

## REVIEW PAPERS

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# 40 YEARS OF EDUCATION OF DIPLOMAED PUBLIC HEALTH PROFESSIONALS IN THE SEMMELWEIS UNIVERSITY FACULTY OF HEALTH SCIENCES AND ITS PREDECESSORS

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## Summary

In Hungary education of healthcare professionals at college-level dates back 40 years in 2015. The Decision No. 1046/1973 (XII.29) of the Cabinet is the first legal source that mentioned and defined the legal status, the general status, the duties and authorities of the College of Health Care at first, the predecessor institution of the present Faculty of Health Sciences. Education of diplomaed public health professionals was listed from the beginning of introduction of academic-level training among the faculty specialties that were defined in the Decision. Therefore, it is essential to demonstrate beyond the review of improvement on healthcare professional education over 40 years, the results achieved in organizational structure, infrastructural conditions, educational supporting tools and international relations in the Faculty of Health Sciences.

The Hungarian public health professionals usually need to faced with a communication problem trying to explain the issues of public health officers. The meaning of public health is a little bit difference then in other countries. Of course, the difference between the history, between the administrations and expectations in paralell with the linquistic influences are behind this situation.

Key words: physician assistant, public health-epidemiological inspector, public health inspector, education

## INTRODUCTION

The root of the training of public health inspectors – formerly called public health-epidemiological inspector, and later supervisor training – goes back more than 60 years. Despite the fact that this brief summary wishes to commemorate the 40th anniversary of college-level education in 2015, it should to be noticed that the history of the training of public health professionals began in 1953, with the introduction of physician assistant training (barber surgeon) in Hungary. At that time, teaching materials that issued by the Ministry of Health of the Soviet Union and that of the German Democratic Republic were taken as a basis. Education followed this structure only for a few years. On the one hand, the reason of this was that the name of the qualification could not express appropriately the content of public health and epidemiological work. On the other hand, the physician assistant practice did not get practical opportunities in Hungary. As a continuation of physician assistant training, the two-year public health-epidemiological inspector education was established in 1957. The apparatus of public health structure, which was transformed at that time, was based on this training (1).

Over this period, a total of 1742 persons graduated, irrespectively of the educational form (full-time or part-time training).

## LEGAL BACKGROUND OF HISTORY OF THE FACULTY

Decision No. 1046/1973 (XII.29) of the Cabinet is the first legal source that mentioned and defined firstly the legal status, the general status, the duties and authorities of the College of Health Care, the predecessor institution of the present Faculty of Health Sciences (henceforth Faculty). The statute referred to the statutory rule No. 1973/32 on the Postgraduate Medical Institute (henceforth Institute) and it stated that the Institute was divided into Postgraduate Medical Faculty and Public Health Faculty. It also determined the functions of the Faculties; among these the function of the Faculty of Health Sciences was formulated as follows: “The education of graduate healthcare professionals in appropriate number, to meet the demands of professional healthcare services, having high-level of general and specialized knowledge, with college and academic qualification”. Beyond functions, educational specialties

were also described, as follows: public health-epidemiological inspector, physiotherapist, dietetic nurse, midwife, healthcare trainer, paramedic, institution leader. At full-time training, the duration of training is 3 years for public health-epidemiological inspectors, physiotherapist, dietetic nurse, midwife, while in part-time training form 2 years of training was determined for healthcare trainers, paramedics, institution leaders. Accordingly, after successful final exam graduated public health-epidemiological inspectors, physiotherapists, dietetic nurses, midwives received college diploma, while graduates on the specialty of healthcare training received healthcare trainer certificate, graduates on specialty of paramedics received institutional certificate according to their specialties. The Decision of the Cabinet described the specialties that previously provided upper secondary qualifications, and ensured that these professionals could gain college certificates in the form of "complementary education", under conditions determined by the Minister of Health and the Minister of Cultural Affairs. Based on this, holders of public health-epidemiological inspector certificates had chance to obtain college diplomas. Conditions of participation in the so-called complementary education, headcounts, education forms, tuition fees, length of studies and curriculum requirements were determined by the Joint Decree 13/1976 (IX.14) EÜ M-OM by the Minister of Health and the Minister of Education on college qualification obtainable on the basis of vocational schools of healthcare. The Cabinet Decision appointed the starting date of education at the Faculty of Health Sciences for September 1975 (3-5).

