

# The Croatian Model of University Education for Health Professionals

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## ABSTRACT

*In all European countries healthcare professions are regulated by law. In Croatia, the legally – regulated professions are: medicine, dentistry, pharmacy, nursing, physiotherapy and midwifery, as well as radiographers, occupational therapists and medical laboratory technicians. Current education of health professionals in Croatia is traditional, inadequate and poorly harmonized with current educational trends, as well as with requirements and directives of European Commission. This Croatian model for education of health professionals at university level follows the recommendations specified in Croatian Qualification Framework: (i) learning outcomes are competency-based; (ii) mobility of students and faculty is encouraged; (iii) the means of quality assurance are anticipated. The Croatian model of university education for health professionals will make sure that all procedures, specified in the European and Croatian Qualification Framework addressing recognizability of study programs, mobility, learning outcomes, quality assurance and reliability of required qualifications are successfully completed.*

**Keywords:** Croatian model, university education, healthcare professionals

## Introduction

The education of a large number of health professionals is demanding task and require organization of high quality theoretical and practical teaching. Apparently, such education can be provided only by those teachers and experts who possess knowledge, skills and competence in specific areas of health education. For example, in some segments of education (e.g. nursing care), nurses can only be trained by adequately educated and competent nurses. In order to achieve this goal, it is therefore necessary to implement a framework of vertical integration within a university education for all health professions, as was proposed by the EU Directive 36/2005/EU<sup>1,2</sup> addressing the harmonization of European Qualifications Frameworks<sup>3,4</sup>. In majority of European Union member states the health professionals' education has been already moved towards a binary educational system, i.e. a system based on two levels: on a two-cycle higher education (HE) system, and still two parallel study systems are existing, as professional and university level study. Recently there has been marked growth

of new university programmes. Even the countries neighboring Croatia had established this study at university level.

In all European countries healthcare professions are regulated by law. In Croatia, the legally – regulated professions are: medicine, dentistry, pharmacy, nursing, physiotherapy and midwifery<sup>5</sup>, as well as radiographers, occupational therapists and medical laboratory technicians<sup>5</sup>.

Following requests from various associations of health professions, the National Council for Higher Education launched an initiative to develop a university education model for health professionals in Croatia in February 2010. The main aim of this initiative was to ensure high quality education, which can be provided only within universities which can meet the necessary criteria of excellence and are subject to an external evaluation harmonized with the criteria of the Bologna process.

This Croatian model for education of health professionals at university level follows the recommendations

specified in Croatian Qualification Framework: (i) learning outcomes are competency-based; (ii) mobility of students and faculty is encouraged; (iii) the means of quality assurance are anticipated.

### Framework and Degrees

University health studies are organized in three cycles: first (bachelor’s degree), second (master’s degree) and third (doctoral degree) stages/cycles. According to the Croatian university practice and The Law on Professional Titles and Academic Degrees, these studies should proceed on three levels: university undergraduate study, university graduate study and university postgraduate study following the scheme 180+120+180 European Credit Transfer and Accumulation System (ECTS) (Figure 1).

The specific knowledge and skill to be achieved at all levels of study are clearly outlined (Figure 1) In short, our goal is that student at the end of the first cycle (Bachelor Degree Study) is competent to work in her/his chosen field independently, that after successful completion of second level (Master Degree Study) acquire and possess leadership skills necessary for management, organization, supervision and evaluation of working processes in health sector, and, finally, that after completion of education at third level (Doctoral Degree Study) acquire the

competencies needed for start of an academic career in health science. In this manner we plan to respond to society and work market requirements.

Analysis of the study programs that are currently offered in the Republic of Croatia and in neighboring countries has shown that it is possible to develop programs with the majority of common courses in the first year of study. However, proposers of this model are not obliged to follow the same design, but may implement local programs that result in a more efficient engagement of research and teaching staff as well as in a more economical use of facilities and equipment. The appropriate higher education (HE) institution (e.g. The School of Health Studies) can also offer professional study programs in those health sciences that educate students to become qualified and competent health professionals that will meet labor market demands.

