann Peter Frank published a six-volume manual on social hygiene, which considered measures to reduce child mortality and prevent the spread of sexually transmitted diseases, and discussed issues of school hygiene and marriage hygiene. In his work, he has demonstrated a profound understanding of medical statistics [2].

However, the social and hygienic findings of Ramazzini and Frank did not gain followers, since the necessary social, economic, and political conditions did not exist in the XVIII century.

The ideas of Rudolf Virkhov and S. Neisman, who believed that “most of the diseases are based not on natural, but on social relations,” were not developed further either [2].

Only in the XIX century that social hygiene (medicine) began to develop in Europe. The deterioration of the health of young people, an increase in the frequency of sexually transmitted diseases and tuberculosis and the risk of their spread among the wealthy, as well as an increase in the number of occupational diseases and injuries have led to the need to develop measures for labor protection. The creation of the so-called public health was started.

However, issues of the health of a society were initially studied systemically in Germany in mid-XIX century. At the University of Berlin in 1912, Alfred Grotian began giving students an associate Professor's course of lectures on diseases most widespread in society, which launched the beginning of a new educational and scientific discipline, social hygiene. The name of this discipline arose from the merger of the terms *socium* (Latin) meaning "general," or *Sozium* (German) meaning "society as a system," and *hygieia* (Greek) meaning "hygiene," a field of medicine dedicated to disease prevention, health promotion, and prolongation of life.

Moreover, first magazine articles that focused on the problems of social hygiene were published in Berlin. Somewhat later, lectures on social hygiene began to be given at the University of Vienna in Austria [3]. In 1920, the first department of social hygiene was established at the University of Berlin, headed by A. Grotian, and in 1922, two academies of social hygiene were established in Germany.

In Russia, ideas accordant with social hygiene were actively discussed among theorists and practitioners of zemstvo medicine and hygienists. A.V.Petrov, who headed the Society of Physicians in Kazan in 1870, declared the need to implement the social program "to increase the level of public health," suggested the term "public medicine," said that "It is required to cure public diseases, increase the level of public health, and raise public welfare" [4]. On the initiative of A.P. Dobroslavin, I.E. Andrievsky, and N.F.Zdekauer, the Russian Society for the Preservation of Public Health was established, which aimed at "promoting the improvement of public health and sanitary conditions in Russia" [5].

In 1885, M.Ya.Kapustin, assuming the position of the extraordinary Professor at the University of Warsaw, gave an introductory lecture entitled, "Basic tasks and methods of public hygiene" [6]. M.M.Gran at the VII Pirogov Congress (1899) raised the issue of including lectures on public medicine in the university course at the Department of Hygiene [7]. F.F.Erisman firmly held positions close to social hygiene, and called it the science of public health, which is capable of providing long-term results, and insisted on the inseparability of hygiene and general medicine.

At that time, Russia did not have a state system of medical and sanitary services for the population. The work of an ordinary zemstvo doctor is characterized with a high workload associated with the reception of a huge number of patients in the outpatient clinic, while the doctor did not have sufficient funds to provide qualified medical care, not to mention the means of preventing diseases. During this period, Russia had a high overall morbidity, child and infant mortality rate, high morbidity, and "early insensescence" of women [8].

In Russia, the events after the October Revolution of 1917 changed completely the nature of the work of a primary care physician and the requirements for his training. Every year, as the economic base of the country strengthened, preventive medicine was developed actively, and original forms of preventive work began to occur. The dispensary method was developed, which required everyone, including the attending physician, to study the basics of medical prevention, which were not taught in pre-reform medical universities, since the content of their work was historically formed on the principles of individualism and therapeutic practicality [1,9].

Medical education reform was practically implemented with the introduction of a new discipline, social hygiene, into the teaching system in 1921, when, at the scientific and technical section of the State Scientific Council of the People's Commissariat for Education, it was decided to create a department of social hygiene at the First Moscow University [currently this is the N.A.Semashko Department of public health and healthcare of the Sechenov First Moscow State Medical University (Sechenov University)]. In the academic year of 1922, the department started its teaching activities. N.A. Semashko was the first head of the department of social hygiene [10].

