



REPORT
of the Expert Panel
on the
RE-ACCREDITATION OF
The Faculty of Medicine of the University of J. J. Strossmayer
in Osijek

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INTRODUCTION

This report on the re-accreditation of the Faculty of Medicine of the University of J. J. Strossmayer in Osijek was written by the Expert Panel appointed by the Agency for Science and Higher Education, on the basis of the self-evaluation of the institution with supporting documentation and a visit to the institution.

A re-accreditation procedure performed by the Agency for Science and Higher Education (ASHE), a public body listed in EQAR (European Quality Assurance Register for Higher Education) and a full member of ENQA (European Association for Quality Assurance in Higher Education), is obligatory once in five years for all higher education institutions working in the Republic of Croatia, in line with the Act on Quality Assurance in Higher Education.

The Expert Panel is appointed by the ASHE Accreditation Council, an independent expert body, to perform an independent peer review-based evaluation of the institution and their study programmes.

The report contains:

- a brief analysis of the institutional advantages and disadvantages,
- a list of good practices found at the institution,
- recommendations for institutional improvement and measures to be implemented in the following period (and checked within a follow-up procedure), and
- the detailed analysis of the compliance to the Standards and Criteria for Re-Accreditation.

The members of the Expert Panel were:

- Professor Algimantas Tamelis, Chair of the Expert Panel, Faculty of Medicine, Lithuanian University of Health Sciences, Republic of Lithuania

- Professor Stipan Janković, University Department of Health Studies, Republic of Croatia
- Professor Zvonko Šošić, University of Zagreb, Medical faculty, Andrija Štampar School of Public Health, Republic of Croatia
- Professor Radovan Hojs, University Clinical Centre Maribor, Clinic for Internal medicine and Faculty of Medicine, University of Maribor, Maribor, Republic of Slovenia.
- Boran Katunarić, student, Faculty of Medicine University of Split, Republic of Croatia

In the analysis of the documentation, site visit and writing of the report the Panel was supported by the ASHE staff:

- Dr. Josip Hrgović, coordinator
- Ivan Biščan, support to the coordinator
- Đurđica Dragojević, translator

During the visit to the Institution the Expert Panel held meetings with the representatives of the following groups:

- The Faculty Management;
- The Working Group that compiled the Self-Evaluation;
- The representatives of the Quality management commission;
- The representatives of the Board for education and Heads of Study Programs;
- The students, i.e., a self-selected set of students present at the interview;
- The representatives of the Commission for Scientific Research and heads of research projects;
- Teaching assistants and junior researchers;
- Heads of the Departments;
- Teaching staff.

The Expert Panel also had a tour of the library, laboratories, practicing rooms, vivarium for experimental animals, student register desk, a teaching base CHC Osijek, and the classrooms at the Faculty where they held brief question and answer sessions with the students and non-teaching staff.

Upon completion of re-accreditation procedure, the Accreditation Council renders its opinion on the basis of the Re-accreditation Report, an Assessment of Quality of the higher education institution and the Report of Fulfilment of Quantitative Criteria which is acquired by the Agency's information system.

Once the Accreditation Council renders its opinion, the Agency issues an Accreditation Recommendation by which the Agency recommends to the Minister of Science, Education and Sports to:

1. issue a confirmation to the higher education institution which confirms that the higher education institution meets the requirements for performing the higher education activities or parts of activities, in case the Accreditation Recommendation is positive,
2. deny a license for performing the higher education activities or parts of activities to the higher education institution, in case the Accreditation Recommendation is negative, or
3. issue a letter of recommendation for the period up to three (3) years in which period the higher education institution should remove its deficiencies. For the higher education institution the letter of recommendation may include the suspension of student enrolment for the defined period.

The Accreditation Recommendation also includes an Assessment of Quality of the higher education institution as well as recommendations for quality development.

SHORT DESCRIPTION OF THE EVALUATED INSTITUTION

NAME OF HIGHER EDUCATION INSTITUTION:

The Faculty of Medicine of the University of J. J. Strossmayer in Osijek

ADDRESS: Cara Hadrijana 10/E 31000 Osijek

NAME OF THE HEAD OF HIGHER EDUCATION INSTITUTION:

Professor Aleksandar Včev, MD, PhD

LIST OF STUDY PROGRAMMES:

Integrated graduate and undergraduate programme:

Medicine

University undergraduate programmes:

Nursing

Biomedical laboratory technology, title change to Medical laboratory diagnostics

Nursing - Pregrada, subsidiary part-time programme

University graduate programme:

Nursing

Postgraduate doctoral programme:

Biomedicine and Health Sciences

Postgraduate specialist programmes:

Clinical Epidemiology

Anaesthesiology, Resuscitation and Intensive Medicine

Ultrasound in Clinical Medicine

General Internal Medicine

NUMBER OF STUDENTS

Full-time: 615

Part-time: 544

Absolvent: 146

NUMBER OF TEACHERS

Full-time: 51.6

External associates: 106

TOTAL BUDGET (in kuna): 31.388.778,00

MSES FUNDING (percentage): 75,5%

OWN FUNDING (percentage): 24,5%

SHORT DESCRIPTION OF HIGHER EDUCATION INSTITUTION:

Faculty of Medicine in Osijek of J.J. Strossmayer University was established in 1998. The Faculty developed from a subsidiary study programme of the School of Medicine in Zagreb, which was opened in Osijek in 1979. The Faculty of Medicine in Osijek, J.J. Strossmayer University of Osijek was founded based on the decision of the University Council No. 374-1 / 98 of 11 June 1998 and based on the conclusion of the National Council for Higher Education of the Republic of Croatia of 27 May 1998, which issued a positive opinion regarding the need for establishment of the Faculty of Medicine in Osijek as a public institution of higher education within Josip Juraj Strossmayer University. Shortly after its opening, the Faculty of Medicine set the foundations for professional biomedical activities, and on August 5, 1999, on the Victory and Homeland Thanksgiving Day, a DNA laboratory for identification of war victims was opened. Since then and especially in the last 5 years, the number of scientific research laboratories has increased, as has the scope of professional work, but also the number of study programmes and students studying at the Faculty of Medicine Osijek. In the development of the Faculty of Medicine, an important role belongs to its physical and personnel-related connections with affiliated institutions. Clinics and divisions are not only places for the provision of highly specialized professional services, but also a real professional environment important for acquiring new knowledge, skills and ethical dimensions of acquired skills. The largest teaching site of the Faculty of Medicine in

Osijek has 1115 hospital beds and most of the clinical teaching at all undergraduate and graduate programmes of the study of medicine in Osijek take place.

CONCLUSIONS OF THE EXPERT PANEL

ADVANTAGES OF THE INSTITUTION

1. A compact institution with close contact between teachers and students;
2. Good personnel management shown in increasing the number of teachers;
3. Purposefulness and dedication regarding research and set up international connections despite the lack of formal specific research plan;
4. Some modern research and teaching facilities;
5. The Faculty has some patents, and such activities might become profitable in the future;
6. Good support of students' extracurricular activities.

DISADVANTAGES OF THE INSTITUTION

1. Library service is not enough developed (lack of space and too short working hours);
2. Lack of space for teaching, despite formal figures (some classrooms are not large enough);
3. Lack of teaching staff at certain departments (missing heads of departments– Physical Medicine and Rehabilitation, Dermatovenerology, Family Medicine, Radiology);
4. Clinical teachers have problems with scheduling time for students, double (cumulative) employment presents problems;
5. Lack of clear indicators for research;
6. Loosely implementation of ECTS (credits and learning outcomes).

FEATURES OF GOOD PRACTICE

1. System of development of educational competencies for young teachers;
2. Support for PhD students and young researchers;
3. Common practice of students' research in laboratories;
4. Student satisfaction and overall motivation;
5. Well-developed system of plagiarism prevention and control;
6. Regional cooperation with other hospitals and medical centres.

RECOMMENDATIONS FOR IMPROVEMENT

Management of the Higher Education Institution and Quality Assurance

- To involve better all and especially external stakeholders in strategic planning, implementation of strategic goals, quality control and assurance and other activities of the Faculty of Medicine;
- To attract more EU funding and diversify the sources of funding;
- To establish formal mechanisms for monitoring and improvement of research quality;
- To establish independent institution tasked with monitoring and reporting any irregularities of unethical behaviour.

Study Programmes

- To implement properly ECTS (development of learning outcomes taking into consideration European experience, proper allocation of credits, calculation of student workload);
- To implement learning outcomes approach fully in teaching, focusing on constructive alignment and development and improvement of teaching and assessment methods;
- To organise system of independent student work under supervision of a mentor;
- To collect feedback by alumni and other external stakeholders about quality of study programmes.

Students

- To improve and formalize counselling and mentoring for students;
- To improve and formalize ways of feedback to students aimed at improving student learning;
- To encourage and facilitate more active participation of students in pursuing improvement to study programmes, including creation of specific channel for “whistleblowing”.

Teachers

- To employ sufficient number of full-time qualified teachers covering all departments, particularly missing heads of some departments;
- To facilitate more rationale time allocation for teaching, especially in clinical subjects;
- To implement active policy of staff grow and development;
- To define staff promotion criteria taking into account various aspects such as pedagogical training, teaching activities etc..