### Entry Requirements, Teaching Hours and Study Duration

To enroll in the undergraduate program applicants are required to meet the academic entrance requirements which include completion of four-years secondary education (by the time compulsory ten-year general secondary education has been introduced, including a five-year nursing education model that has been imple-

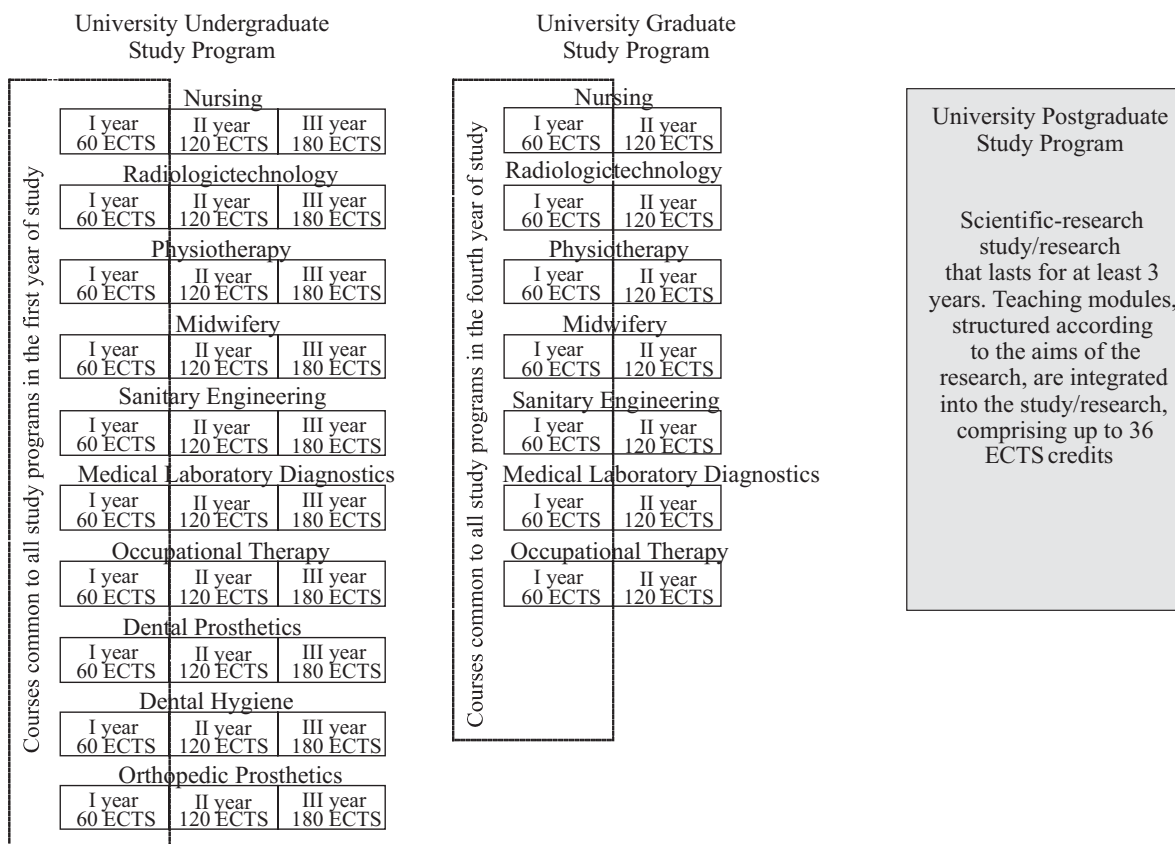


Fig. 1. Organization of university studies according to the 3+2+3 Bologna model.

mented recently) and national high school final examination completed. For those applicants who have, prior to enrollment in the undergraduate university degree program, completed five-year secondary nursing education and developed the required competencies by successfully completing certain specialist courses, recognition is provided according to the ECTS grading scale. Entrance examinations are organized only for those study programs for which specific skills are needed.

To enroll in the graduate program applicants should have obtained a university bachelor's degree, and some additional requirements will be imposed by the HE institution. Most institutions require:

- a high grade point average at the undergraduate level (4 and above),
- three letters of recommendation from full professors,
- at least one year of professional experience at an appropriate health institution.

To enroll in a postgraduate degree program applicants should have obtained a university master's degree, and some additional requirements will be imposed by the HE institution. Most institutions require:

- a high grade point average at the graduate level (4 and above),
- three letters of recommendation from full professors,
- published scientific and professional papers.

Entry requirements are set by the HE institutions in accordance with the Act on Scientific Activity and Higher Education<sup>6</sup> as well as with the Act on Quality Assurance in Science and Higher Education<sup>7</sup>.

For candidates who have already completed professional health studies lasting two or three years, the HE institution should offer appropriate bridging programs for each health profession. These programs will provide candidates with required levels of knowledge and competence at an undergraduate level so that they can proceed to a graduate university degree program. Bridging programs can also be organized as part-time programs to comply with the working conditions in the health sector.