In 1922, the Department of Public Medicine of the St. Petersburg Sanitary and Hygienic Medical Institute was renamed into the Department of Social Medicine, which started its work in 1919 as part of the Psychoneurological Institute (headed by Professor Z.G.Frenkel). In 1923, the department of social hygiene was established at the Medical Faculty of the 2nd University (now the N.I.Pirogov Russian National Research Medical University), which was headed by Z.P.Soloviev. In subsequent years, similar departments were established in all other higher medical educational institutions of the country.

At that time, not all teachers were unambiguous about the distinction between teaching social hygiene and general hygiene. However, N.A.Semashko and Z.P.Soloviev strongly argued that social hygiene is an independent discipline [2].

N.A. Semashko emphasized, “social hygiene studies the issues of health improvement from a social point of view, that is, it analyzes the influence of factors on the health of the entire population and its individual groups; outlines not only individual, but also social activities aimed at maintaining or restoring the health of the population” [2, 11]. The educational discipline at that time was called “social hygiene.” The Museum of social hygiene (1918), and then the Institute of Social Hygiene (1920) and the Clinic of Social and Occupational Diseases (1923), which functioned in Moscow at that time, were of particular importance in the development of teaching the discipline. The Institute of Social Hygiene met the needs of the departments in scientific aids and participated in scientific and methodological work [2, 12].

Open departments of social hygiene, which had no predecessors either in Russia or in Europe, had to pave new paths for their scientific and educational activities and to perform various scientific, organizational, and methodological works to overcome at first significant difficulties, including the lack of guides and manuals for training students.

The translated manual of Professor Hayes, edited by Professor I.S. Kaplun, with significant notes and amendments by the editor, adapting it to Russian reality, could fill this gap only partially at that time [8]. This manual contained the facts and phenomena of a socio-hygienic nature, but characterized the peculiarities of their manifestation in another country. Original Russian manuals were required, which could meet the specifics of the Russian life and its socio-economic process.

Such a manual was prepared in 1927 under the editorship of the director of the Institute of Social Hygiene A.V. Molkov with a prodrome by Professor N.A. Semashko [1]. The content of the manual was focused on the programs and methods of teaching the discipline adopted in medical universities in Moscow at that time.

The materials in the manual were grouped into four parts, corresponding to the main sections of the course:

- 1) Methods
- 2) Problems of collective life
- 3) Social pathology
- 4) Organizational health problems

Part One. Main methods of studying the sanitary condition of the population.

1. Sanitary statistics as a method for studying the sanitary condition of the population.

2. Anthropometry as a method of social hygiene.

Part Two. Problems of collective life from the standpoint of social hygiene.

1. Sanitary condition of Russia and the USSR.

2. Dwelling.

3. Nutrition.

4. Labor.

5. Education of younger generations, education as a problem of collective life, protection of motherhood and infancy, and protection of health of children and adolescents.

6. Sexual issue as a problem of collective life.

Parts three and four were not prepared simultaneously with the first two and were to be published in a special edition.

In his introductory article to this manual, “social hygiene, its essence, method, and significance” [1], N.A. Semashko wrote: “Just as each social system has its own legal, literary, artistic “superstructure,” in the same way each social system has an inherent corresponding stage and nature of both medical knowledge and medical organization.”

In his article, Nikolai Aleksandrovich Semashko noted that the most ancient form of medical knowledge and medical practice was curative medicine. Homer said that “one skilled healer is worth hundreds of warriors. The main task is to heal the patient” [1]. In the Middle Ages, this knowledge was developed, but medical knowledge at that time was based not on the foundation of natural sciences, but on empiricism and metaphysics. During the development of the natural sciences, pathology, bacteriology, epidemiology, and other disciplines were also developed.

In the process of the development of social relations, the individual attitude of the doctor began to give way to those of the public. The concept of the environment, society, and interests of the society began to dominate over the concepts and interests of an individual. Issues of sanitary safety of the population were developed. The doctor’s outlook started to expand. Issues of not only treatment but also disease prevention were becoming significant. As a result, the science of public health (hygiene) and practical measures to improve it (sanitation) were developed.

