

HEALTH PROFESSIONS EDUCATION IN SERBIA THE NEED FOR CHANGE REPORT

ReFEEHS Project Report 1



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Summary

A Situation analysis related to the current practice and challenges in health care professions' education in Serbia indicates that timely action is needed in order to establish a quality framework for experiential education which is an indispensable component of contemporary health sciences education programmes.

The regulatory framework in the Republic of Serbia is changing. Amendments of the national Law on Higher Education are in process; Draft of the national Law on regulated professions and recognition of professional qualifications has been recently issued and was available for public discussion until February, 10th 2016. In accordance with its provisions, the relevant study programmes and professional qualifications of regulated professions with automatic recognition should be fully compliant with the European Union (EU) requirements before the accession of Serbia to the EU. This has important implications for health care professions' education.

In order to become compliant with the relevant EU practices, there is an urgent need to review health sciences curricula, reinforce experiential education and introduce interprofessional educational activities. Integrated, competency-based curriculum, implementation of active learning strategies, evidence-based teaching and assessment, use of information technology, shared educational resources, emphasis on professional practice experience and interprofessional education are recognized as the issues of principal interest. To implement these advanced teaching and learning practices, explicit capacity building is necessary to bring about the improvements needed at the institutional and regulatory level, as well as enabling the teaching competencies development of both academic staff and teacher practitioners/clinical supervisors.

Irrerspective of the differences among the study programmes, there are



common challenges recognized for all the health sciences. The major identifiable strengths are that the importance of professional practice experience is recognized by students, academia and employers and that long tradition of health sciences education and the existing science base provide a foundation for new developments. Major weaknesses are related to the lack of relevant accreditation standards and a quality assurance framework for student's placements management; poor control of student's attendance and rotations at practice placement sites.

Collaboration and exchange of good practices within the Reinforcement of the Framework for Experiential Education in Healthcare in Serbia (ReFEEHS) Consortium and general support of professional community and recognition of the necessity of experiential education are the most important opportunities. The mobilisation and joint efforts of all the interested parties is necessary in order to overcome any resistance to change, ensure the empowerment of the personnel involved and accomplish the common goal - improved, contemporary, transformative health care professions' education.

Background

The ERASMUS+ project, Reinforcement of the Framework for Experiential Education in Healthcare in Serbia (ReFEEHS) is funded with the support from European Commission, within the Capacity Building in the field of Higher Education action.

The ReFEEHS project objectives refer to modernization of health sciences curricula and improved professional competencies of health sciences graduates through updated experiential education (students professional practice experience) and the introduction of interprofessional education. They are consistent with the European Union (EU) Directive 2013/55 on the recognition of professional qualifications in which the importance of clinical experience and the practical training of healthcare professionals have both been emphasized. The health sciences curricula and the health care system in Serbia are struggling to keep up with the relevant EU developments. There is an urgent need for further capacity building in order to fulfil the requirements related to the recognition of professional qualifications, as well as to facilitate the transnational mobility of health professionals and contribute to the equity of healthcare across Europe.

The innovative character of the ReFEEHS project is reflected in the aspiration to address the emerging trends and issues in contemporary health care professionals education. Fulfilment of the project objectives will contribute to improved competencies of health science students and health professionals, increased level of collaboration within the health care team, and ultimately to improved patient care and positive health outcomes.

During the preparation phase, all consortium partners together with non-consortium partner institutions have been engaged in situation analysis directed towards identification of relevant EU practices and policies, evaluation of the present situation in health professionals' education in RS and the need for change. With the aim of exploring the attitudes of students, teaching staff and practitioners in the Republic of Serbia (RS) related to experiential education, interprofessional education and teaching competencies development, relevant survey questionnaire has been designed and distributed. The results obtained are part of this Report and will be used to benchmark the present situation in RS against the current best practices in EU and identify the needs for improvement.

Health professions education: *Current recommendations and expectations*

“ a new era for health professionals’ education.”

(WHO, 2013)

Contemporary education of health professionals is increasingly determined not only by the rapid growth in biomedical science knowledge, but also by the imperative to address the health needs of the community that they serve. Furthermore, as regulated professions, they must demonstrate that their education prepares them for interprofessional, collaborative, patient-centered practice and therefore experiential and the interprofessional teaching and learning activities that enable this practice will fundamentally influence the design of their educational programmes.

The term “experiential education” will be used to denote the supervised, structured or semi-structured teaching and learning activities that take place in a practice setting and involve real-life situations and inter-personal interactions with patients, caregivers, as well as between health professionals. Other similar terms used in the literature and in regulatory documents are practice-based learning, workplace learning, clinical experience, or students’ professional practice experience.

Interprofessional education is defined as occasions when two or more professions learn with, from and about each other to improve collaboration and the quality of care. The benefits of interprofessional collaborative practice in healthcare have been well recognized (IPEC, 2011; WHO, 2010; 2013). In 2010, WHO published the Framework for Action on Interprofessional Education & Collaborative Practice. More recently, the European Healthcare Students’ Associations united to consider the important issues of interprofessional collaboration and multidisciplinary approaches between healthcare professionals during their education.

There is general consensus that “current educational reform should be ‘*systems based*’ to improve the performance of health systems by adapting core professional competencies to specific contexts, while drawing on global knowledge” (Frenk et al, 2010). This, reform was preceded by the earlier ones that installed the science-based curriculum and those which introduced problem-based instructional innovations. It has been reported that most countries and professional institutions have mixed patterns of these reforms that many are incorporating problem-based approaches, but that fewer are moving to system based reforms (Frenk et al, 2010). This is particularly important as Accreditation standards and quality assurance criteria in health professions education programmes may be the responsibility of either or both, the national education or health authorities. However, the situation is changing in a way that, in many countries the professional regulatory organizations are designated as the competent authority, and are responsible for establishing standards for the education of their professionals and are linking the curricula to specified expected educational outcomes.

National framework for health professions education

The accreditation, quality assurance and evaluation of higher education study programmes in the Republic of Serbia (RS) is the responsibility of the national Commission for Accreditation and Quality Assurance (CAQA) which has been set up by the National Council of Higher Education. The Commission establishes the relevant standards and procedures for the accreditation of higher education institutions; the accreditation of study programs; the self-assessment and quality evaluation of higher education institutions. These accreditation standards are relatively broad and general and do not include specific requirements for different health professions education.

The education of health professionals and the healthcare system in Serbia are struggling to keep up with global developments. In the WHO evaluation of the organization and provision of primary care in Serbia, the low level of structured cooperation and team work within the healthcare sector were identified as particular problems (WHO, 2010). This has clear implications for RS health professionals' education.

As regulated professions which are subject to mutual recognition of qualifications between the EU member states, health professions (medicine, pharmacy, dentistry and nursing) need to be compliant with specific and rigorous professional standards on the national and international level. General standards and requirements are specified in the EU Directive 2013/55, as well as a number of documents issued by the relevant national and international authorities and professional bodies. In RS, the national Law on regulated professions and professional qualifications recognition has undergone public discussion and is waiting for parliamentary approval. Amendments on the national Law on Higher Education are also expected. The status of regulated profession brings additional responsibility to higher education institutions and to the relevant national regulatory bodies. EU Directive 2013/55 gives general requirement for clinical experience of health professionals as integrated part of undergraduate studies. This request is only partially addressed in the current health sciences curricula at RS universities, with the situation being the most critical in pharmacy education where the practical placement is organized mainly through pre-registration year following graduation from a five-year didactic curriculum.

The objectives of the ReFEEHS project are fully compliant with the objectives of the Strategy for Development of Education in Serbia by 2020 and the accompanying Action plan which promotes the establishment of a system of student professional practice experience, the application of new methods of learning, information technology and e-learning, the enhancement of cooperation with employers, the didactic training of academic staff and establishment of international mobility of teachers, students and researchers. The objectives of the project proposed are also fully compliant with the objectives of the EU Education and Training 2020 Work Programme.

In order to become compliant with the relevant EU practice, there is an urgent need to review health sciences curricula, reinforce experiential education (EE) and to introduce interprofessional educational (IPE) activities. An integrated, competency-based curriculum, the implementation of active learning strategies, evidence-based teaching and assessment, the use of information technology, shared educational resources and an emphasis on EE and IPE activities are the issues of principal interest in health professionals' education and the objectives of this project address them. Implementing these advanced teaching and learning practices, necessitates explicit capacity building to improve the institutional and regulatory environment, as well as teaching competencies development to include both academic staff and teacher practitioners/clinical supervisors.

ReFEEHS Survey

Experiential Education, Interprofessional Education and Teaching Competencies Development

In February 2016, the ReFEEHS consortium conducted a comprehensive survey on the attitudes of healthcare sciences students, academic staff and practitioners related to experiential education, interprofessional education and teaching competencies development. The survey was conducted at the four RS universities – University of Belgrade, University of Kragujevac, University of Niš and University of Novi Sad, with the support of the professional chambers, the professional associations and the healthcare institutions. The total number of respondents was 1508 (comprising 27% academic staff, 58% students and 15% healthcare practitioners).

The results obtained provide valuable information about the current situation in healthcare professionals' education in Serbia and insights into the attitudes of students, academic staff and healthcare practitioners on the importance of the improvement of professional education as foundation for improved quality of healthcare. It was not possible to include all the respondents' comments in this short report, but they will be made available to ReFEEHS working group members for further consideration.

Student and academic staff respondent's distribution by university and study program is presented in Figure 1.