Cabinet Decision No. 1035/1975 (XII.10) amended Cabinet Decision No. 1046/1973 (XII.29) on Faculties working within the framework of Postgraduate Medical Institute. On the basis of amendment, the obtainable qualification was a college diploma at each Specialties uniformly, following successful final exams, with the indication of the specialty (6).

In the late 1970s, information were available on college-level education of healthcare professional from many countries of the world, which did not show any similarities neither with organizational structure nor with curricular construction to the Hungarian educational form. Based on this fact, it is a justified to ask: why the 7 specialties described above were legitimated for college-level education and why commonly used international routine was not engaged in Hungary, considering the broad range of healthcare education?

Contemporary documents give clear explanation for the questions: beside paramedics and midwives, public health-epidemiological inspectors were allowed to work only under doctors' control and guidance, but the execution of duties were fulfilled independently of doctors "with a certain self-dependence", sometimes also far apart in geographical term.

The aim of the college-level public health-epidemiological inspector specialty was to prepare students for executing the majority of public health and epidemiological duties independently (mainly the routine tasks). Furthermore, they should have general knowledge needed for healthcare control, they should be suitable for working independently, as a colleague, under the guidance of public health-epidemiological inspectors and sanitary doctors.

On the whole, on the basis of statutory rule No. 32 of the Presidential Council of the Hungarian People's Republic of 1973, the Postgraduate Medical Institute became "a university-type" institution of higher education divided in Postgraduate Medical Faculty and Public Health Faculty.

The organisational and operational regulations of the Institute were accepted in 1976. The college-level health science education started in September 1975 in Hungary. It began with 7 specialties, with the participation of 58 professors and 465 freshmen, of which 125 students applied for public health-epidemiological inspector training.

The process of turning into a real university dated back to 1985 with the establishment of the Postgraduate Medical Institute. Names of the college between 1985-1992 were the following: Postgraduate Medical Institute College of Health Care, and from 1993 to 1999 Imre Haynal University College Faculty of Health Sciences. From September 2000, following the integration of three universities its name changed to Semmelweis University College of Health Care, and from 2007 it is Semmelweis University Faculty of Health Sciences (4, 7, 8).

#### CONTINUOUS MODERNIZATION OF THE TRAINING

Preparation of curricula of the specialties was an enormous work following the formation of the organizational structure. In order to prepare the training of public health-epidemiological inspectors, several national institutions and public health and epidemiology professors of the time provided important support.

The Ministry of Education approved guidelines and curricula of the specialties in July 1975, but only on a temporary basis. The curricular guidelines of the public health-epidemiological inspector specialty were released in conjunction with Decree No. 53.389/1975 (X.) of the Ministry of Education, effective as until 31 August 1979. On the basis of this guideline, total number of lectures and practices were 2796, of which 1200 lectures (43%) and 1596 practices (57%) were provided to acquire the required knowledge during three years of studies.

Cabinet Decision No. 1046/73 (XII. 29) allowed to begin the so-called "complementary education", which began in 1977, based on joint Decree No. 13/1976 (IX. 14) EÜ M-OM of the Minister of Health and the Minister of Education. Within the framework of complementary education, 1212 students gained college diploma until

June 1995. It meant that public health-epidemiological inspectors holding a secondary education certificate after two-year course training were permitted to have college diploma after successfully completing the complementary course, if they fulfilled the conditions determined by the Minister of Education. Changes in the field of science and the society demands justified modification of curricula. The Faculty Council gave its final approval to the proposals in October 1980, and the authorities gave their approvals in 1982 and in 1983. In terms of the specialty of public health-epidemiological inspector all this was valid by Agreement No. 12986/1982 of the Ministry of Educational Affairs from the academic year 1982/83. Based on this, length of studies remained unchanged, however, the total number of classes increased to 2980. This resulted in changes in distribution between lectures (1168 hours, 39.2%) and practices (1812, 60.8%). If the number of lectures and practices are compared with the curricula approved in 1975, an increase can be seen in the number of practices, but only to a smaller degree, because four weeks per academic year industry practice was inserted into the curriculum at the end of the second and fourth semester.

Modernization of college education went on in the following years. Because of operational experiences and a guideline on the development in higher education in healthcare, further modifications were introduced in curricula. The Faculty Council approved them in February 1987. The modifications came into effect from the academic year 1988/89, following the approval of the Ministry of Health. Structure of the subjects changed after the development process, and practical final examination was introduced. The appearance and rapid spread of computer sciences required the admission of IT knowledge into subjects. Further increase in practices was also a result of the development efforts. Beside the obligatory Russian language course, resulting from the administrative structure of the time, there were optional English and German language courses, too. Social sciences courses were also modified (with regard the obligatory prescribed ideology courses).