As social relations and medical knowledge were established, hygiene itself was given publicity in a new light. The one-sidedness of the individual principle, which was the basis of all medical practice and the entire medical worldview, was especially pronounced in the field of hygienic knowledge. Hygiene deals with the issues of the effect of the external environment on human health. However, the external environment in modern society is formed not only from physical factors (such as light and air) but also from social factors. For this reason, the doctrine of the “health of society” had to gain a social connotation and dig into the analysis of the influence of social relations on human health.

According to N.A. Semashko, “social hygiene (and social medicine) knocked louder and louder at the door of general hygiene (and general medicine)” [1].

The subject of the discipline is public health and its underlying factors. Social hygiene is a social science, that is, it studies social factors that affect health. N.A. Semashko wrote: “The main task of social hygiene is to study deeply the influence of the social environment on human health and develop effective measures to eliminate the harmful effects of this environment” [13]. In the 1930s, sharp criticism of social hygiene occurred in Soviet Russia. The Constitution of the USSR was adopted, which proclaimed that class contradictions were completely eliminated in the country. As a result, there were no more social contradictions in a socialist society. At that time, the terms “socialist” and “social” in a number of cases began to be interpreted identically. The study of social factors was “banned.”

Subsequently, the organization of healthcare was studied, while the issues of studying the factors of the social environment disappeared from the field of view of both researchers and teachers of the academic discipline.

In 1941, the departments of social hygiene were renamed into the departments of healthcare organization. The work of the Institute of Social Hygiene was stopped, and the publication of the collection “social hygiene” was discontinued. The curriculum of the course was also changed, and the problems of practical healthcare began to dominate in it [2]. N.A. Semashko repeatedly warned that it is necessary to find a balance between two fields, theoretical and practical, as enthusiasm in one of them is equally disastrous for social hygiene [8, 14].

The shift in emphasis is also realized in teaching programs. The 1934 training program was clearly divided into two parts, namely, social hygiene and healthcare organization, but in the 1939 program, issues of healthcare organization were mainly presented. At this time, healthcare reform was being actively implemented, hospital associations (polyclinic, inpatient department) were being established, and healthcare statistics were developing.

In early to mid-1940s, there were no obvious changes in the field of public health and healthcare, since all efforts were focused on protecting the health of citizens in wartime. In the post-war period, along with the generalization of the experience of Soviet healthcare in the Great Patriotic War, interest in the study of theoretical issues of healthcare increased again.

It was only in the 1950s where there was a turn toward social and hygienic aspects both in science and in teaching. There was an active discussion in

the press about social and hygienic problems [8]. The question arose about the wider introduction of social and hygienic sections in the teaching process of clinical disciplines. The possibility of reviving the departments of social hygiene was discussed.

In 1966, the departments of healthcare organization were renamed into departments of social hygiene and healthcare organization. The departments were tasked with teaching future doctors not only scientifically grounded approaches to solving organizational problems, but also broad social and hygienic way of thinking [3, 15].

At the end of the 1980s, during the perestroika period, in the conditions of the transition to socio-economic transformations, under the democratization of the society, the study of economics, planning, and healthcare financing was actively pursued, the importance of social spheres aimed at solving problems of the quality of life (including health), and human well-being increased. During this period (1991), the name of the academic discipline changed, as it became known as “Social medicine and healthcare organization,” and the development of the socio-hygienic (socio-medical) field gained more importance in the teaching process in the training of doctors of not only medical and preventive, but also of clinical specialties. In some cases, the departments organized courses in healthcare economics. Thus, at Sechenov University (formerly the I.M. Sechenov Moscow Medical Academy) in 1992, the department was named as the Department of Social Medicine, Organization and Economics of Healthcare [2].

The political and socio-economic crisis of the 1990s in Russia negatively affected the healthcare system. In the 1990s, an unprecedented deterioration in the population’s health was registered, which was accompanied by an increase in morbidity, a decrease in the country’s population, a decrease in the average life expectancy, and a very high mortality rate among men of working age.

At the end of the 1990s, the socio-economic and medical-demographic situation in Russia stabilized, new priorities for personnel training were identified, and active international cooperation in the field of medical personnel training was developed.