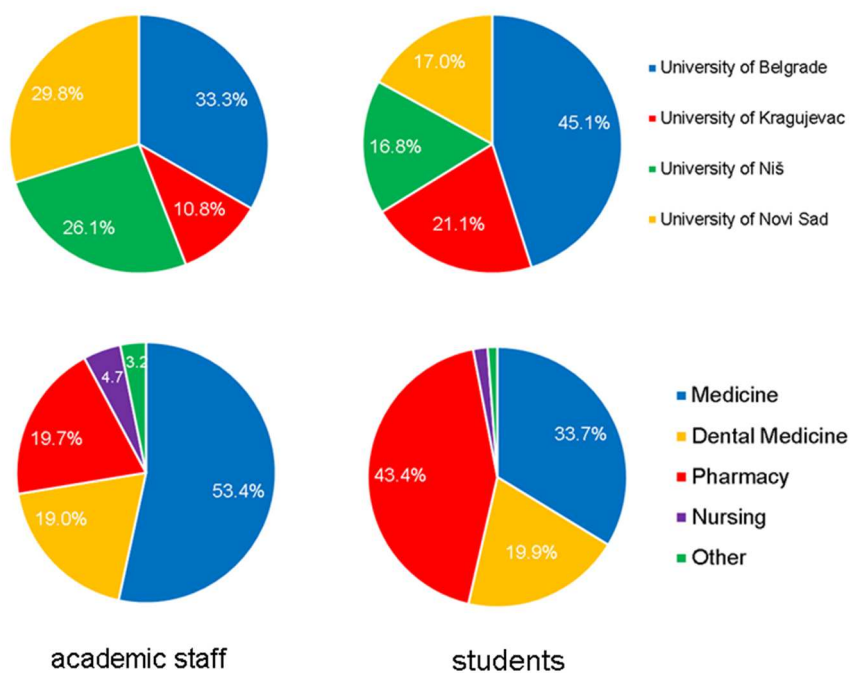


Figure 1.

Student and academic staff respondents distribution by university and study program

Healthcare practitioner respondents distribution by profession, postgraduate degree obtained and engagement as professional practice experience supervisors is presented in Figure 2.

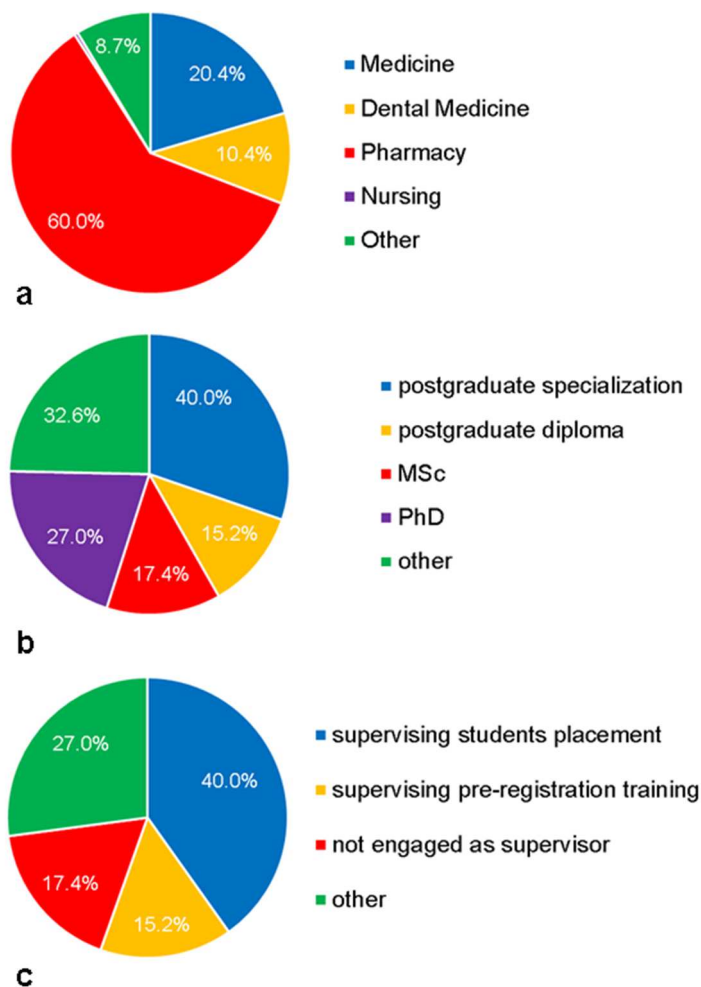


Figure 2.

Healthcare practitioner respondents distribution by profession, postgraduate degree obtained and engagement as professional practice experience supervisor

55.2% of respondents are engaged as supervisors in student professional placement and/or preregistration training of health care professionals. 75.2% respondents replied that they are/would be glad to be engaged as professional practice experience supervisors, while 20% would be engaged only if it is requested by their employer. 47% of respondents replied that during their work hours they have enough time for supervising students, while 49.6% respondents replied that they do not have enough time to devote to students supervision.

Comparative overview of the responses received from students, academic staff and healthcare practitioners is provided.

Experiential education

Q. Which of the following statements best describe experiential education of health sciences students? (please select all that apply)

Experiential education refers to active learning activities based on the actual cases that take place in a real-life practice setting and

- a. involve independent student's work;
- b. involve student's work under supervision of a qualified supervisor;
- c. involve interactions with patients and other healthcare professionals;
- d. does not involve interactions with patients and other healthcare professionals;
- e. involve structured teaching and learning activities with defined learning outcomes;
- f. does not involve structured teaching and learning activities with defined learning outcomes;
- g. other

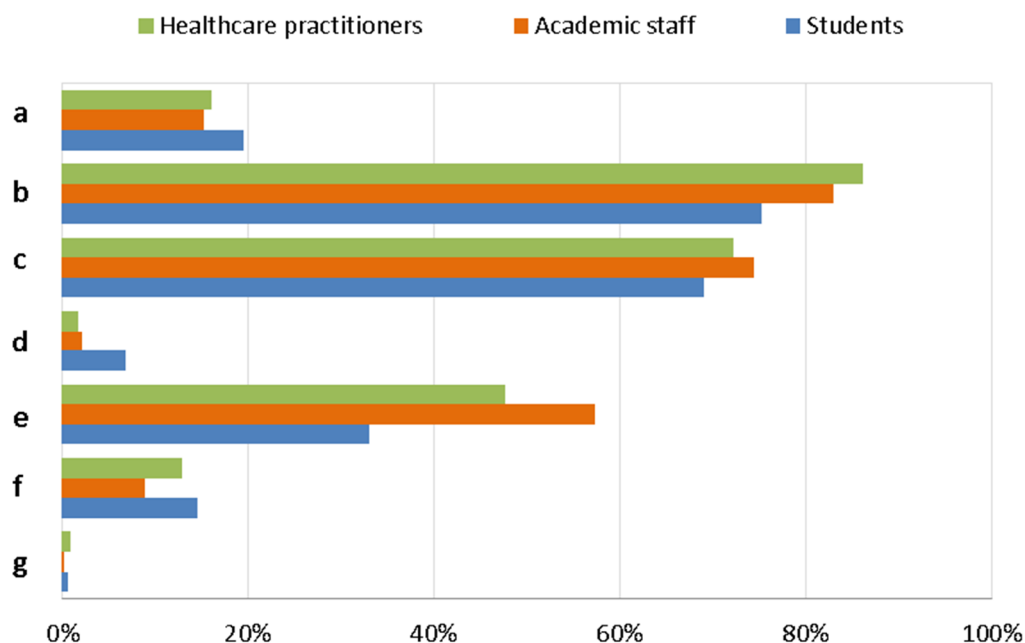


Figure 3.

Healthcare practitioners, academic staff and students respondents understanding of experiential education

All the interested parties recognize the principles of professional practice experience as active learning based on actual cases in the real work environment with the support and supervision from experienced practitioner in direct contact with patients. However, the importance of clearly defined educational content and learning outcomes is recognized only by 33.1% of student respondents and 47.4% practitioners. Academic staff was more aware of this issue, with 57.4% of respondents selecting this option.

Among additional comments, there is an opinion that *“although educational contents are defined, they cannot be always accomplished depending on the level of quality healthcare and equipment available at the placement site.”*

Q. Which are the most important roles of clinical supervisor in experiential education? (please select three roles that you find are most important)

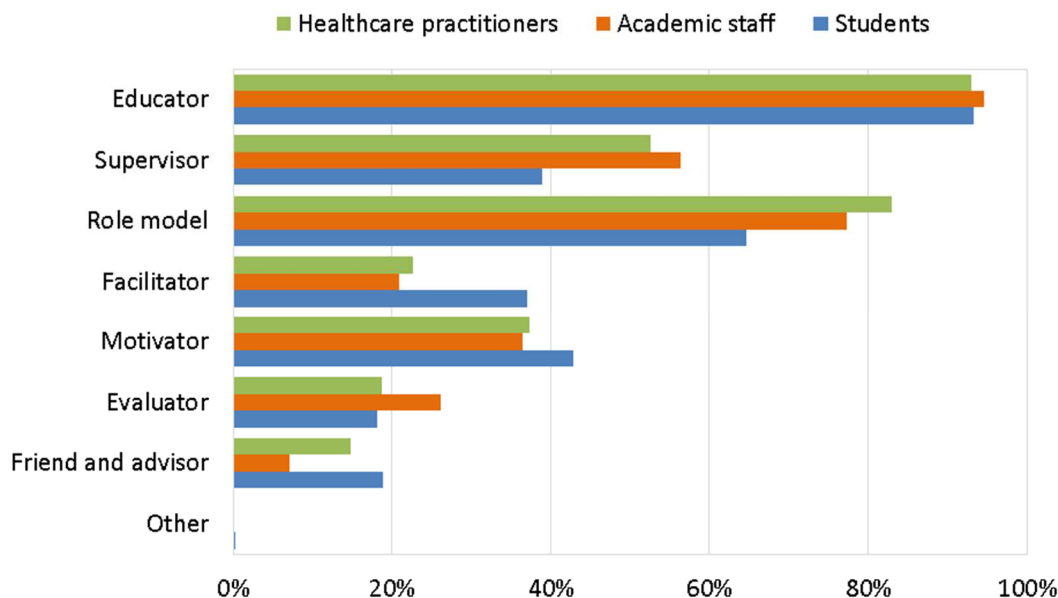


Figure 4.