“Military Hygienic” education began at the specialty of public health-epidemiological inspector from 1990, at the request of the Ministry of Defence. It was a 4-year corresponding training for 20 students. The first college year was started in 1994.

College-level healthcare education started in Medical Universities of Debrecen, Szeged and Pécs in 1990. Professors of the Department of Public Health and Epidemiology as well as other staff members of the Faculty offered efficient help for the beginning of education in these institutions. Curricula of the full-time basic training were changed to 4 years at spring of 1993. Partly due to this change, one of the most important alteration in content and structure were introduced in the following period, the 4-year education of public health-epidemi-

ological supervisors from the academic year 1993/94. The name of the diploma also changed from public health-epidemiological inspector to public health-epidemiological supervisor.

The total number of lectures and practices increased to 4015 in the new 4-year educational form. The expanded courses provided new possibilities for students to gain efficient practical preparedness (proportion of practical courses increased to 61.5%). Subjects provided general and special education gained more emphasis, it was possible to introduce new courses that offered essential knowledge, which had not been previously taught. In 1993 the Department of Public Health and Epidemiology prepared a special curriculum for corresponding education form with approval of the Ministry of Welfare. This form allowed students, who were left out of the “complementary education”, a chance to gain college diploma.

Year 1993 brought new challenges for higher education in Hungary, and therefore for the Faculty and the Institute of Public Health and Epidemiology, too. According to the Act on Higher Education (1993), “operation of higher education institutions and the recognition of degrees issued by such institutions is bound to an accreditation procedure”. There were no experiences regarding the accreditation process and the procedure. Nevertheless, the management of the Faculty assumed to take part in the test-accreditation. According to the decision of 1995 of the National Accreditation Committee, “Imre Haynal University College Faculty of Health complied with the relevant provisions of the Higher Education Act and with the requirements set for college faculties”.

The turn of the millennia brought further changes to the everyday life of the Faculty and, of course, of the Institute of Public Health and Epidemiology, resulting in the modernization of education. Credit-based training was introduced from the academic year 2002/2003, in a phasing-out system. At the same time, the application of the “unified higher education academic system – Neptun EFTR was also started”. From the academic year 2005/2006 the transition to the two-cycle training in the education system was started. Two-cycle training began in September 2006, in parallel with the phasing-out “traditional training leading to college degree”. According to the new training structure, majors and training specializations within majors were introduced. Today students have the opportunity to take MSc courses, following their BSc courses – in compliance with the two-cycle training model.

What were the implications for the education of public health-epidemiological supervisors? From now on, the training provides a qualification equivalent with the specialization of Public Health Supervisor, within the major of Healthcare and Prevention. Previously, it belonged to the Institute of Public Health, and today it belongs to the organizational unit of the Department of Epidemiology

of the Institute of Health Promotion and Clinical Methodology. The training has followed and is following the changes within the system of state administration (re-arrangement of the supervision of professional fields). More emphasis was given to the tasks originating from preparing students to state administration roles, from hospital positions within the system of the control of infectious diseases and from infection control. Accordingly, the curriculum was expanded and complemented with subjects on clinical sciences centred knowledge (infectology, clinical microbiology, clinical epidemiology). Following regulatory changes regarding higher education, there were further curriculum modifications in 2009 and 2013. In 2012, Educational Authority registered the "clinical epidemiologist further education special course", set up the Department of Epidemiology.

All in all, training of experts working in the field of public health has a history of more than 60 years in Hungary. During this period, 181 people completed medical assistant training and 1742 people completed secondary education. Within college education (regardless of the fact that the name of the qualification changed twice in the meantime), 1608 people graduated as full-time students, 432 people graduated as corresponding/part-time students, and 1212 people graduated from complementary training, that is, altogether 3252 people were awarded a degree up to the end of 2013.

Looking back to the past of several decades, it should be noted that English speaking BSc courses have been provided at the Faculty for years, in various specializations. The Department of Epidemiology takes part in this work as well (2-3, 5, 7-13).