During these years, most European countries officially adopted a policy of reforming the public health system and ensuring the population’s health as part of the health for all strategy [16]. In previous years, priorities and approaches to the implementation of public health protection in Europe varied significantly [17–19]. Based on the definition of public health protection given by Winslow in 1923 [20], in 1952, the Expert Committee of the World Health Organization identified the main

structural elements of its implementation [21]. At the same time, to achieve health for all, as the ultimate goal of healthcare, the necessary conditions have become both considering the effect of general social, physical, and economic conditions on health [22], and the reverse effect of the health status of the population on these conditions [23].

The “movement for the protection of a new public health” was established [20,21,24–26], which emphasized that public health protection encompasses a wide range of activities, including medical care, that are aimed at protecting, ensuring, and improving the health of the population [16,27].

In the period from the late 1990s to the early 2000s, within the framework of broad international cooperation, there was an active discussion of the specifics of teaching healthcare and public health issues in Russia and in other countries [28]. As programs of European and Asian countries and the USA have certain differences, all are united in studying public health and healthcare problems, as well as their underlying factors.

For the Russian Federation, the study of public health problems within the framework of a scientific and academic discipline at this particular time became even more relevant.

In 1999, the name of the scientific specialty was changed to “public health and healthcare.” Since 2000, all departments of social hygiene (social medicine) and healthcare organization have been renamed into departments of public health and healthcare (in many universities with a course in economics).

All the changes in the socio-political and economic life of the country and the reform of the Russian healthcare system at all stages of its development, along with the issues of improving the efficiency of the healthcare system, imply a targeted improvement in the training of medical personnel, starting from training at the level of higher medical education. The performance and efficiency of the entire healthcare system ultimately depend on the activities of the medical staff, first of all, doctors.

Nowadays, the task of higher education, particularly in general and medical education, has become the training of young people for practical activity, independent work in a new society, market relations, and conditions without postgraduate work assignment at the end of training, where the results of their activities depend on many factors, primarily on their competence. A discipline such as public health and healthcare must always reflect timely and objectively all those changes in the country that affect the population’s health and the organization of medical care.

Population’s health, disease prevention, optimal organization of the system for health protec-

tion, promotion, and restoration, rational use of resources, quality of medical care, foundations of planning, financing, and management in healthcare become the pivotal issues of the discipline at any stage of the country development. These are topics that students are currently studying at departments of public health and healthcare [28,29].

The training of doctors should be aimed not only at acquiring competencies in analyzing and assessing the state of health of the population, but also at finding rational ways to improve the quality of medical care, ways to improve the protection, promotion, and restoration of the health of both the population as a whole and its individual groups.

As the analysis of the main educational programs of medical educational organizations has shown, unfortunately, teaching is more focused on the study of pathology, namely, etiology, pathogenesis, differential diagnosis, treatment and prevention, and prognosis of the disease development. The disciplines of the hygienic and epidemiological block are more focused on the prevention of infectious and occupational diseases.

As regards discussions of the deterioration of public health, clinical and hygienic departments mainly analyze issues of forming a healthy lifestyle for the population, assess the risk factors for the disease, and study these issues by taking into account the department specialization. Unfortunately, the situation is similar in the programs of supplementary vocational education.

Nowadays, a unified approach is required at theoretical, clinical, and hygienic departments to the use of definitions, terms, and concepts in the study of human health, population groups, and population. In the same way, the same ideas about risk factors and their influence on the health of individual groups are needed. In addition, 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, and a unified understanding of the rational use of the healthcare system resources are needed.

In this regard, the departments of public health and healthcare acquire a special, leading role in higher medical education, since it is precisely an educational and scientific discipline, like the public health and healthcare, that provides a methodological basis for teaching the issues of protecting, promoting, and restoring public health. These issues are also contained in teaching of the discipline to doctors and nurses at the postgraduate level, and they become especially significant in the training of leaders in the healthcare system [30,31].

Compliance with the standard conditions of teaching this subject to students throughout Russia is extremely important. However, at present, achieving such a standard approach is extremely challenging because of the specifics of educational institutions in the regions of the Russian Federation, human resources, specifics of creating departments in these educational organizations, and possible needs of technical and methodological equipment of the departments.