Healthcare practitioners, academic staff and students respondents view on the main roles of clinical supervisor in experiential education

Opinions related to the roles of practice supervisor are, generally, in accordance among the three groups of respondents. The importance of supervisors role as educator and model for competent professional conduct is well perceived. However, it should be noted that, while academic staff and healthcare practitioners emphasize the importance of supervision of student's performance (more than 50% of respondents), students expectations are shared between the importance of supervision, support and facilitation of learning and motivation with 38.9, 37, and 42.8% of respondents indicating the importance of these three roles, respectively).

Additional comments indicate that *"understanding, availability and genuine interest for students' competencies development with the aim of improvement of profession in general, are also necessary"*.

Q. Do you find that there are significant differences between students enrolled in professional practice experience and recent graduates traineeship? (If YES, what are the difference?)

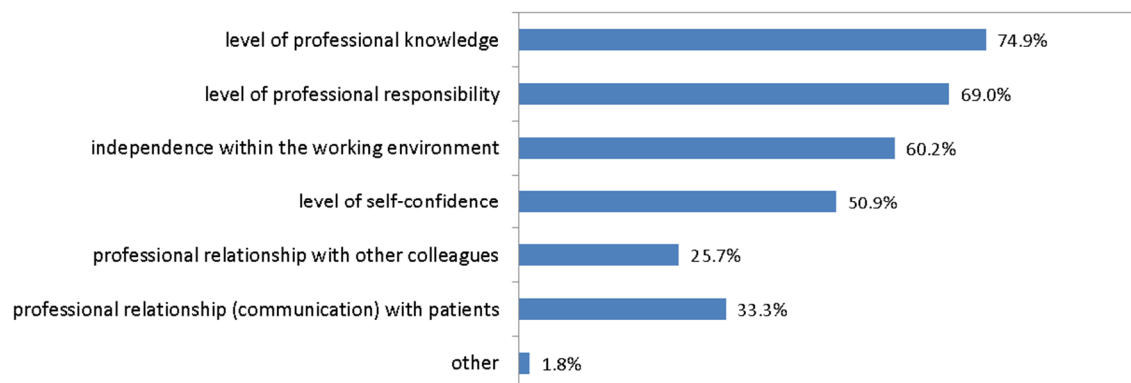


Figure 5.

Healthcare practitioners opinion on the differences between students and recent graduates traineeship

73.9% of practitioners think that there is significant difference between students enrolled in professional practice experience and recent graduates traineeship. More than 50% of respondents indicated that there are differences in the level of professional knowledge, professional responsibility, independence within working environment and the level of self-confidence between recent graduates and students enrolled in the professional practice experience.

Q. With regards to the necessity that all health sciences students should attend professional practice experience during undergraduate studies, there is general agreement, expressed by 93.8% of academic staff, 92.2% of healthcare practitioners and 90.3% of student respondents, that all students should conduct professional practice placement in the real working environment. However, 7.3% students and 7% practitioners were at the stance that professional practice placement should be performed only by students who are interested in this type of activity.

Additional comments

“there is a need for change with regards to attitude of healthcare practitioners in a way that supervision of students professional practice placements is part of their professional duties and not just another obligation which should be fulfilled”

“there is a need for more practice in the real-life work environment during the undergraduate studies”

“professional practice experience should be introduced early in the curriculum, for students to obtain the insight into future professional work and employment opportunities”

“professional practice experience has a purpose only if the placement site is appropriately equipped and provides the quality of care relevant for student learning”

“should include different levels depending on student’s interest and professional orientation”

“the existing students professional practice experience is downsized to mere collection of signatures based on few days of part-time attendance at clinic”

“real life situations can’t be simulated, we need to get accustomed to interaction with different personalities, including both patients, as well as other healthcare professionals”

“if practice placement means 4 hours of sitting in the pharmacy, as it was in the secondary school, than it would not have any sense. Every other solution is better.”

“students should learn something during the practice placement, and not just collect the signatures. They should be guided by a qualified mentor, and not kept on the corridors while everyone tries to avoid them.”

“introduce rigorous control of professional practice placement”

“irrespective of my eagerness towards the introduction of professional practice placement for students, it is unsafe to involve in real work experience students without appropriate prior knowledge”

Interprofessional education

Q. With regards to the meaning and necessity of interprofessional education for health sciences students, 92.1% academic staff, 93% practitioners and 88.8% students agree that interprofessional learning activities should be part of the professional practice experience.

77.6% of student respondents and 74.6% of practitioners distinguished the definition of interprofessional education as *“occasions when two or more different professions learn with, from and about each other to improve collaboration and the quality of care”*, while the relevant percent of academic staff was 68.2% (i.e. 31.7% of academic staff has the perception that interprofessional education is *“when students within the study program learn about other healthcare professionals without interactions with students from other healthcare professions with the aim to improve collaboration and the quality of care”*).

Healthcare practitioners provided valuable comments indicating the importance of interprofessional education for the development of interprofessional collaborative practice in healthcare. Interestingly, 93.1% of academic staff responded that they would be interested to contribute to design and delivery of interprofessional courses for health science students, while 77.4% students confirmed they would be interested to participate in joined courses with other health sciences students.

Additional comments

“IPE is important in order to overcome the prejudices among the healthcare professionals”

“there is a need for foundation in major discipline and then upgrade through interprofessional activities”

“do not complicate education by introducing these elements as it doesn’t have a purpose under the current value system and we will only lose the effective time necessary y for knowledge transfer to students who want to learn”

“The only interprofessional learning activities so far are those initiated by the National association of pharmacy students of Serbia (NAPSer) and Association of medical students (IFMSA) through different projects in which pharmacy and medical students work in teams solving the pharmacotherapy case studies.”

Teaching competencies development

Q. 20% of academic staff (81 respondents) confirmed that they have attended some programme of teaching competencies development. These were mainly short-term programmes organized as occasional seminars for academic staff at the faculty or university level; 55 respondents confirmed they obtained relevant certificate.

73.9% respondents replied that there is not teaching competencies development programme available at their faculty/university. 93.9% of academic staff responded that there is a need for teaching competencies development program which should be organized as flexible programme of continuing professional development, including regular workshops and seminars. It was suggested that teaching competencies development course should be obligatory for new staff members and that further courses should be requested for academic staff promotion.

24.3% of practitioners recognize the need for developing additional competencies necessary for engagement as students professional practice placement supervision, 64.8% agree that some additional skills/competencies may be needed, while 10.9% think that additional competencies are not necessary.

72.2% of practitioners replied that they would be glad to attend the teaching competencies development program, while 19.1% replied they would attend it only if requested by employer.

Current practice and challenges in health professions education

Medical Education

Basic requirements for Doctors of medicine degree in the European Union (EU) are defined in the EU Directive on the recognition of professional qualifications (Directive **2005/36/EC amended in 2013 (Directive 2013/55/EU)**) **Article 24:**

1. Admission to basic medical training shall be contingent upon possession of a diploma or certificate providing access, for the studies in question, to universities.
2. Basic medical training shall comprise a total of at least five¹ years of study, which may in addition be expressed with the equivalent ECTS credits, and shall consist of at least 5500 hours of theoretical and practical training provided by, or under the supervision of, a university.
3. For persons who began their studies before 1 January 1972, the course of training referred to in the first subparagraph may comprise six months of full-time practical training at university level under the supervision of the competent authorities.
4. Basic medical training shall provide an assurance that the person in question has acquired the following knowledge and skills:

(a) adequate knowledge of the sciences on which medicine is based and a good understanding of the scientific methods including the principles of measuring biological functions, the evaluation of scientifically established facts and the analysis of data;

(b) sufficient understanding of the structure, functions and behaviour of healthy and sick persons, as well as relations between the state of health and physical and social surroundings of the human being;

(c) adequate knowledge of clinical disciplines and practices, providing him with a coherent picture of mental and physical diseases, of medicine from the points of view of prophylaxis, diagnosis and therapy and of human reproduction;

(d) suitable clinical experience in hospitals under appropriate supervision.

Same Directive in Articles 25 (Specialist medical training), and Article 26 (Types of specialist medical training) gave details of Specialist medical training. These articles are also important for education of medical doctors. Since the most of medical doctors are working in general medical practice, Directive 2005/36/EC deals with general practice in Article 28 (Specific training in general medical practice). Having in mind that Article 24 in paragraph 4 does not specify that doctor of medicine is able to perform medical practice independently there are reasonable expectations that soon some EU

¹ In the Directive 2005/36/EC, Article 2 was slightly different “Basic medical training shall comprise a total of at least six years of study or 5500 hours of theoretical and practical training provided by, or under the supervision of, a university.”

member states will not allow independent medical practice to medical doctors who did not fulfil requirements of Article 28:

1. *Admission to specific training in general medical practice shall be contingent on the completion and validation of six years of study as part of a training programme referred to in Article 24.*
2. *The specific training in general medical practice leading to the award of evidence of formal qualifications issued before 1 January 2006 shall be of a duration of at least two years on a full-time basis. In the case of evidence of formal qualifications issued after that date, the training shall be of a duration of at least three years on a full-time basis.*

Where the training programme referred to in Article 24 comprises practical training given by an approved hospital possessing appropriate general medical equipment and services or as part of an approved general medical practice or an approved centre in which doctors provide primary medical care, the duration of that practical training may, up to a maximum of one year, be included in the duration provided for in the first subparagraph for certificates of training issued on or after 1 January 2006.

The option provided for in the second subparagraph shall be available only for Member States in which the specific training in general medical practice lasted two years as of 1 January 2001. The specific training in general medical practice shall be carried out on a full-time basis, under the supervision of the competent authorities or bodies. It shall be more practical than theoretical.

3. *The practical training shall be given, on the one hand, for at least six months in an approved hospital possessing appropriate equipment and services and, on the other hand, for at least six months as part of an approved general medical practice or an approved centre at which doctors provide primary health care.*

The practical training shall take place in conjunction with other health establishments or structures concerned with general medicine. Without prejudice to the minimum periods laid down in the second subparagraph, however, the practical training may be given during a period of not more than six months in other approved establishments or health structures concerned with general medicine.