For health professionals, the bachelor degree lasts 3 years, the master degree 2 years and the doctoral degree lasts 3 years.

The number of teaching hours is based on the Bologna Declaration and Directive 36/2005 EU and reflects the number of ECTS credits. The bachelor's degree contain 4 600 study hours, the master's degree 3 000, and the doctoral degree 4 500 study hours. It is anticipated that the study is organized in its better part as practical training and self-study.

### *Optimal number of students*

The optimal number of students in all study programs and at all degree levels is determined by the governing body (Faculty Council or University Senate) of a HE insti-

tution within the University, in compliance with requirement of labor market and graduate employability data.

### *Organization and delivery of study programs*

University health studies are established and carried out both as full-time studies according to the approved curricula and as part time studies due to specific working conditions in the area of health care.

The curriculum should be approved by the university's governing body, as proposed by Faculty Council of the School of Health Studies).

### *Professional and academic degrees*

After the final examination has been taken and the thesis successfully defended, in accordance with the Act on Academic and Professional Titles and Academic Degree<sup>8</sup>, students are awarded a Bachelor's Degree in their chosen field (e.g. a Bachelor's Degree in Nursing) with the abbreviation *univ. bacc.* By obtaining a university degree and license issued by the relevant professional association, graduates become eligible to work in the health sector.

After the final examination has been taken and the masters thesis successfully defended, students are awarded a Master's Degree in their chosen field (e.g. a Master's Degree in Nursing, Master's Degree in Medical Radiation Technology, etc.), with the abbreviation *mag.*

Having defended her or his doctoral thesis, a student is awarded a PhD degree (e.g. PhD in Nursing).

### *Intended learning outcomes – competences*

Upon completion of their studies, students should have the basic knowledge needed to be able to pursue their professional health care activities. They should also have developed the necessary clinical skills<sup>9–14</sup> and communication skills<sup>15,16</sup>. Moreover, their professional and academic attitudes will understand the essentials of the quality assurance principle.

They will also be able to demonstrate basic knowledge and skills of conducting, monitoring, evaluating and improving the quality assurance process in different segments of the health care system. In addition, they should develop positive attitudes towards lifelong learning and continuing education and be able to transfer their knowledge to other health professionals.

HE institutions, professional associations from Croatia as well as international professional associations from all over Europe along with experts from particular fields should be involved in designing competencies, learning outcomes and qualification standards for each study program. Implementation of the study programs will be based on the analysis of social needs for each professional and will be planned in partnership with all stakeholders. In this way social needs and educational programs are intermingled, and good quality and reliability of qualifications are ensured, which is a necessary precondition for recognition within the European Qualification Framework.

### *Teaching methods*

Teaching methods applied in the university education of health professionals are based on the principles of adult education with fully interactive methods<sup>17–20</sup>:

1. Lectures,
2. Seminars,
3. Course books, handbooks, etc.,
4. Small group discussions,
5. Presentations of clinical cases,
6. Working diaries,
7. Exercises in a clinical skills laboratory,
8. Simulations,
9. Classical and interactive computer programs,
10. Multimedia.

Well organized and executed training of clinical skills is one of the most important components of a modern health studies curriculum. Despite marked improvements in-hospital hands-on training remains the weakest point in many curricula<sup>21–29</sup>. In our previous publications, traditional and a contemporary clinical skills trainings were compared aiming to identify most important advancements as well as to recognize principal obstacles that are resistant to changes<sup>30–35</sup>. This is a major task to develop the processes via which the clinical skills training agenda was translated into practice. and such attempts were previously faced with a plethora of problems, many of which are conserved over the decades.

Tackling those problems is going to require a multifaceted approach and integrated support of the authorities both of medical faculty and of service provider, i.e. the affiliated teaching hospital. They are required to cooperate in the application of the clinical part of the curriculum; it seems that both systems are currently reluctant to devote the required resources and expect the other side to take responsibility for the clinical part of the curriculum. Such weak and even conflicting relationships results in the poor quality of clinical teaching. As a starting point, both institutions, if willingness for reform exists, have to re-evaluate their system of values and introduce the adequate changes in the structure and in the ethos.

It is planned to revitalize the laboratory of clinical skills, to upgrade it and to intensify its use, along the intensive use of interactive software for practicing the clinical skills in virtual reality. Working groups will be appointed to revise the existing »Catalog and Practicum of Clinical Skills« and to design the students' portfolio (log-book).