#### THE PAST AND PRESENT OF THE ORGANIZATIONAL STRUCTURE OF THE COLLEGE

At the time of its establishment, the organizational structure of the Faculty was different from the "faculty and institution based structure" already "common" among higher education institutions. Organizational units of education were Specializations (heads of specializations – teachers in connection with the specializations). This time, the "organizational affiliation" of teachers not connected directly to specialization(s) – teachers of preparatory subjects – was not decided yet. After all, teachers of so-called preparatory subjects were integrated into one group, into the "Teacher Group of Preparatory Subjects" from the academic year 1977/78.

In 1982, three specialization groups were created at the specialization of public health-epidemiological inspector, in order to ensure maximum efficiency of the training. The basic role of microbiology-epidemiology and public health science specialization groups was to "provide a high level of education, to prepare curricula from a professional point of view and to develop and maintain curricula". The main task of Education organization was to organize the training.

The organizational change of the late 1980s, the establishment of the Miskolc Department of the Faculty (1987) were not a "well-founded decision" from several aspects. In 1995, the Miskolc Department was closed, based on the decision of the Faculty Council.

By the end of the 1980s it turned out that "Specializations" as organizational units are not appropriate in the organizational structure of the Faculty, since "most of the teachers of the subjects taught in specializations were scattered in the system". Therefore, the decision of the Faculty Council in June 1990 brought significant changes in the above mentioned organizational structure. A system of faculties and institutions replaced the structure of specializations. In practice this meant the following: "organizational units of the Faculty taking part in the education of several specializations turned into institutes, and those taking part in a single-profile education turned into departments". As a result, since the teachers of the specialization of public health-epidemiological inspector taught the subjects of microbiology, chemistry, public health science and epidemiology, occupational safety and health in every specialization, the new name of the institute is: Institute of Public Health and Epidemiology. In practice there was no change in the name of the Institute when the Faculty Council announced in 1994 its intention to initiate its integration into Semmelweis University. Integration into the Semmelweis University brought significant changes in the organizational structure of college training. Finally, as a result of several years of preparatory work, "the Semmelweis University was established, by the partnership of the Faculty of Medicine, the Faculty of Health Sciences, the College of Health Care, the Faculty of Dentistry, the Faculty of Pharmacy and the Faculty of Physical Education and Sports Sciences", from 1 January 2000, based on Act No. LII. of 1999 of the Parliament on institutional integration (first step towards a linear degree system). The first joint academic year of the "six-faculty Semmelweis University" started in the beginning of September 2000. The name of the Faculty following the integration of the three universities: College Faculty of Healthcare of Semmelweis University. Organizational changes of the College of Health Care were determined by the termination of the prior Faculty of Health Sciences as of 31 December 2001. As a result, there were several re-structuring processes, and some departments joined the Faculty of Medicine. The name of the Institute of Public Health and Epidemiology changed in 2005. Its new name is Institute of National Health Science. The teachers of the institute, however, continued to take part in teaching the so-called "preparatory subjects", and in the training of public health-epidemiological supervisors, too.

In 2007 the name of the College Faculty changed. Its new name is: Semmelweis University Faculty of Health Sciences. In 2009 several further changes took place in the organizational structure of the Faculty of Health



Sciences. Without being exhaustive, the following gives a description of the modifications affecting the Institute of Public Health. This year, the Institute of Health Promotion and Clinical Methodology was established. In 2010, the former Institute of Public Health was integrated into the institute. From now on, the Department of Epidemiology and two other departments are integrated into the Institute (7-8, 13-16).

#### THE PAST AND PRESENT OF THE INFRASTRUCTURE AND EQUIPMENT PROMOTING EDUCATION

In 1975, the venue of college education was not a single location, in one building, unfortunately. Rather, education was performed in a scattered manner, in six different locations of the capital. This fragmented feature in terms of infrastructure virtually determined the operation of the Faculty for further 25 years. Training of graduate public health-epidemiological inspectors began in Budapest, in San Marco street, in the building of the legal predecessor – József Fodor Vocational School of Healthcare. In 1975, when college education began, educational activities (for graduate – II. year – vocational school visiting midwives and public health-epidemiological inspectors and first year students of the college) and reconstruction works of the building took place simultaneously. Therefore, the circumstances at the time of beginning the education were not comparable with the present circumstances. Of course, as a result of continuous reconstruction works, infrastructural conditions of the education – the number of lecture halls, seminar rooms – has been improving. Renovation of the central laboratory was completed by the academic year 1989. This laboratory provided for the educational tasks of the subjects of microbiology, physiology, pathophysiology, chemistry and other hygiene subjects on Faculty level, up to the academic year 2002/2003. Then the awful situation because of the scattered venues of the education finally was solved, by the completion of the building block bordered by Szentkirályi street and Vas street. From the II. semester of the academic year 2003/2004 all the institutes and educational and other organizational units of the Faculty have been accommodated in the unified building block. However, it should be noted that some educational activities still take place in the Erkel street building. Today, separate and modern laboratories are available in the unified building block, for efficient and high-level education. The simulation training room built in recent years provides an opportunity for students to prepare for the professional challenges of rapidly developing health sciences. Other tools supporting education, such as overhead and slide projectors were available to a limited extent in the first years. By the end of the 1990s, however, almost all of the classrooms were equipped with TVs, appropriate to display overhead and slide projector images and play video