The training shall require the personal participation of the trainee in the professional activity and responsibilities of the persons with whom he is working.

4. *Member States shall make the issuance of evidence of formal qualifications in general medical practice subject to possession of evidence of formal qualifications in basic medical training referred to in Annex V, point 5.1.1.*
5. *Member States may issue evidence of formal qualifications referred to in Annex V, point 5.1.4 to a doctor who has not completed the training provided for in this Article but who has completed a different, supplementary training, as attested by evidence of formal qualifications issued by the competent authorities in a Member State. They may not, however, award evidence of formal qualifications unless it attests knowledge of a level qualitatively equivalent to the knowledge acquired from the training provided for in this Article.*

Member States shall determine, inter alia, the extent to which the complementary training and professional experience already acquired by the applicant may replace the training provided for in this Article.

The Member States may only issue the evidence of formal qualifications referred to in Annex V, point 5.1.4 if the applicant has acquired at least six months' experience of general medicine in a general medical practice or a centre in which doctors provide primary health care of the types referred to in paragraph 3.

The regulatory frame in the Republic of Serbia (RS) is changing. Amendments of the national Law on Higher Education are in process; Draft of the national Law on regulated professions and recognition of professional qualifications has been recently issued and was available for public discussion until February, 10th 2016. In accordance with its provisions, relevant study programs and professional qualifications should be fully compliant with the EU requirements before the accession of Serbia to the European Union.

Experiential Curricula – Current practice(s)

Medical education in all the consortium partner institutions is delivered according to Directive 2005/36/EC as 5500 hours of theoretical and practical training. The most of the consortium partner provides six year study programs equivalent to 360 ECTS (with exception of the University of Dublin School of Medicine which provides 5 year study program and Medical University of Sofia where total number of ECTS is 418.6). The extent of practical traineeship in medicine meets the requirement for the minimum of six months as defined in the Directive 2013/55/EU:

University of Dublin

12 months in fifth year of structured work-based placement distributed as:

- o Integrated Medical Science and Practice (20 credits)
- o Integrated Surgical Science and Practice (20 Credits)
- o Competency Based Preparation for Practice (10 credits)
- o Elective Practice 3 (10 credits)

Medical University of Sofia

12 months in sixth year of structured work-based placement distributed as:

- o INTERNAL DISEASES - 30 days;
- o SURGERY - 30 days;
- o Obstetrics & Gynaecology - 30 days;
- o PEDIATRICS - 30 days;
- o Total in VI year-240 days x 8 = 1920 h;

Medical education at RS universities is declared as six year integrated study program, which, at present, comprises five and half years (XI semesters) of theoretical and practical training at the university followed by six months practice in University clinics and Primary health care institutions. University practice in the sixth year in RS is followed with another six months of practice (internship) in Hospitals and Primary health care institutions and State exam.

Details of medical education are presented in Table 1.

Table 1.

Overview of doctor of medicine curricula at the partner universities

Partner Institution	Medical University Sofia	University of Belgrade	University of Kragujevac	University of Niš	University of Novi Sad
Number of study years and/or ECTS	6 years/418,6 ECTS	6 years/360 ECTS	6 years/360 ECTS	6 years/360 ECTS	6 years/360 ECTS
Number of students per year	385 (210 Bulgarian 175 English language)	550	88	276/212/234 214/193/170	282
Number of teaching staff	variable	902*	286*	268	718*

**total number of academic staff engaged in all the study programmes*

Medical education in all the consortium partner institutions includes practical training but, since there is a lot of differences in teaching topics, it is almost impossible to make direct comparison. According to available data, University of Dublin provides most practical teaching. They organize five year studies of medicine with last year completely devoted to practice followed by one year of internship. So, in total they offer two years of practice in six years. Medical University of Sofia also offers a lot of practice - whole sixth study year is practice. In total, according to data provided by the Medical University of Sofia, they provide 240 days (1920 hours) of students practical placements. Similarly to Medical University of Sofia, University of Pecs² organize students professional practice within the sixth year of study. According to data available, practice is organised during 40 weeks. Apart from that, students at University of Pecs have 4 weeks of summer practice after VIII semester. Medical education at RS universities is rather harmonized with regards to the extent of students professional practice. All four participating universities from RS declared to provide six months students professional practice in university clinics and primary health care institutions. In the Republic of Serbia, medical students professional practice in sixth study year is followed with mandatory six months of practice (internship) in hospitals and primary health care institutions, after which students proceed to State exam.

There are also some differences related to the requirements that student should fulfil prior to practice placement: at majority of RS partner universities, students are obliged to pass all the fifth year exams, while at other universities requirements are linked with practice, so students must pass the exams which cover topics in practice placement. During the practical placement, students are obliged to

² Data from the University of Pecs website.

complete specific modules (as defined in experiential curricula) and attend the lectures dealing with professional practice topics. At the end of work-based placement, students of medicine in Ireland and RS proceed with internship (in Ireland internship is 12 months, in Serbia is 6 months). In both countries internship is followed with State exam which enable them to register as medical doctor in national medical chamber.

There are also differences related to responsibility for practical training among partner Institutions. Medical University of Sofia organize practical training with their academic staff while at RS universities, practical training is mainly organized within the primary health institutions and selected health professionals (with at least five years of experience in general medical practice) are engaged as practice supervisors.

It should be mentioned that apart from the University of Kragujevac School of Medicine, all RS partner institutions, as well as Medical University of Sofia declared that there are no available data on the number of academic staff with formal training in medical education. Another important fact is that only Medical University of Sofia and University of Belgrade School of Medicine declared that there is a formal program for teaching competencies development at the school/university level and that there is a Centre for teaching and learning at the school/university level. According to the replies received from the consortium partner institutions, academic staff is not obliged to attend teaching competences development programmes.

Experiential Curricula – Challenges

Even if considering a long lasting tradition in experiential education of medical students, development of framework for experiential education is always a challenging task, especially since there are a number of new tasks for medical doctors introduced almost on a monthly basis. Through years of organizing experiential education for medical students certain specific challenges have been recognized:

- o Ensuring comparable, rich learning experience for all students.
- o Motivation of health care professionals to engage as practice supervisors.
- o Practice supervisors teaching competencies development.
- o Development of relevant students assessment methods.
- o Recognition of academic staff and practice supervisors' workload related to students professional practice experience by relevant regulatory bodies and employers.
- o Establishment of quality assurance framework taking into account relevant educational, healthcare and labour laws and regulations.
- o Software support for management of experiential education.

Recommendations for improvement

- o Relevant quality standards specific for Medical Education, should be recognized by the national *Rules and Regulations on accreditation standards and procedures of higher education institutions and study programs*.
- o National list of qualified mentors for experiential education of medical doctors should be developed.
- o Objective structured clinical examination should be implemented as an assessment tool in health education.

- o State exams in Republic of Serbia should be remodelled in order to focus on practical skills and knowledge.
- o All the interested parties, academia, students, practitioners and professional regulators should collaborate and employ joint efforts towards the accomplishment of a common goal: improved, modern medical education.

Elements for SWOT analysis

Strengths

- o The importance of professional practice experience recognized by students, academia and employers;
- o The long duration of experience of experiential education in all the consortium partner institutions;

Weaknesses

- o Control of student's attendance and rotations in teaching sites;
- o Lack of relevant accreditation standards and quality assurance framework for student's placements management;
- o Huge number of teaching sites involved in experiential education;
- o Lack of adequate students' assessment for experiential part of education;

Opportunities

- o General support of the medical community and recognition of the need for experiential education;
- o Support of patients and lay public;
- o Collaboration and exchange of good practices within the *Reinforcement of the Framework for Experiential Education in Healthcare in Serbia* (ReFEEHS) Consortium;
- o Request for harmonization with EU practice and policies;

Threats

- o High workload of medical doctors in primary health care institutions;
- o Lack of motivation of medical doctors in primary health care institutions to engage as student supervisors;
- o Management of numerous teaching sites and students rotations;
- o Absence of regulation which would stimulate participation of primary health care institutions in university organized experiential education.

Current practice and challenges in health professions education

Pharmacy Education

Basic requirements for Pharmacy degree in the European Union (EU) are defined in the EU Directive on the recognition of professional qualifications (Directive 2013/55/EU):

Evidence of formal qualifications as a pharmacist shall attest to training of at least five years' duration, which may in addition be expressed with the equivalent European Credit Transfer and Accumulation System (ECTS credits), comprising at least:

- (a) four years of full-time theoretical and practical training at a university or at a higher institute of a level recognised as equivalent, or under the supervision of a university;*
- (b) during or at the end of the theoretical and practical training, six-month traineeship in a pharmacy which is open to the public or in a hospital under the supervision of that hospital's pharmaceutical department.*

The status of regulated profession brings additional responsibility to educators and relevant regulatory authorities as it is requested that:

The Member States shall ensure that the holders of evidence of formal qualifications in pharmacy at university level or a level recognised as equivalent, which satisfies the requirements of Article 44, are able to gain access to and pursue at least the following activities, subject to the requirement, where appropriate, of supplementary professional experience:

- (a) preparation of the pharmaceutical form of medicinal products;*
- (b) manufacture and testing of medicinal products;*
- (c) testing of medicinal products in a laboratory for the testing of medicinal products;*
- (d) storage, preservation and distribution of medicinal products at the wholesale stage;*
- (e) supply, preparation, testing, storage, distribution and dispensing of safe and efficacious medicinal products of the required quality in pharmacies open to the public;*
- (f) preparation, testing, storage and dispensing of safe and efficacious medicinal products of the required quality in hospitals;*
- (g) provision of information and advice on medicinal products as such, including on their appropriate use;*
- (h) reporting of adverse reactions of pharmaceutical products to the competent authorities;*
- (i) personalised support for patients who administer their medication;*
- (j) contribution to local or national public health campaigns.*

Pharmacy curricula is not fully harmonized within the EU. Traditionally, it consisted of the four year didactic curricula followed by one year professional training in the pharmacy (preregistration year). Currently, it is mainly delivered as integrated five year curricula, including the requested six months of professional experiential education (pharmacy practice experience) leading to Master of Pharmacy (MPharm) degree.