The unity of training is ensured by teaching that follows the current Federal State Educational Standards (FSES) of higher and supplementary vocational education for each of the training specialties. However, the FSES themselves, the main professional educational programs, and, consequently, the work programs, require constant dynamic correction.

Thus, in educational institutions that implement the programs of medical (pharmaceutical) education at the expense of the variable component of the curriculum, considering the specifics of the particular educational organization of the department in teaching the discipline, a broad presentation of social problems, public health issues, management, economics, marketing, as well as management in healthcare, which highlight the health problems of the region's population and its health problems, is relevant.

To improve the quality and efficiency of the educational process, it is necessary to implement constant interaction of the departments of public health and healthcare with health authorities and medical organizations. Moreover, to solve technical equipment problems of the educational process at the departments, it is necessary to attract more actively the attention of the relevant health authorities [30,31].

Modern reality requires the departments of public health and healthcare to understand the trends in the development of the society and readiness for changes in the educational system, which should include the massification and intensification of the educational process, expansion of information, including distance, technologies, demand for individual learning paths, and need for continuous professional development regardless of the educational organization and place of study.

Improvement of the quality of training students on discipline issues is impossible without improvement of the training program. The main professional educational programs are established in accordance with the FSES, and working curricula are developed by taking them into account.

It is the FSES that includes requirements for the structure of basic educational programs (including the ratio of the compulsory part of the main educational program and the part formed by the parti-

cipants in educational relations) and their volume; conditions for the implementation of basic educational programs, including personnel, financial, material, and technical conditions; and the results of mastering basic educational programs.

Furthermore, it is extremely important to ensure the central, coordinating role of the departments of public health in teaching all issues of protecting, promoting, and restoring population's health, which implies, among other things, their leadership in approving the definitions of the current terms and concepts that are common for all participants in the educational process.

The mobility of a student and a teacher under modern conditions encourages to constantly compare and analyze the characteristics of the health of the population and the state of healthcare in Russia and in other countries. This allows approximation of Russian and international programs for teaching public health and healthcare, development of common approaches in the training of a doctor, and identification of ways for further scientific and pedagogical development of the discipline.

In other countries, a doctor has now come to be regarded not only as a professional providing specific medical care to patients with a disease, but also as a person who ensures the preservation and promotion of the health of the population he/she works with. This applies not only to general practitioners, but also to specialists, as they work with groups or communities of patients with certain pathology. Much attention began to be given to preventive measures as one of the most effective and economically viable fields of assistance. Accordingly, a doctor now needs not only good knowledge and skills of the field of clinical disciplines, but also competencies traditionally attributed to the field of public health. Thus, public health has become one of the leading fields of education [29,32].

Thus, there is a need to think about ways to improve teaching, including modernizing of the discipline program in Russian educational institutions of higher medical education and drawing attention to a number of the following issues:

- In the section focused on methods of studying public health, insufficient attention is paid to the issues of descriptive epidemiology and design of epidemiological studies, as well as their comparative characteristics, and issues of analytical epidemiology.

- In the Russian program, insufficient time is devoted to problems of the quality of life.

- Insufficient investigation of the influence of socio-economic stratification on the health of the population.

– The influence of genetic factors on the health of the population and, accordingly, the characteristics of the doctor's activity, which depends on the genetic composition of the population, is not always considered.

– Inattention to issues of the sensitivity and specificity of screening tests.

– In the Russian program, the issue of the mechanisms of the doctor's influence on the formation of healthcare policy is almost not presented.

In many international programs, as a professional competence, the student's ability at the end of the course within the framework of higher medical education is provided not only to assess the health of a particular group and identify the main problems, but also to develop specific measures or interventions, offer new services, implement them, and then assess their effectiveness [28,29,32]. Some of these issues were included in the subject of social hygiene back in the period of 1927–1929. They were considered as a scientific field of the Institute of Social Hygiene, but later they were not included in the curricula [33].