Scientific and Professional Activity

- To define strategic research agenda and performance indicators more clearly and to elaborate them better in formal documents;
- To improve pan European cooperation in research;
- To increase number of research projects;
- To elaborate system of recognition and encouragement of excellence in research for all staff;
- To increase number of publications, with better research planning, organisation and monitoring, more staff and, crucially, more EU-funded projects.

International Cooperation and Mobility

- To implement mobility agenda in all domains (students, teachers, researchers, Erasmus and other), making agreements with more institutions, and doing more to encourage students to use the foreign languages they learn and go abroad;
- To support mobility of researchers and teachers implementing specific regulations;
- To increase attractiveness of the Faculty for visiting students;
- To elaborate plans of other forms of cooperation and mobility (e.g. joint programs etc.).

Resources, Administration, Space, Equipment and Finance

- To solve urgent problem of lack of library space and short working hours;
- To increase space for teaching;

- To update equipment at clinical departments;
- To diversify funding in order to become more stable and independent institution.

DETAILED ANALYSIS OF INSTITUTIONAL COMPLIANCE TO THE STANDARDS AND CRITERIA FOR RE-ACCREDITATION

Institutional management and quality assurance

It is variation in marks for this standard, but overall it is visible that management is dedicated and effective and with a clear vision of necessary future developments.

- 1.1. The Strategic Development Plan of the Faculty of Medicine of Josip Juraj Strossmayer University of Osijek (2011-2020) has been developed by the Faculty Administration, the Committee for Education and Students, the Committee for Science, the Quality Assurance and Improvement Committee, and by the teachers and researchers of the Faculty of Medicine, under the guidance of Faculty Dean, Professor Aleksandar Včev, MD, Head Physician. The document was adopted in academic year 2010/2011.

The strategic plan is done in line with the good practice of writing such plans, but not absolutely clear for somebody outside the institution. It is also more a plan for survival than an ambitious development plan. The role of external stakeholders in the development of the plan is not clear enough too.

- 1.2. Despite relatively short history Faculty of Medicine of Josip Juraj Strossmayer University of Osijek has well developed organizational structure and processes formalized in its legal documents: Statute of the Faculty of Medicine in Osijek, Strategy for the Development of the Faculty of Medicine Osijek, J.J. Strossmayer University of Osijek in the period 2011-2020, the Code of Ethics for teachers, associates and scientists of the Faculty of Medicine, Regulations on Studies and Studying at Josip Juraj Strossmayer University, Catalogue of Knowledge and Skills, Clinical Skills Booklet, Ordinance on Continuing Medical Education, Ordinance on the Organization and Operation of the Quality Assurance System of Josip Juraj Strossmayer University, the Ordinance on Quality Assurance of the Faculty of Medicine Osijek, Quality Manual of the Faculty of Medicine Osijek

(according to ISO 9001: 2008 of 01.15.2015.), Rules of Procedure for Periodic Internal QA Audit of the Faculty of Medicine in Osijek, Strategy of Josip Juraj Strossmayer University from 2011 to 2020, Strategy for Development of Quality Management System of Josip Juraj Strossmayer University for the period from 2011 to 2016.

The management is qualified, well organised and dedicated, which is obvious from the increase in staff, international cooperation, equipment, projects and publications in the last period. The issues remaining are continuing the growth, better involving the stakeholders, attracting more EU funding and diversifying the sources of funding.

- 1.3. The Faculty of Medicine Osijek is one of 17 academic constituents of Josip Juraj Strossmayer University, one of 11 faculties and the only faculty in the scientific domain of Biomedicine and Health in the University. The Faculty is functionally integrated in the University, and through its bodies, it operates in accordance with the adopted strategic and developmental decisions on academic issues (has shared processes (e.g. recognition of prior learning and others)), profiling of scientific research, as well as investments, development plans and financial operations. The Faculty cooperates with other faculties within the University (Philosophy, Agriculture, and Mechanical Engineering).
- 1.4. Mission of the Faculty of Medicine is to train future doctors and other medical workers, teachers and scientists, to encourage scientific research and to perform research and all study programmes. It fits University mission completely.
- 1.5. The Faculty of Medicine Osijek has list of documents on strategy and procedures for quality assurance of scientific and teaching activities. The procedures involve all stakeholders, but emphasis is put on students' surveys.

The Faculty of Medicine Osijek should seek for better involvement of all stakeholders, especially external, and not be limited only to the county and Red Cross institutions but also work with other private and civil society

organisations. The more active encouragement of students to participate in the process would be advisable too.