The regulatory landscape in the Republic of Serbia (RS) is changing. Amendments of the national Law on Higher Education are in process; Draft of the national Law on regulated professions and recognition of professional qualifications has been recently issued and was available for public discussion until February, 10th 2016. In accordance with its provisions, relevant study programs and professional qualifications should be fully compliant with the EU requirements before the accession of Serbia to the European Union. The important implication for pharmacy education is that six months traineeship in a pharmacy should be part of the MPharm curricula.

Experiential Curricula – Current practice(s)

Pharmacy curricula at all the consortium partner institutions are delivered as five year study programs equivalent to 300 ECTS (with exception of the Medical University of Sofia where total number of ECTS is 323). The extent of practical traineeship in pharmacy at the EU partner universities meets the requirement for the minimum of six months as defined in the Directive 2013/55/EU:

University of Lisbon

Six months/30 ECTS in the 5th study year:

- o four-month (20 ECTS) traineeship in a community pharmacy
- o two-month (10 ECTS) traineeship in a hospital pharmacy

University of Dublin

More than 12 months of structured work-based placement distributed as:

- o 10 days in the 2nd study year
- o 4 months/80 days in the 4th study year
- o 8 months/160 days in the 5th study year

University of Pecs

Six months/960 hours/18 ECTS in the 5th study year:

- o 2 months/320 hours/4 ECTS in the 9th semester
- o 4 months/640 hours/14 ECTS in the 10th semester

University of Sofia

Six months/50 ECTS in the 5th study year (8 hours per day)

Pharmacy education at RS universities is declared as five year integrated study program which, at present, comprises five years of theoretical and practical training at the university followed by six months of (post-graduate) traineeship in public and hospital pharmacy. Lack of undergraduate professional practice experience has been recognized as major deficiency by all the interested parties: students, academia and employers. In the study programs accredited in 2013, professional practice experience has been introduced in Pharmacy curricula at RS universities, however, its extent varies from 2 ECTS (30 hours) at the University of Novi Sad to 71 ECTS (570 hours) at the University of Kragujevac (for detailed overview, please refer to Table 2.

Table 2.

Overview of pharmacy curricula at the consortium partner universities

	Univ. Dublin	Univ. Lisbon	Univ. Pecs	MU Sofia	Univ. Belgrade	Univ. Kragujevac	Univ. Niš	Univ. Novi Sad
Number of study years/ECTS	5 years 300ECTS	5 years 300ECTS	5 years 300ECTS	5 years 323ECTS	5 years 300ECTS	5 years 300ECTS	5 years 300ECTS	5 years 300ECTS
Number of students per year	80	250	na	120	255 (+70 ^a)	84	75	90
Number of teaching staff (eq. of full time staff)	22	150	286*	92	172	na	57	93
Professional practice	12.5 months 2 nd year - 10 days 4 th year - 80 days 5 th year - 160 days	6 months 30 ECTS 5 th study year	6 months 18 ECTS 5 th study year (960 h)	6 months 50 ECTS 5 th study year (8 h per day)	300 h 10 ECTS	570 hours 71 ECTS	100 h 15 ECTS	60 hours 2 ECTS
Number of practitioners as clin. supervisors	80	392	na	150	to be defined	to be defined	to be defined	to be defined
Number of clinical sites involved	200	292 commun 20 hospital pharm.	na	110	to be defined	to be defined	to be defined	to be defined

^aStudy program Pharmacy – Medicinal Biochemistry

*total number of academic staff engaged in all the study programmes at the Faculty of Medical Sciences

The overview of the extent of experiential curricula at consortium partner universities, expressed in days, hours and ECTS, is presented in Figure 6.

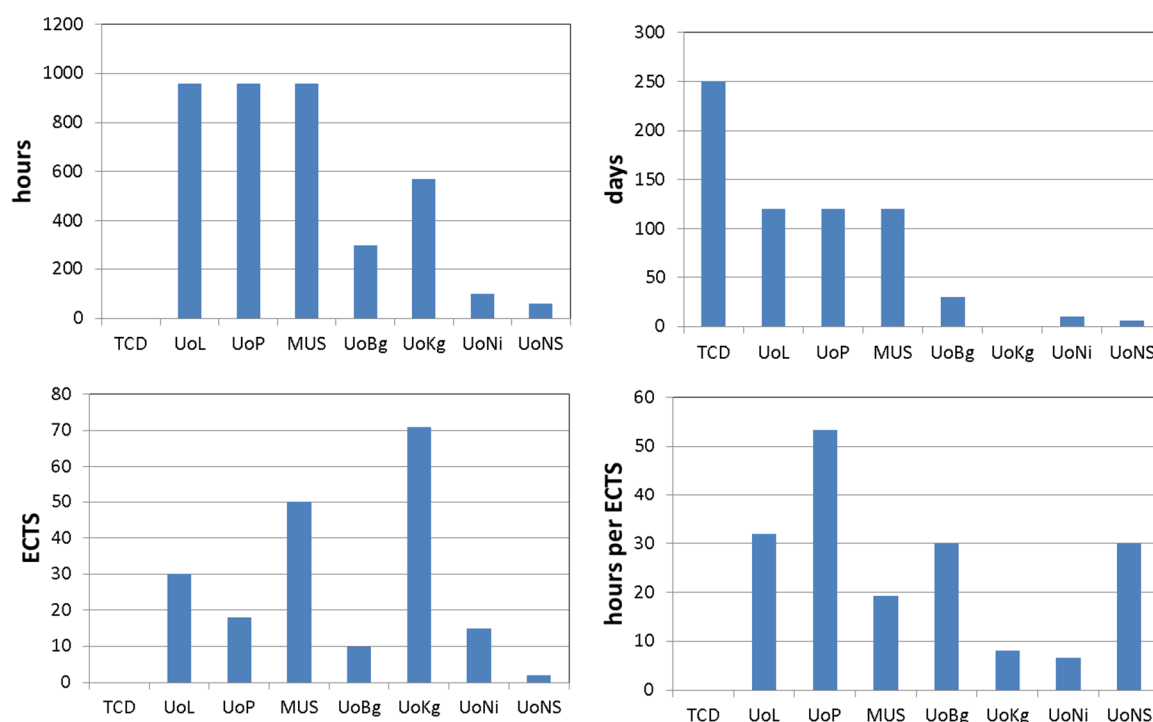


Figure 6.

Extent of experiential curricula at consortium partner universities (expressed in days, hours and/or ECTS)

Pharmacy curricula at the EU consortium partner universities conform with the minimum standards declared in EU Directive 2013/55, including six months of practice placement during the five years study program. It should be pointed out that experiential curricula at the School of Pharmacy and Pharmaceutical Sciences, Trinity College Dublin (TCD) includes more than 12 months of structured work-based student placements. Although the number of days/hours of professional practice placements at the University of Lisbon (UoL), University of Pecs (UoP) and Medical University Sofia (MUS) are equal, there is obvious lack of harmonization related to the number of ECTS points assigned to this part of pharmacy curricula, with 30 ECTS at the UoL, 18 ECTS at the UoP and 50 ECTS at MUS. The extent of professional practice experience at RS Universities is variable and well below the expected six months. It is of interest to point out the variable student's workload attached to 1 ECTS of professional practice placement at different universities, ranging from 6.7 to 53.3 hours.

There are also differences related to the requirements that student should fulfil prior to practice placement: at some of the partner universities, students are obliged to pass all the exams (or, at least, all the fourth year exams), while at other universities the emphasis is on the courses related to pharmacy practice, law and ethics, pharmacotherapy, pharmacokinetics and public health, which student should pass before entering the work-based placement. During the practice placement, students are obliged to complete specific modules (as defined in experiential curricula) and attend the monthly workshop and discussion forum at the school with the professional practice coordinator. At

the end of work-based placement, pharmacy students proceed to professional registration examination³.

There are also differences related to responsibility for qualification of pharmacies as placement sites and pharmacist as clinical supervisors: in Bulgaria, it is the responsibility of the Bulgarian Pharmaceutical Union; at the University of Lisbon, they are proposed by the traineeship coordinator and approved by the Scientific Board of the Faculty of Pharmacy; in Ireland, *Affiliation for Pharmacy Practice Experiential Learning* (APPEL) is formed as the national placement office responsible for organization of students work-based placements. The qualified placement sites and qualified practice supervisors are registered with APPEL.

In Ireland and Portugal, national professional regulatory organizations (*Pharmaceutical Society of Ireland, and Portuguese Pharmaceutical Society - Ordem dos Farmaceuticos*) issued professional accreditation standards in addition to general national accreditation standards for higher education. Specific standards for Pharmacy Education are not recognized in the national accreditation regulation in RS (while they are harmonized with the EU provisions for Medical Education).

Experiential Curricula – Challenges

Development of framework for experiential education is challenging endeavour. While the pre-registration training in pharmacy is based mostly on the relationship between the recent graduate and relevant employer, pharmacy practice experiential education includes numerous and complex interactions between students, practice supervisors, healthcare institutions (and other sites providing students placement) and higher education institutions. Some of the specific challenges recognized are:

- o Revision of the existing curricula to create balance and connection between theoretical and practical sessions at the university and learning in the real work-based environment;
- o Ensuring comparable, rich learning experience for all students;
- o Motivation of students (especially those who are not pursuing career in healthcare).
- o Motivation of pharmacist to engage as practice supervisors;
- o Practice supervisors orientation and teaching competencies development;
- o Development of relevant student assessment methods;
- o Recognition of academic staff and practice supervisors workload related to professional experiential education by relevant regulatory bodies and employers;
- o Establishment of quality assurance framework taking into account relevant educational, healthcare and labour laws and regulations (all the standards of quality assurance in higher education should be also met for the professional practice experience);
- o Automated administration supported by the relevant software platform should be established (with online evaluations, electronic messaging to students and practice supervisors, updated placement sites description, availability of supervisors, etc);
- o Establishment of financially feasible system to secure sustainability of the new experiential education system.