films – meeting the requirements of the time. Today, following technological developments, use of computers and projectors is provided for in the classrooms. The smooth operation of them is under the continuous supervision of a helpful staff (7-8).

#### SCIENTIFIC ACTIVITIES OF THE PAST 40 YEARS AND INTERNATIONAL RELATIONSHIPS

In order to provide efficient and high-level education, teachers of the Department of Epidemiology (former: Institute of Public Health and Epidemiology, later: Institute of Public Health) are following up on scientific developments in topics relevant to their professional profiles. They regularly take part in scientific events, as members of professional scientific associations, and they even give lectures and present posters, too. On more than one occasion, the Department played significant role in the organization work of professional forums, with the contribution and support of the Faculty. Released publications – including course books – prove the scientific activities of the Department. There is good co-operation with other institutes and departments of the Faculty. In the last 40 years, teachers supported the work of several Scientific Students' Association, and gained awards on more than one occasion. The topic of the scientific research currently performed at the microbiology laboratory is the testing of an antimicrobial material on several highly resistant bacteria. The peptide material is produced by a bacterium living in nature. It has bactericidal and toxic effects. Recently it turned out that it has anti-tumor properties. The research requires analytic work, too, which is performed for the examination by Pannon University in Veszprém. The Department created the basics of launching an epidemiological microbiology service, providing for the whole University. In 2014, a separate doctoral theme began in the field of microbiology-based infection control, directed by Dr. István Barcs (head of department), in Doctoral School of Pathology no. 8.

In the last forty years, the Faculty of Health Sciences and its legal predecessors has built educational relationships with numerous international scientific and higher education institutions. Regarding this latter, the Department of Epidemiology also took part in the development of the international curriculum. Teachers of the Department are active participants of ICHCI courses of ERASMUS program, out of the international programs of the Faculty.

#### CONCLUSIONS

College education of the healthcare professionals were provided by two laws in 1973, that defined the required criteria of healthcare professionals. According to the Decision “college education need to be introduced in the specialties, by which work stream under doctors' control and guidance demands a certain self-

-dependence and professional knowledge" (11). Work of public health inspector, how it called at the time, was very complex and many-faceted (though the name of qualification and responsibilities have changed over time). The Hungarian public health and epidemiological work of today based on their activities. Modernization of the education system of this healthcare professionals was essential. College-level training of healthcare professionals started first at predecessor institute of the Semmelweis University Faculty of Health Sciences, Budapest, which roots go back in 1953. At the beginning physician assistant training was established, and later as a continuation of it the two-year public health-epidemiological inspector's education from 1957. Among the duties, training of highly educated students with basic and special knowledge took priority by beginning of college-level education. The education for public health inspectors began in a three-year full-time training form in 1975, the corresponding education started later at the beginning of 1990. Changes in science, in higher education system, in epidemiology, in demography, and the altered social demands and expectations required the continuous development of the curricula over 40 years (17). Significant element of this modernization process was among others the increase of the number of practices, which ensured that all students gained practical skills, therefore they could fulfil the public health and epidemiological duties of high quality throughout the country. Development in the fields of infrastructure and education supporting tools provided great opportunity to increase the effectiveness of both theoretical and practical studies. To sum up with numbers: during this period, 1742 people completed the two-year secondary education of public health inspector training, of which 1212 people gained college

diploma by using the chance of supplementary training until June 1995.

Within college education, total of 3252 people (full-time and part-time students) were awarded a degree up to the end of 2013, and they had an entitlement to fulfil the duties of public health and epidemiology and solve the challenging problems of the field. □

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