- 1.6. The Faculty of Medicine Osijek has some functional mechanisms for monitoring and improvement of teaching quality, but mainly it is based on students' opinion collected on University level. Course evaluations should be done at the end of all courses by all chairs – this is already done at many of them and such customised, timely surveys provide better information than the university survey. However, student evaluations should not be the only mechanism of monitoring teaching, as they can be biased – teachers should also engage in peer monitoring and exchange. This should be not focused only for the young teachers.
- 1.7. The expert panel failed to see any other evidence (written documents or processes) of monitoring and improving the research quality apart from the publication and project count. Instead of written procedures and plans, this is organised through informal meetings and lead by the vice dean for research. While written plans and evidence need to be improved, at the meetings a good plan was presented and we believe that there will be visible improvements in the future.
- 1.8. Code of Ethics of Josip Juraj Strossmayer University of Osijek lays down the basic principles and values promoted by the academic community of the University. The Faculty of Medicine, in accordance with the Statute of the University and the Code of Ethics of the University, as well as the Statute of the Faculty of Medicine in Osijek (of May 2014) establishes an Ethics Committee. The Ethics Committee has five (5) members appointed and dismissed by the Faculty Council. Two members are nominated by the Dean from among the teachers in the scientific and teaching title, one (1) member from among the assistants, one (1) member from among other employees and one (1) member is nominated by the Faculty's Student Union. Unfortunately, it is not clear for the panel how the Committee is functioning in reality.

The panel was happy to hear about effective system for prevention and monitoring of plagiarism at student level and the exam supervision enabled by small students groups. In addition, it is strongly advisable to find an independent person (e.g. a teacher with no other obligations in the faculty governance) tasked with monitoring and reporting any irregularities.

Study programmes

The quality grades for these criteria are in the Croatian average. The study programmes are aligned by Dean's Conference at the country level, and further developments are expected to improve the harmonisation with the European Union, as noted below.

- 2.1. The evaluation of study programs is based mainly on analysis of students' surveys. It gives students perspective but the faculty should also collect feedback from alumni and external stakeholders, of what the panel did not receive sufficient evidence.
- 2.2. The decision on the enrolment quota is proposed to the Faculty Council by the Dean's Collegium of the Faculty at the beginning of each academic year for enrolment in the next academic year. According to the Croatian Employment Service, there is no significant number of unemployed graduates from any of the study programmes. The current state of the labour market in the Republic of Croatia and the EU fully justifies the current enrolment quotas. Moreover, it can be stated that, given the high unemployment rate in Eastern Slavonia, the Faculty of Medicine in Osijek has room to expand enrolment quotas for the next period.
- 2.3. Following factors are taken into consideration in the decision-making process on the enrolment quota at Faculty level: a) available premises at the Faculty, b) availability of teaching sites for carrying out the clinical part of education, c) staff potential of the Faculty, e) interest in the study programme. Panel could state that enrolment quotas are fully in line with the capacities of the Faculty of Medicine.
- 2.4. Some course units have precisely and correctly formulated learning outcomes, but this is more an exception. Generally, learning outcomes are not well described, especially on the course unite level – they currently contain lengthy

list of skills, long descriptive sentences etc. This should be improved and updated, and also soft and generic skills should be included.

- 2.5. As learning outcomes are not properly stated it is very difficult for faculty to assess them properly. From discussion with the teachers and students became clear that assessment procedures were not in straight line with the learning outcomes and were based more on assessment of knowledge. Panel was informed that traditional methods of assessment prevailed. Innovative approaches (such as OSCE and others) are just underway. There are already learning outcomes developed at the European level (e.g. the Tuning project) so the faculty might do well to adapt these, and then focus on constructive alignment, introduction of OSCE and development and improvement of teaching and assessment methods.
- 2.6. According to the Self-evaluation report of the Faculty of Medicine ECTS credits were allocated to each course, according to the amount of students' workload (classes and exams, and taking into account the importance of each course for the profession). This assumption is wrong as proper allocation of credits have to be based only on the workload students need in order to achieve expected learning outcomes (European Commission ECTS Users' Guide Luxembourg: Office for Official Publications of the European Communities 2009) and importance of each course have not to be counted. The Self-evaluation report states that it is foreseen that 1 ECTS credit point corresponds to a student's workload of 25 to 30 hours of work, including lectures, independent work, exams and all activities required for passing the exam. Reality is different as credits are allocated not for all obligatory students workload (for example "Physical education" – 120 hours, no credits). It has to be corrected and credits should cover all workload, including Physical Education etc., which could be adapted to cover medicine-specific learning outcomes (e.g. prevention). The faculty should understand that this is the main concept behind the ECTS, and students should be informed that their total workload is and should be counted towards the ECTS.