With regard to the Russian program on public health and healthcare and about training in the framework of higher and supplementary vocational education, there are so-called fields of intersection in the consideration of public health issues within other disciplines, for example, epidemiology, hygiene, and others. The distinction is determined by the types of activities and matrices of competencies, in accordance with the requirements of the FSES and the main professional educational programs.

In international programs, these separate disciplines, while they are not independent, are constituent components of the curricula for teaching public health itself as an academic discipline.

However, in addition to improving the teaching program (what to teach?), special attention should be paid to teachers (who teaches?), especially on their basic level of training, work experience, frequency and specifics of advanced training, strive for self-education, motivation, communication skills, psychological climate in the team, material and moral incentives, etc. [29,31]. Each teacher must actively and continuously study to meet the modern requirements for the development of the discipline and the educational process as a whole.

To ensure the continuity of the personnel renewal of departments, improve the quality of the educational process, and to ensure the development of the educational, scientific, and social role of the departments of public health and healthcare, establishing special measures to attract and retain young personnel and train a reserve of teachers is necessary.

The discipline is multifaceted, and people who have mainly medical education, as well as legal or economic education (teachers of outline legislation, medical law, and healthcare economics) can work in the departments of this field. This is an aspect of the academic discipline that covers the legal, economic, and psychological aspects of the system of public health protection, promotion, and restoration. In addition, certain differences in the programs exist. This is mainly due to historical traditions, educational conditions, and uniqueness of the functioning of the healthcare system in a particular region.

Future doctors study the discipline in educational institutions of higher medical education at the third and fourth years of the General Medicine and Pediatrics, third year of the Faculty of Dentistry, and fourth and fifth years of the Medical-Preventive Faculty, while certain differences in training are observed in other courses.

Students come to the Department of Public Health and Healthcare, who already have knowledge of fundamental disciplines, foundations of a number of clinical and hygienic disciplines and, as a rule, with an already formed type of thinking. For this reason, teaching should be based on the principles of teaching for an adult audience, such as relevance, practical orientation, flexibility of teaching, learning to work in a team, maximum student participation in the lesson, etc. [29–31].

In the study of public health and healthcare, improving the learning process through the involvement of students in active work, solving problems by professionally, and activation of independent work is extremely important.

At the department, in the process of working with the term thesis on the study of public health, the students are offered, in addition to the standard task, to choose their own research topic. This can be a topic identified through discussion among students or merely a field of interest. The student must choose independently the public health problem on this topic, substantiate its relevance, formulate the research topic, identify the purpose of the research, define the tasks, and draw up a plan and program of the research. The introduction of fields chosen independently and the subsequent organization of the research motivate significantly the students to study the discipline.

This motivation should arise in the student group itself. Examples include classes with students in small groups, discussions, for example, seminars on the study of risk factors, hygienic education and training of the population, and discussions on “family and health” and “formation of a healthy lifestyle.” There are interesting topics

on healthcare reform; when small student groups choose a topic for consideration, they should analyze its merits, flaws, opportunities, and threats of innovations in healthcare, as well as solve problems in healthcare quality management, healthcare management, and economics.

A student's scientific circle plays a special role in the teaching of the discipline, as well as vector training, which helps reinforce the studied material, motivate significantly the student to further study the discipline, and serve as important stages of professional orientation.

"Public health and healthcare" undoubtedly plays an essential role in the training of a doctor, and it forms his/her analytical thinking, provides the opportunity to the future doctor to determine his/her role in protecting public health, and involvement in the formation of public health, regardless of the specialty he/she will choose in future.

Under the current conditions of the societal development, international cooperation in the fields of public health and healthcare, those initially arising disagreements between specialists and teachers who stood at the origins of the formation of scientific and educational disciplines associated with the definition of priorities (hygienic or socio-hygienic) in the formation and study of public health and healthcare are unavoidably eliminated, since each of the sections of public health and healthcare plays its own role in the training of a specialist, whose ultimate aim is to ensure the health of the patient, family, group, and population as a whole.

Despite its long path for development, public health and healthcare has not exhausted its possibilities for improvement. As it is an extremely dynamic field, it reflects the dynamic processes associated with the changes in social, economic, political, social, and psychological factors in a rapidly changing world.

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