³ In Ireland, the professional registration examination includes objective structured clinical examination (OSCE).

In line with the changing national legislative, and current EU practices, decisions should be made with regards to future pharmacy curriculum at the RS universities:

1. whether the six months traineeship in a pharmacy should be part of the MPharm curricula;
2. how to revise current five year didactic curricula to embrace the requested six months of professional practice placement.

Recommendations for improvement

- o Relevant quality standards specific for Pharmacy Education, should be recognized by the national *Rules and Regulations on accreditation standards and procedures of higher education institutions and study programs*.
- o National framework for pharmacy practice experiential learning should be established with a common database of qualified placement sites and practice supervisors, common standards, requirements and documentation.
- o The emphasis in pharmacy education is moving from *content* to *competence*-based. Experiential education should provide well-planned, outcomes-focused learning experience. Furthermore, there is a need to re-examine and re-define current, relatively wide and general education outcomes into relevant, specific, measurable, attainable, realistic and time-appropriate learning outcomes which will state what the graduate will actually be able to do.
- o All the interested parties, academia, students, practitioners and professional regulators should collaborate and employ joint efforts towards the accomplishment of a common goal - improved, contemporary, transformative pharmacy education.

Elements for SWOT analysis

Strengths

- o The importance of professional practice experience recognized by students, academia and employers;
- o The existing model for students clinical placement in medical education;

Weaknesses

- o Lack of experience related to student placement management in both university and practice sites;
- o Lack of relevant accreditation standards and quality assurance framework for students placements management;
- o Timely communication and support from relevant authorities at the university and national level;
- o Existing five-year didactic curricula should be revised to include 6 months professional practice experience;

Opportunities

- o Positive attitude of pharmacy professionals and their employers;
- o Collaboration and exchange of good practices within the *Reinforcement of the Framework for Experiential Education in Healthcare in Serbia* (ReFEEHS) Consortium;
- o Request for harmonization with EU practice and policies;

Threats

- o High workload of pharmacy professionals;
- o Lack of motivation of pharmacists to engage as student supervisors;
- o Resistance to change at both university and within the healthcare system;
- o Lack of policy statements and true commitment for improvement and innovation;
- o Lack of support from regulatory bodies.

Current practice and challenges in health professions education

Dental Education

Education of dental professionals is important part of health care system in every country. The framework for dental education in EU member countries is defined in the part of Directive 2013/55/EU and based on Directive 2005/36/EC. Basic requirements specified in these Directives are:

Basic dental training shall comprise a total of at least five years of full-time theoretical and practical study, comprising at least the program consisted of:

- a) Basic subjects: Chemistry, Physics and Biology;*
- b) Medico-biological subjects and general medical subjects: Anatomy, Embryology, Histology, including cytology, Physiology, Biochemistry (or physiological chemistry), Pathological anatomy, General pathology, Pharmacology, Microbiology, Hygiene, Preventive medicine and epidemiology, Radiology, Physiotherapy, General surgery, General medicine including paediatrics, Oto-rhino-laryngology, Dermato-venereology, General psychology – psychopathology - neuropathology, Anaesthetics;*
- c) Subjects directly related to dentistry: Prosthodontics, Dental materials and equipment, Conservative dentistry, Preventive dentistry, Anaesthetics and sedation, Special surgery, Special pathology, Clinical practice, Paedodontics, Orthodontics, Periodontics, Dental radiology, Dental occlusion and function of the jaw, Professional organisation, ethics and legislation, Social aspects of dental practice.*

One or more of these subjects may be taught in the context of the other disciplines or in conjunction therewith.

Basic dental training shall provide an assurance that the person in question has acquired the following knowledge and skills:

- (a) adequate knowledge of the sciences on which dentistry is based and a good understanding of scientific methods, including the principles of measuring biological functions, the evaluation of scientifically established facts and the analysis of data;*
- (b) adequate knowledge of the constitution, physiology and behavior of healthy and sick persons as well as the influence of the natural and social environment on the state of health of the human being, in so far as these factors affect dentistry;*
- (c) adequate knowledge of the structure and function of the teeth, mouth, jaws and associated tissues, both healthy and diseased, and their relationship to the general state of health and to the physical and social well-being of the patient;*
- (d) adequate knowledge of clinical disciplines and methods, providing the dentist with a coherent picture of anomalies, lesions and diseases of the teeth, mouth, jaws and associated tissues and of preventive, diagnostic and therapeutic dentistry;*
- (e) suitable clinical experience under appropriate supervision.*

This training shall provide him with the skills necessary for carrying out all activities involving the prevention, diagnosis and treatment of anomalies and diseases of the teeth, mouth, jaws and associated tissues.

The regulatory body of Serbian Ministry of education has held the meeting in November 2015 with the representatives of all national universities in order to compare relevant dental education curricula with the European Directives. It was concluded that there are some differences, particularly in the included basic and medico-biological subjects, that should be harmonized. Namely, study programmes and professional qualifications should be fully compliant with the EU requirements before the accession of Serbia to the European Union.

Current dental education in Serbia is organized through study programmes in one public School of dental medicine at the University of Belgrade, and in Medical schools at Universities of Niš, Novi Sad, Kragujevac and Kosovska Mitrovica. There is also one private Dental school located in Pančevo. The current situation in public schools, participating in ReFEEHS, will be presented in this report.

Overview of undergraduate dental education in Serbia

Studies of dentistry or dental medicine in all of these schools are integrated studies of second level. On successful completion of these programs graduates gain title of Doctor of dental medicine. During the integrated six-year (12 semesters) study program in School of dental medicine at University of Belgrade, students should obtain 360 ECTS credits within program consisting of 5400 school hours. The other schools in Serbia have five-year (10 semesters) integrated study programs of dental medicine with 300 ECTS and approximately 4500 school hours.

Study programs in dental education of all Serbian Universities consist of obligatory and elective courses (Table 3). However, respective curricula differ with regards to both contents, as well as the number of courses. Common characteristic of all curricula is courses with lectures, practical training classes, colloquia and seminars as learning activities (Table 4). Students are to pass the exam at the end of every course in order to successfully finish it.

According to accreditation standards for higher education, courses are divided into four groups at all of these study programs: academic/general educational courses, theoretical/methodological courses, scientific/professional courses and professional/applicative courses. There is also distinction between basic/preclinical courses, being predominant at first two years, medical courses, and dental clinical courses which start predominantly in third year, except in Niš (in fourth year). Clinical courses cover a lot of practical work in clinical setting with patients in all the schools. There is also a traineeship as separate course at the Faculty of Medicine University of Niš within fifth year (160 school classes) and special Clinical blocks in the Faculty of Medical Sciences University of Kragujevac (135 school classes) and in Belgrade (180 school classes). The analysis of curricula content shows that most of the subjects required by mentioned EU Directives are included, although some are missing. There are no courses conceptualized on inter-professional basis in any of these programmes. The number of teaching staff differs among the schools (Table 3) and depends not on number of students included in dental education, but on total number of study programmes provided by the school. There is not a formal program for teaching competencies development at any school and university aforementioned.

School of dental medicine at the University of Belgrade is accredited for 240 students to enter this study program per year, whilst schools at Universities in Novi Sad and Niš are accredited for 72 students each. University of Kragujevac has got accreditation for 24 students of dentistry per year. All study programmes include final diploma exam. Upon the graduation there is six months internship with exam in order to gain the license.

Table 3.

Overview of dental education curricula and number of teaching staff at RS universities

Partner Institution	University of Belgrade	University of Kragujevac	University of Niš	University of Novi Sad
Number of study years and/or ECTS	6 years/360 ECTS	5 years/300 ECTS	5 years/300 ECTS	5 years/300 ECTS
Number of students per year	I-229, II-246, III-189, IV-219, V-165, VI-198	24	55	72
Number of courses	54 + FD	57+ FD	44 + FD	52 + FD
Obligatory courses	38	38	38	48
Elective courses	28	20	19	24
Number of teaching staff	129	286*	238	486

*FD-Final diploma exam***total number of academic staff engaged in all the study programmes at the Faculty of Medical Sciences***Table 4.**

Structure of active learning activities

Partner Institution	University of Belgrade	University of Kragujevac	University of Niš	University of Novi Sad
Lectures	1938	1965	1740	1935
Practical training classes	2499	1545	2580	2430
Other learning activities	960	645	310	150
TOTAL (school classes)	5397	4155	4630	4515
Final exam (ECTS)	12	10	7	20

Overview of dental education in EU universities participating in ReFEEHS project

Trinity College Dublin offers program in Dental Science (Honors degree), as well as other study programs like Dental Technology (Ordinary degree), Clinical Dental Technology (Higher Diploma), Dental Hygiene (Diploma), Orthodontic Therapy (Diploma) and Dental Nursing (Diploma). As a result of pursuing students to engage in clinical dentistry early on in their programs, they are in clinics in the second term of their first year (Dental Science, Dental Hygiene and Dental Nursing) as teams working closely together, just as in general dental practices. On successful completion of the five-year Dental Science undergraduate program dental graduates hold the degree Bachelor of Dental Science that entitles the graduate to register as a dentist on the Register of the Dental Council of Ireland. Dental science studies last for five years, and students commence treating (under supervision) their own patients in the second year and by the fifth year are expected to have completed a wide range of treatments similar to those provided in general dental practice. The curriculum of the Dental Science program is based on problem-based learning, which is complemented by considerable emphasis on clinical competence in primary oral health care based on appropriate, prioritized and scientifically acceptable treatment methods. Upon the graduation there is no need for one year internship, since graduates gain a lot of hands-on experience treating patients throughout five years of training. During the second year, students are assigned Clinical Academic Advisor (a senior full time clinical academic member) who will mentor them through the remaining years.