- 2.7. Majority of study programs of Faculty of Medicine are state regulated and are in concordance with EU Directive 2005/36/EC. Other programs conform to internationally recognized standards too.
- 2.8. Classes in all study programmes carried out by the Faculty of Medicine in Osijek include lectures, seminars and exercises as traditional forms of teaching. Practical work is carried out in specialized classrooms of the Faculty (laboratories, dissection rooms, classrooms with microscopes, computer labs, cabinets for clinical skills), in a clinical setting (hospital-type health institutions - contracted clinical sites of the Faculty, health centres, departments of emergency medicine, institutes of public health) and in the field (under the supervision of a mentor who is an employee of one of the clinical sites of the Faculty). From student surveys and interviews with active and former students, it was noticed a lack of independent students' work under the supervision of a mentor, as one of the methods of practical work which takes students even closer to the real task awaiting them upon the completion of the study programme. The Management of the Faculty believes that the solution to this problem can be achieved through better equipped classrooms and clinical skills cabinets and by introducing a larger share of independent students' work as a part of the teaching procedure. The panel welcome the plans of the Faculty to solve this problem and suggests making further implementations updating teaching methods, to include PBL, e-learning etc. Otherwise, the Faculty is up to standards in this regard, and it should continue to benchmark internationally.
- 2.9. The library of Faculty of Medicine provides access to the Medline database, free access to the digital archives of various publishers (Springer, Wiley, Blackwell Wolters Kluwer/Lipincott Williams & Wilkins, Mosby, Social Psychology Network, Open Access Journal and bases Ebsco, PubMed, etc.) that provide access to journals (several thousand titles) in full text, as well as access to Croatian portal "Hrčak" which is the central portal and gathers Croatian scientific and professional journals. The use of library services is at a satisfactory

level, with 1453 registered users. The problem is library space and hours of availability, what restricts wider access to information resources.

- 2.10. Practical teaching is a very important part of the teaching procedure. During clinical practice, students are tested according to the catalogue of skills and attitudes provided for a certain course. The Faculty also plans to introduce a summer practice for students and the panel very welcome this initiative.

Students

- 3.1. The Faculty admits students to the programs according to the Croatian legal documents. Requirements for enrolling into the undergraduate and graduate study programmes of are regulated by the Study Programme of the Faculty of Medicine in Osijek, Decision of the Senate of Josip Juraj Strossmayer University of Osijek and the aforementioned Regulations of the University. Applicants who have completed a four-year secondary school education and passed the state graduation have the right to apply. The right to enrol into the study programmes at the Faculty of Medicine in Osijek is obtained by acquiring a place (position) on the classification list compiled according to the nationally agreed criteria. For candidates for study programme of Medical Laboratory Diagnostics older than 25 years of age, a classification procedure is carried out, and it is based on the evaluation of the overall success in all four years of secondary school, the final examination in secondary school and knowledge assessment at the entrance exam in chemistry, biology and physics. The Faculty does not check a number of competences important for health professionals upon admission, but this is not unusual – very few faculties globally look at more than the GPA and standardised exams.
- 3.2. Faculty of Medicine supports and co-finance extracurricular activities, such as publishing of student magazine GMO (“Glasilo medicinara Osijek” - Newsletter of Medics Osijek), participation in the Science Festival, participation in scientific and sports meetings at national and international level, in sports competitions for students of the University of Osijek (University Sports League), in national competition between universities of the Republic of Croatia. The Faculty also financially supports international sports competitions of biomedicine students – “Humanijada” (Croatia and Bosnia and Herzegovina), as well as sports day at the Faculty. Furthermore, Faculty supports the work of the academic choir of the Faculty of Medicine.

Space for activities of student organizations and for cultural activities is provided in the basement of the Faculty of Medicine building, situated within the Clinical Hospital Centre Osijek. The space is equipped with PCs and with high speed Internet access. It does not have sufficient capacity and students will be given a larger and more functional space for activities of their associations after a part of the Faculty of Medicine in Osijek transfers to the building of the Faculty of Civil Engineering, in immediate proximity (scheduled for the year 2015). Discussion with the students disclosed high level of satisfaction for Faculty of Medicine contribution in that domain. The panel is extremely satisfied with extraordinary Faculty's support of students' extracurricular activities. The only advancement possible is to influence the students' motivation itself.

- 3.3. Each teacher has a specified time for weekly consultations with students, regarding mastering the prescribed programme, assistance in analysing seminar topics and similar subject matter. Usually, at the beginning of classes, the teacher informs the students on the manner of communication and consultations, which can be via e-mail, social networks and/or advertised on the website of the department.

The Faculty of Medicine actively participates in the work of the University's office for assistance to students with special needs in terms of analysing medical records and proposing measures that will enable easier participation for those students.

Unfortunately, students do not get an individual mentor – practitioner, which should change. It seems that they do not get professional guidance – e.g. medical students are left to themselves to choose a specialisation that would suit them best. Counselling and mentoring for students need to be formally improved; current informal openness for students' questions is commendable, but this cannot compensate for formal mechanisms, such as mentor shadowing or similar.