Finally, the different modalities for introduction and empowerment a well-defined mentorship structure is under discussion and hopefully all dilemmas will be resolved reasonably quickly. Difficulties also arise around the position of the clinical instructor as the status of this role within the higher education system has not yet been defined.

### **European Credit Transfer System (ECTS)**

Study programs including the allocated ECTS credits should be based on the principle of well balanced curricula and qualification standards, whereby considerable emphasis should be given to promoting knowledge acquisition, practical training and mastery of clinical skills as well as to other activities depending on the study program of the particular health profession.

### *Comparability analysis*

Study programs for the health care professionals, as outlined, is non-existent in Croatia. Their education has been currently provided at secondary vocational level, within professional study programs at polytechnic schools, and as vocational studies at the Schools of Medicine in Split, Rijeka and Osijek. Graduate vocational studies are offered at Zagreb Polytechnic for Health Studies (Nursing, Physiotherapy and Environmental Public Health), while undergraduate and graduate degree programs in Environmental Public Health engineering are offered at the University of Rijeka School of Medicine.

The curricula of all university study programs and qualification standards will be designed according to recommendations, directives and regulations of the European Union and the World Health Organization<sup>12,13,36–40</sup>, adjusted to specific requirements of the educational process in the Republic of Croatia.

### *Mobility mechanisms*

Introducing study programs at university level, harmonized at the national level will lead to cooperation agreements, which will influence professional, scientific and teaching activities in Faculty of Health Studies. Such agreements will involve the institutions not only in Croatia but in the whole region and in Europe. Consequently, horizontal and vertical mobility of students and teachers at all levels of university degree health studies will be facilitated.

At present the student and teacher mobility scheme primarily operates at the level of elective courses with HE institutions (e.g. Schools for Health Studies) in the neighboring countries (Slovenia, Italy, Portugal, Switzerland, Bosnia and Herzegovina) and Schools of Medicine from other Croatian and European universities that have similar programs.

### **Conclusion**

Current education of health professionals in Croatia is traditional, inadequate and poorly harmonized with current educational trends, as well as with requirements and directives of European Commission. It is organized at multiple levels, in high schools, polytechnics and as orphan study of Medical Schools. Research was not executed to assess the real quality of such education, and today we have no answer to question which kind of knowledge, skills and attitudes students acquire after completion of study.

In European Union there is an unanimous agreement that the education of health professionals should take place at the university level, organized in accordance to principles of Bologna Process.

Health workers of different specialties are professionals with clearly defined responsibilities; still they are in many health institutions ranked and awarded as doctors' assistants. Introducing their education at university level their status will be reevaluated, as well as their position in the health structure as a whole.

The Croatian model of university education for health professionals will make sure that all procedures, specified in the European and Croatian Qualification Framework addressing recognizability of study programs, mobility, learning outcomes, quality assurance and reliability of required qualifications are successfully completed.

\*The Croatian model of university education for health professionals was accepted at the 73<sup>rd</sup> meeting of the National Council for Higher Education of the Republic of Croatia on June 2, 2010.

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## HRVATSKI MODEL SVEUČILIŠNOG OBRAZOVANJA ZDRAVSTVENIH STRUČNJAKA

### SAŽETAK

U svim europskim zemljama zdravstvena zanimanja regulirana su zakonom. U Hrvatskoj zakonom regulirane profesije su: medicina, stomatologija, farmacija, sestrinstvo, fizioterapija i primaljstvo, kao i radiološka tehnologija, radna terapija, medicinsko-laboratorijska dijagnostika te sanitarno inženjerstvo. Trenutna edukacija zdravstvenih djelatnika u Hrvatskoj je tradicionalna, neadekvatna i nedovoljno usklađena s trenutnim obrazovnim trendovima, kao i sa zahtjevima i direktivama Europske komisije. Ovaj hrvatski model obrazovanja zdravstvenih radnika na sveučilišnoj razini slijedi preporuke navedene u Hrvatskom kvalifikacijskom okviru: (i) temeljene na ishodima učenja i kompetencijama, (ii) poticanju mobilnosti studenata i nastavnika, (iii) uz očekivano osiguranje kvalitete. Hrvatski model visokog obrazovanja zdravstvenih djelatnika osigurava da su svi postupci navedeni u europskim i hrvatskim kvalifikacijskim okvirima vezani uz prepoznatljivost studijskog programa, mobilnost, ishode učenja, osiguranje kvalitete i pouzdanosti koje traže pojedine kvalifikacije uspješno završeni.