The Faculty of Dental Medicine of Medical University in Sofia is the first autonomous and accredited institution of higher education in Bulgaria providing training of dental medicine doctors, awarding Master degree. The studies lasts for 5 academic years (10 semesters), with 6 months of pre-graduate training covering 135 days or 1080 classes. The education plan of dental medicine training includes 45 disciplines - 31,4% of them medical and 68,6% in the field of dental medicine. Practical training is organized throughout practical courses during the academic years and covers 4240 classes. Also there are two summer practical trainings, after the IV and VIII semesters, that last for 30 days (150 classes each).

After the completion of Dentistry program at University of Pécs Medical School, the level of qualification obtained would be the master's degree and qualification as registered dentist. The studies last for 10 semesters (300 credits), and is divided in modules. Number of credits to be allocated in the basic module: 80–100 credits, preclinical module with 45–59 credits, and clinical module with 115–131 credits. There is also a practical module that covers 10 weeks and represents practical work. Total number of practical training classes is 2034 among total of 4044 lectures. The curriculum of the five year program (10 semesters) is designed to unify the basic and clinical sciences, as it is believed that scientific and professional development cannot be sharply separated but should proceed concurrently throughout the program. In the *Basic module* of first two years the students are taught basic sciences – medical and dental courses – which are the foundation of clinical dentistry. In the *Pre-clinical module* students become more familiar with the intensive clinical study of each of the various disciplines of dentistry that they continue with in the *Clinical module* with more emphasis on the assessment and management of patients.

Challenges in dental education improvement in Serbia

Overview of dental education in Serbia and comparison with contemporary educational tendencies together with practice in other European Universities and requirements given by EU directives have shown the need for improvements in this field. Some of the specific activities that should be done are:

- o Revision of current programs in order to fully adopt the requirements of EU directives;
- o Harmonizing the curricula between universities in Serbia;
- o Redefining of current aims of specific courses and learning outcomes together with list of specific knowledge and skills dental graduates will possess on completion of study program;
- o Ensuring comparable learning experiences for all students in accepting both knowledge and skills;
- o Motivation of students to actively participate in curricula evaluation and development;
- o Motivation of academic staff to actively use feedback information in development of educational process;
- o Development of relevant methods for assessment of knowledge and practical skills student has acquired;
- o Establishing of formal programs for teaching competencies development;
- o Motivation of teaching staff to work on improvement of their teaching competencies;
- o Development of inter-professional courses, particularly on undergraduate level, in order to establish early cooperation between healthcare professionals;
- o Encouragement of introduction of automated administration in educational activities supported by the relevant software platform (with electronic evidences of personal student learning activities results, online learning and evaluations etc.);
- o Establishment of financially feasible system to secure sustainability of implemented improvements of dental education system;
- o Relevant quality standards specific for dental education should be recognized by the national *Rules and Regulations on accreditation standards and procedures of higher education institutions and study programs*;
- o All the interested parties, academia, students, practitioners and regulatory bodies should collaborate and employ joint efforts towards the accomplishment of a common aim: improved, contemporary, transformative dental education.

Elements for SWOT analysis

Strengths

- o High quantity of practical traineeship in real clinical environment within dental clinical courses in existing curricula;
- o Experienced teaching staff in conducting practical traineeship in real clinical environment;
- o The importance for constant improvement of curricula in dental education recognised by academic staff and students;

Weakness

- o Lack of programs for teaching competencies development;
- o Insufficient teaching staff formally trained in teaching competencies;
- o High number of students;
- o High workload of teaching staff;

Opportunities

- o Request from official regulatory bodies for harmonization of dental education programs with EU Directives, practice and policies;
- o Collaboration and exchange of good practices within the *Reinforcement of the Framework for Experiential Education in Healthcare in Serbia*(ReFEEHS) Consortium;

Threats

- o Resistance to change within the schools and universities;
- o Lack of policy statements and true commitment for improvement and innovation.

Current practice and challenges in health professions education

Nursing Education

Basic requirements for nurse education in European Union are defined in the part of Directive 2013/55/EU and based on Directive 2005/36/EC:

“1. Admission to training for nurses responsible for general care shall be contingent upon either:

- (a) completion of general education of 12 years, as attested by a diploma, certificate or other evidence issued by the competent authorities or bodies in a Member State or a certificate attesting success in an examination of an equivalent level and giving access to universities or to higher education institutions of a level recognized as equivalent; or
- (b) completion of general education of at least 10 years, as attested by a diploma, certificate or other evidence issued by the competent authorities or bodies in a Member State or a certificate attesting success in an examination of an equivalent level and giving access to a vocational school or vocational training programme for nursing.

2. Training of nurses responsible for general care shall be given on a full-time basis and shall include at least the programme described in Annex V, point 5.2.1.

3. The training of nurses responsible for general care shall comprise at least three years of study or 4600 hours of theoretical and clinical training, the duration of the theoretical training representing at least one-third and the duration of the clinical training at least one half of the minimum duration of the training.

4. Theoretical training is that part of nurse training from which trainee nurses acquire the professional knowledge, insights and skills necessary for organizing, dispensing and evaluating overall health care. The training shall be given by teachers of nursing care and by other competent persons, in nursing schools and other training establishments selected by the training institution.

5. Clinical training is that part of nurse training in which trainee nurses learn, as part of a team and in direct contact with a healthy or sick individual and/or community, to organize, dispense and evaluate the required comprehensive nursing care, on the basis of the knowledge and skills which they have acquired. The trainee nurse shall learn not only how to work in a team, but also how to lead a team and organize overall nursing care, including health education for individuals and small groups, within the health institute or in the community.

This training shall take place in hospitals and other health institutions and in the community, under the responsibility of nursing teachers, in cooperation with and assisted by other qualified nurses. Other qualified personnel may also take part in the teaching process.

6. Training for nurses responsible for general care shall provide an assurance that the person in question has acquired the following knowledge and skills:

- (a) adequate knowledge of the sciences on which general nursing is based, including sufficient understanding of the structure, physiological functions and behaviour of healthy and sick persons, and of the relationship between the state of health and the physical and social environment of the human being;

- (b) sufficient knowledge of the nature and ethics of the profession and of the general principles of health and nursing;
- (c) adequate clinical experience; such experience, which should be selected for its training value, should be gained under the supervision of qualified nursing staff and in places where the number of qualified staff and equipment are appropriate for the nursing care of the patient;
- (d) the ability to participate in the practical training of health personnel and experience of working with such personnel;
- (e) experience of working with members of other professions in the health sector.

7. Formal qualifications as a nurse responsible for general care shall provide evidence that the professional in question is able to apply at least the following competences regardless of whether the training took place at universities, higher education institutions of a level recognized as equivalent or at vocational schools or through vocational training programmes for nursing:

- (a) competence to independently diagnose the nursing care required using current theoretical and clinical knowledge and to plan, organize and implement nursing care when treating patients on the basis of the knowledge and skills acquired in accordance with points (a), (b) and (c) of paragraph 6 in order to improve professional practice;
- (b) competence to work together effectively with other actors in the health sector, including participation in the practical training of health personnel on the basis of the knowledge and skills acquired in accordance with points (d) and (e) of paragraph 6;
- (c) competence to empower individuals, families and groups towards healthy lifestyles and self-care on the basis of the knowledge and skills acquired in accordance with points (a) and (b) of paragraph 6;
- (d) competence to independently initiate life-preserving immediate measures and to carry out measures in crises and disaster situations;
- (e) competence to independently give advice to, instruct and support persons needing care and their attachment figures;
- (f) competence to independently assure the quality of, and to evaluate, nursing care;
- (g) competence to comprehensively communicate professionally and to cooperate with members of other professions in the health sector;
- (h) competence to analyze the care quality to improve his own professional practice as a nurse responsible for general care."

The content of training is laid out in Annex V. point 5.2.1 of Directive 2005/36/EC.

"The training leading to the award of a formal qualification of nurses responsible for general care shall consist of the following two parts.

A. Theoretical instruction:

- a. Nursing: Nature and ethics of the profession; General principles of health and nursing; Nursing principles in relation to: General and specialist medicine; General and specialist surgery; Child care and pediatrics; Maternity care; Mental health and psychiatry; Care of the old and geriatrics.
- b. Basic sciences: Anatomy and physiology; Pathology; Bacteriology, virology and parasitology; Biophysics, biochemistry and radiology; Dietetics; Hygiene: Preventive medicine; Health education; Pharmacology.
- c. Social sciences: Sociology; Psychology; Principles of administration; Principles of teaching; Social and health legislation; Legal aspects of nursing.

B. Clinical instruction

a. Nursing in relation to: General and specialist medicine; General and specialist surgery; Child care and pediatrics; Maternity care; Mental health and psychiatry; Care of the old and geriatrics; Home nursing.

One or more of these subjects may be taught in the context of the other disciplines or in conjunction therewith. The theoretical instruction must be weighted and coordinated with the clinical instruction in such a way that the knowledge and skills referred to in this Annex can be acquired in an adequate fashion.”

Lifelong learning has become an important issue and is evidenced by its appearance in amended Article 14.5 on compensation measures continuous professional development (CPD).

Directive 2005/36/EC is amended in Article 22 as follows:

“Member States shall, in accordance with the procedures specific to each Member State, ensure, by encouraging continuous professional development, that professionals whose professional qualification is covered by Chapter III of this Title are able to update their knowledge, skills and competences in order to maintain a safe and effective practice and keep abreast of professional developments.”

Nursing is very important part of the health system. Although nursing in Serbia has a long tradition it has been undervalued and professionally neglected for years. Modern time carries constant progress in medical science and health technology. It is necessary to improve basic nurse education as well as to make progress in the nursing profession through continuous learning in continuing education programs.