- 3.4. Discussion with the students revealed that they are well informed about assessment procedures which are mostly traditional. The Regulations on Studies and Studying at Josip Juraj Strossmayer University of Osijek contain guidelines

on the type and level of studies, the study programmes, students, enrolment in the study programmes, the application and classification procedure, the rights and obligations of students, teaching methods, examination methods, provisions on enrolment in the next year of study, grading and the right to appeals to grades, graduation and other provisions which are in accordance with the Scientific Activity and Higher Education Act. Article 70 regulates the student's right to submit a complaint on the grade: 1. A student who is not satisfied with the grade achieved may, within 48 hours after the examination, request by appeal to take the examination before a Teachers' Commission, except in the case of an examination before a Teachers' Commission from Article 63, paragraph 2 of these Regulations. Feedback to students (comments other than the plain number of points achieved on an exam, advice on how to improve) is provided only upon request/visit to individual consultations; OSCE and similar, innovative assessment methods are only being introduced.

- 3.5. For the purpose of monitoring activities of former students of the Faculty of Medicine, the employees who also completed their studies at the faculty initiated in 2014 the establishing of the Association of Former Students of the Faculty of Medicine in Osijek. Although until a year ago former students' activities pertaining to this issue had not been noticed, the Management of the Faculty of Medicine in Osijek recognized the importance of such an association, and established an action plan with the objectives described in the section above.

As Alumni Club has just been established, there is no evidence of systematic tracking. The Alumni employed at the institution are trying to connect with those working outside of it, offering them incentives (e.g. library membership) to join. The panel suggests intensifying activities in this area too.

- 3.6. The institution has a comprehensive website and regularly organises Science Days and similar events (University Festival etc.) Websites of the Faculty of Medicine in Osijek and of the University also serve for the purpose of presenting study programmes, providing accurate information on requirements of

enrolment in certain study programmes, enrolment quotas and study programmes. The University also annually issues a booklet on all university studies, enrolment quotas and requirements of enrolment. For this purpose, the Faculty made a short promotional film about these study programmes, which is presented to potential future students. Student associations are very active in the process of informing secondary school graduates on study programmes of the Faculty of Medicine in Osijek. Each year, the Faculty management creates a plan of promotional activities in cooperation with student associations.

- 3.7. Students have all their legally guaranteed rights and get a lot of support for extracurricular activities, but might need additional encouragement to be more active in pursuing improvements to their programme. As the students might fear the consequences of complaining, an anonymous e-mail might be introduced for this, or some other channel for whistleblowing protective of students, and the management should take complaints received through such a channel seriously and inform the students on the steps that have been taken.
- 3.8. Changes seem to be regularly implemented on the basis of students' feedback; however they are not systematically informed on this, but mostly learn of the improvements from younger peers who benefit from improved courses. Some teachers do dedicate a part of their introductory class to changes implemented on the basis of the last year students' comments, which is commendable.

Teachers

- 4.1. There are overall a sufficient number of qualified teachers. Certain chairs (mentioned in the introduction) lack heads, however, we believe this will be improved when new PhDs will be created. The management should give special attention to chairs Physical Medicine and Rehabilitation, Dermatovenerology, Family Medicine, Radiology. Also, the clinicians need more time for students, and they should think of rescheduling (e.g. a couple of weeks per year dedicated only to students) and the Faculty should do everything in its power to adapt to the nationally problematic situation of dual employment.
- 4.2. The Faculty of Medicine takes care on the policy of growth and development of human resources. The Faculty of Medicine in Osijek strongly supports the development of young researchers. This is reflected in their involvement in existing scientific and research projects and by the fact that they are encouraging education abroad. Furthermore, the Faculty also bears the cost of short-term courses or stays of young researchers in affiliated institutions in Croatia and abroad (e.g. to learn new methods or conduct experiments that cannot be performed in Osijek). There are still some issues with chairs missing staff, and some courses are still taught by visiting teachers from Zagreb, but the situation has improved over the years.
- 4.3. The faculty keeps ratio between students and full time teachers at 19.34 – 18.75 what is in full concordance with required figure.
- 4.4. All teachers and assistants who are elected to a scientific teaching position are obliged to attend classes in psychological- pedagogical and didactic-methodological training, which is organized within the University, in cooperation with the Faculty of Humanities and Social Sciences and lasts for two semesters. This form of education has been implemented since 2010. Also, part of the teachers attended a course held by the Institute of Teaching Technology of the School of Medicine, University of Zagreb and the Croatian Association for

Medical Education, postgraduate course of first category “Art of Medical Education”.

Inasmuch as the staff policies depend on the faculty itself, while the overall situation has been improving, there seem to be no active policies of regular staff development, and few regulations apart the central ones on issues of e.g. supporting mobility, research leaves etc. Also, promotion criteria should also take into account pedagogical training and teaching activities.