The regulatory landscape in the Republic of Serbia (RS) is changing. Amendments of the national Law on Higher Education are in process; Draft of the national Law on regulated professions and recognition of professional qualifications has been recently issued and was available for public discussion until February, 10th 2016. In accordance with its provisions, relevant study programs and professional qualifications should be fully compliant with the EU requirements before the accession of Serbia to the European Union.

Experiential Curricula – Current practice(s)

Nurse education in EU member states is delivered according to Directive 2005/36/EC but it still differs according to the national traditions. General care nurses in the member states are trained at vocational schools, colleges or at universities. There exist three qualification levels: Associate degree, BA degree and MA degree.

General care nurses in all the consortium partner countries (Bulgaria, Portugal, Ireland and Hungary) are educated only at the higher education level (colleges, universities - BA degree).

Great progress of health care in the last three decades has caused the need for evolving of nursing profession. Nurse responsibilities become higher due to development of modern medical technology and introduction of more complex therapies. Nursing has been undervalued and professionally neglected as well as nurse education for years in RS. Nurse education has to be improved by introducing new knowledge and skills during formal training.

Serbia, as the EU candidate country, is making the efforts to harmonize the Law on Higher Education before the accession of Serbia to the European Union.

Admission requirement to High school for nurses in Serbia is in accordance with EU criteria (completion of 8 years primary school and 4 years of secondary medical school or other secondary school). At this point, there are 35 public and 5 private secondary schools for nurses in Serbia which offer different types of education: medical nurse/technician, pediatric nurse/technician, gynecology/obstetrics nurse/technician, medical nurse educator, dental nurse/technician and health caregiver.

The current higher education in Serbia, according to the Law on higher education, comprises:

- Basic vocational studies (the first level of education: 180 ECTS);
- Specialist vocational studies (the second level of education: at least 60 ECTS);
- Basic academic studies (the first level of education: 180 - 240 ECTS), and
- Specialist academic studies (the second level of education: at least 60 ECTS).

But problems of qualifications, competence and title received after completion of studies are not solved yet. Although the training of nurses responsible for general care comprise minimum of three years of the study, the number of the theoretical and clinical training hours at universities in RS are different: 2880h at the University of Novi Sad; 3480h at the University of Belgrade; 4065h at the University of Niš and 5175h at the University of Kragujevac. The number of hours of professional practice are also very different at RS universities. They vary from 120h at the University of Belgrade, 210h at the Universities of Novi Sad and Kragujevac to 540h at the University of Niš.

Lack of harmonization related to the number of theoretical and clinical training hours is also present at the second level of education of nurses in RS.

Graduated students have 60 ECTS less than required for admission to doctoral studies. It is not possible to overcome this problem via the master in vocational studies (120 ECTS), because the recent legislative changes enabled the professional master in RS.

The biggest problem is the fact that nurses who graduated at High medical schools (basic vocational studies, specialist vocational studies, basic academic studies and specialist academic studies) are not fully recognized by the Ministry of Health and they cannot realize rights that correspond to their qualifications.

And finally, the titles of nurses who graduated at high nursing schools are not harmonized too. In RS, students get different titles for the same level of higher education.

The extent of practical traineeship in nursing at the EU partner universities meets the requirement for the minimum of six months as defined in the Directive 2013/55/EU: At the end of work-based placement, graduate nurses proceed to professional registration examination (State exam).

Details of nursing education are presented in Table 5.

Table 5. Overview of nursing curricula at the consortium partner universities

	MU Sofia	Univ. Belgrade	Univ. Kragujevac	Univ. Niš	Univ. Novi Sad
Number of study years/ECTS	4 years 240 ECTS	4 years 240 ECTS	3 years 180 ECTS	3+1 years 180+60 ECTS	3+1 years 180+60 ECTS
Number of students per year	100	48	44	123+19	48+54
Number of teaching staff	56	902	na	230	
Professional practice		120h	210h	540h+ 600h	210h+ 210h
Number of clinical sites involved	8	5	to be defined	15	to be defined

**total number of academic staff engaged in all the study programmes*

Experiential Curricula – Challenges

Development of framework for experiential education in higher education in nursing is a great challenge. Nursing education has been neglected and underestimated in RS for years. At this point, there is a great diversity in this area. There is a number of study programs at public and private Universities and High medical schools which have different curricula. The lack of uniform standards and regulations should be solved by the amendments of the national Law on Higher Education which are in progress. Nursing education needs to develop evidence-based practice frameworks. The pre-registration training in nursery (lasts six months in RS) is based mostly on the relationship between the recent graduate and relevant supervisors in health institutions. Nursing practice experiential education includes numerous and complex interactions between students and practice supervisors in healthcare institutions. Some of the specific recognized challenges are:

- o Improving initial and continuing education and access to higher nursing and midwifery education;
- o Revision of the existing curricula to create balance and connection between theoretical and practical sessions at the university and learning in the real work-based environment;
- o Harmonize curricula at public and private high medical schools and universities;
- o Ensuring comparable, rich learning experience for all students;
- o Motivation of students emphasizing the importance of nursing in health system;
- o Overcome the underestimation of nurses and technicians role in the process of providing health services through interprofessional education of health professionals;
- o Creating opportunities for nurses, midwives and physicians to learn together at undergraduate and postgraduate levels, to ensure more cooperative and interdisciplinary work in the interests of better patient care;
- o Development of relevant student assessment methods;

- o Motivation of nurses to engage as practice supervisors; to engage experienced and highly professional staff;
- o Practice supervisors orientation and teaching competencies development;
- o Harmonize the criteria for teaching staff admission and academic promotion in private and public high medical schools and universities;
- o Recognition of academic staff and practice supervisors workload related to professional experiential education by relevant regulatory bodies and employers;
- o Establishment of quality assurance framework taking into account relevant educational, healthcare and labor laws and regulations (all the standards of quality assurance in higher education should be also met for the professional practice experience);
- o Automated administration supported by the relevant software platform should be established (with online evaluations, electronic messaging to students and practice supervisors, updated placement sites description, availability of supervisors, etc);
- o Establishment of financially feasible system to secure sustainability of the new experiential education system.

Recommendations for improvement

- o Relevant quality standards specific for Nurse Education, should be recognized by the national *Rules and Regulations on accreditation standards and procedures of higher education institutions and study programs*.
- o National framework for nurse/technicians practice experiential learning should be established with a common database of qualified placement sites and practice supervisors, common standards, requirements and documentation.
- o Recognition of the need for the students who have completed other secondary schools instead of secondary medical school to undertake a period of compensatory training and supervised practice, before admission to high medical school or university.
- o Introduce interdisciplinary courses at undergraduate and postgraduate levels for nurses, midwives and physicians, to ensure more cooperative and interdisciplinary working in the interests of better patient care;
- o The emphasis in nursing education is moving from content to competence based. Experiential education should provide well-planned, outcomes-focused learning experience. Furthermore, there is a need to re-examine and re-define current, relatively wide and general education outcomes into relevant, specific, measurable, attainable, realistic and time-appropriate learning outcomes which will state what the graduate will actually be able to do.

Elements for SWOT analysis

Strengths

- o The importance of professional practice experience recognized by students, academia and employers;
- o Serbia, as the EU candidate country, is making the efforts to harmonize the Law on Higher Education before the accession of Serbia to the European Union.

Weaknesses

- o Lack of experience related to students placements management in both university and practice sites;
- o Lack of uniform accreditation standards and quality assurance framework for students placements management;
- o Only one in ten nurses in Serbia has a High medical college or university degree, while the legal minimum in the European Union is 30 percent;
- o In the position of head nurses there are a lot of nurses with completed secondary schools;
- o Inferior professional status of nurses;
- o Ministry of Health does not fully recognize vocational nurses and vocational nurse specialists professional degree.

Opportunities

- o Positive attitude of nurse professionals and their employers;
- o Collaboration and exchange of good practices within the *Reinforcement of the Framework for Experiential Education in Healthcare in Serbia* (ReFEEHS) Consortium;
- o Request for harmonization with EU practice and policies;

Threats

- o Lack of motivation to complete higher, after completion of secondary nurse school because these degrees for nurses are not fully recognized;
- o Resistance to change attitude at both university and within the healthcare system;
- o High workload of nurse/technician;
- o Lack of practice knowledge and skills of the high medical school students who have completed other secondary schools instead of secondary medical school.

The Need for Change Recommendations

Curricula

- Evaluation and revision of current educational outcomes into relevant, specific, measurable, attainable, realistic and time-appropriate learning outcomes which will state what the graduate will actually be able to do.
- Evaluation and revision of current study programs in order to adopt fully the requirements of EU directives;
- Development of inter-professional courses, particularly at the undergraduate level, in order to establish early cooperation between healthcare professionals;
- Enabling students to participate actively in curricula evaluation and development;
- Motivation of academic staff to actively use feedback information in development of educational process;
- Harmonizing the curricula between universities in Serbia;

Professional practice placement

- A national framework for professional practice experience should be established with a common database of qualified placement sites and practice supervisors, common standards, requirements and documentation.
- Ensuring comparable learning experiences for all students;
- Introduction of automated administration in educational activities supported by the relevant software platform (with electronic evidences of personal student learning activities results, online learning and evaluations etc.);

Regulatory

- Relevant quality standards should be recognized by the national *Rules and Regulations on accreditation standards and procedures of higher education institutions and study programs*;
- State exams in Republic of Serbia should be remodelled in order to focus on practical skills and knowledge;

Teaching Staff

- Establishing formal programs for teaching competencies development;
- Motivation of teaching staff to work on improvement of their teaching competencies.

All the interested parties, academia, students, practitioners and regulatory bodies should collaborate and employ joint efforts towards the accomplishment of a common aim: improved, contemporary, transformative health professions education.

Reference Documents

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ReFEEHS Consortium

ReFEEHS consortium is built as a partnership between the schools of Health Sciences (Medicine, Pharmacy, Dentistry and Nursing) from the four Serbian universities and four EU universities sharing the common interest in continuous improvement of curricula and academic mobility and exchange.

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Programme: Erasmus +

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Action: Capacity Building in Higher Education

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