- 4.5. Majority of the teachers expressed satisfaction on workload distribution policy. Some concern was raised about situation in clinical training. Clinical duties often do not allow free time for teaching, so teachers have to combine patients and students, however, according to the teachers the situation has improved as now there are more teachers than there used to be, so the student groups are smaller and easier to accommodate. Combining clinical and teaching work seems to be a national problem due to regulations concerning pay and cumulative employment. The clinicians should, therefore, think of rescheduling (e.g. a couple of weeks per year dedicated only to students).
- 4.6. External commitments are controlled by the dean or by the hospital director, depending on one's employment, so the faculty have control over external commitments just of a part of its' staff.

Scientific and professional activity

- 5.1. The Faculty of Medicine was able to create the first strategic action plan for the period 2009 to 2012. This strategic plan was the basis for development of the Strategy of Scientific Research Activities of the Faculty of Medicine in Osijek for the period from 2011 to 2020. It seems that the written plan is overtly general, and panel has learned much more on the concrete topics and priorities (e.g. cardiovascular) at the meetings, what convinced that the Faculty knows what it is doing. The panel think that the strategic indicators should be improved to count more than publications and projects (e.g. the number of project proposals, partnerships, individual research trainings and stays, etc.). From communication with the researchers and the laboratory staff, we are confident that more numerous projects and publications will follow, but this should be better elaborated in formal documents.
- 5.2. The Faculty has set up good mechanisms for regional and local cooperation, and they also cooperate with the US; this should result in better project funding. In the five-year period, from 2009 to 2014, 93 papers were published as a result of international co-operation of teachers and associates. There are categories of CC, SCI and Scopus papers, articles and review articles. Of the total number of papers (432), this 93 represents 21%. There are affiliated institutions from all over the world, and a large number of them are in the US. Faculty of Medicine also collaborates with institutions in Hungary (Pécs, Szeged, and Debrecen), Poland, England (London, King's College) and Japan (Kyoto University), but improved cooperation with the rest of Europe should also be encouraged.
- 5.3. The variety of researchers within the Faculty of Medicine in Osijek, as well as a lack of connection between the clinic and the pre-clinic, which was present in the previous period until 2009, has somewhat changed in this period. Research groups are being profiled, and one common direction towards the study of cardiovascular system from different aspects and by using different methodologies is becoming more prominent. A connection between the clinic

and the pre-clinic is obvious in these activities. There are problems with certain chairs (disciplines) and schedules of clinical staff, what have problems combining research, teaching and patients. Cooperation of pre-clinicians and clinicians seems to be working well and should be further encouraged.

- 5.4. There are currently few publications in high-impact journals, majority of them are from international collaboration projects. Panel expects situation to be improved in the future with expanded international cooperation and project funding.
- 5.5. The Faculty of Medicine is only starting implementing mechanisms and reward system for recognition and encouragement of excellence of its employees. It is an award for young staff, however incentives should be introduced also for senior staff – e.g. less teaching hours, sabbaticals, annual prizes (providing the recognition, not only money) – staff themselves can discuss what would work (pre-clinicians and clinicians both).
- 5.6. During the period of 2009 – 2014 researchers from Faculty of Medicine published 665 papers by WoS database, 134 papers listed in Scopus database. There has been a visible progress in the number of publications, which should be further improved with better research planning, organisation and monitoring, more staff and, crucially, more EU-funded projects.
- 5.7. Activities in applying projects outside the funds of the Ministry of Science, Education and Sports (which include the Ministry's completed projects and multiyear purpose-specific funding of science) have increased, although actual success has not been achieved yet (e.g. projects of the Croatian Science Foundation - only one collaborative project in the period between 2009 and 2014 is currently being implemented, another collaborative (project holder: the School of Medicine in Split) is being negotiated, and eight projects are being evaluated). Also, one application for Horizon2020 is under evaluation (within the scope of cooperation with RECOOP- HST). Faculty of Medicine will continue to nurture collaborative networks with institutions in the United States, but is

trying to expand them to institutions of the EU. The largest part of the projects was accomplished through EU pre-accession funds – Croatia – Hungary IPA Cross-border Co-operation Programme. With the use of funds from those programmes, the Laboratory of Molecular and Clinical Immunology was established and equipped, and housing for experimental animals (Vivarium) was completed (CABCOS; HEALTH IMPULSE) and funds were also invested in staff development (BIOTECHEDU, HEALTH MANAGEMENT). Part of the projects was intended for the integration of preclinical, clinical and public health work (Work and Health, HEALTH IMPULSE). Faculty of Medicine received HRK 3,000,000.00 in grants, and most of it, more than HRK 2 million was invested in equipment. The implementation of the project of identifying victims of the Homeland War is continuous, in cooperation with the Ministry of Veterans' Affairs, as a part of activities of the Laboratory for DNA Analysis. The project which is focused on developing products for the market (individual spinal orthoses - ORTOFLEX) is also funded from the pre-accession funds, in cooperation with the Faculty of Mechanical Engineering in Slavonski Brod, and it represents a market breakthrough of the Faculty of Medicine. A few smaller projects are national projects for popularization of science – the Brain Week which is used to influence the awareness and knowledge of the general population about important issues in biomedicine and to present new knowledge. Generally, there are an insufficient number of large international projects (e.g. Horizon 2020) which should be improved in the future; there are already some pending applications and panel believes that the situation will improve in the future, especially if the Faculty manages to create links beyond the region.

- 5.8. Some patents have been developed in cooperation with local businesses and international partners, and we expect this to be improved in the future. There have been some commendable activities, such as contributing to the national combat against high salt intake and establishing the Health Food Chain with other faculties, which could also result in additional funding to the Faculty.

5.9. The Faculty earns funds from the laboratories and equipment, which provide services locally, and could also be used to attract international project funding in the future. Activities such as Healthy Food Chain are commendable, and the Faculty should strive to attract other sources of income in the portion larger than the current 10%.

5.10. Postgraduate Doctoral Study of Biomedicine and Health Sciences consists of organised education from which students have to achieve 1/4 of the total number of credits required for completion of the study, followed by immediate individual scientific research work of the doctoral candidates on their doctoral dissertations, which is evaluated through scientific research publications related to the doctoral thesis, from which they achieve half of the total number of points, and optional, extra-curricular scientific and teaching activities which are classified as a quarter of the total number of points.

The Faculty is aware of the problems with the clinicians who are mentors and lack time to work with their PhD students. There is also a lack of staff in certain disciplines, as noted. Both are problems for students at all levels, not only doctoral candidates. Otherwise, excellent support for PhD students exists, in the form of project and conference funding, as it should be at an institution that needs to grow and develop itself.

International cooperation and mobility

- 6.1. Faculty of Medicine Osijek allows transitions of students and ensures their compliance with the objectives of the study programmes through the work of the Commission for Education and Students. The number of students transferring from other similar or the same type of study programmes varies from 10 to 15 students per academic year. Transfers to undergraduate programmes from other different study programmes (e.g. from undergraduate medical laboratory diagnostics programme to undergraduate nursing) are not possible in a direct form. First students must be regularly entitled to enrol in a desired degree programme, after which they will get credit for courses which they have successfully completed, for the parts which coincide with the learning outcomes of the desired programme.
- 6.2. Mobility of students, teaching and non-teaching staff is carried out, as a part of bilateral agreements within the Erasmus programme. Faculty of Medicine has a Science Office which provides administrative support to the Erasmus mobility and an Erasmus coordinator. Faculty of Medicine has 19 partner institutions, mostly regional (Austria, Hungary, Slovenia and Poland). Unfortunately, during the years 2011/2014 it was only 9 outgoing and 3 incoming Erasmus students. The panel states, that the Faculty should make agreements with more institutions, and do more to encourage students to use the foreign languages they learn and go abroad.
- 6.3. Of the total number of teachers, 13 teachers in the teaching grades, one assistant and 9 junior research assistants spent 1-4 years abroad. Every year the 1-2 assistants / junior researchers were sent to work in foreign institutions. The duration of their stay was different, depending on scholarships, from 4 months to 2 years. All the researchers who have been abroad continue to maintain their contacts and are the basis for international cooperation of our faculty. The panel noticed that MEFOS has no specific regulations on that issue and all activities are

spontaneous in nature. The panel appreciates financial support Faculty of Medicine is giving for that activity.

6.4. The MEFOS is a member of European association for doctoral programmes in medicine (ORPHEUS) and the regional initiative of medical faculties (RECOOP-HST). MEFOS is also active in ECTS Medical Association. Since 2014, Faculty of Medicine Osijek is a member of the Academic Network European Association for Professions in Biomedical Science (EPBS), and through it a member of Heads University Centres of Biomedical Sciences (HUCBMS). MEFOS is since 2011 a member of UDINE C group that brings together teachers from nursing programmes. The Faculty is a member of Croatian deans' conference too. Unfortunately, there is a lack of cooperation with Europe outside the nearest region, which should be improved because opportunities to attract project funding are different when cooperating with European as opposed to U.S. partners. A formal analysis can be done of the benefits for the Faculty of sending staff abroad, aimed at further development of such activities.

6.5. The one of strategic goals of MEFOS for the period of 2011-2020 is: "The development of study programmes based on scientific research projects and activities of the Faculty of Medicine in Osijek and the internationalization of the Faculty of Medicine in the field of international science and higher education" and is in its infancy. Objectives are training teachers and administrative staff in foreign languages, especially English, with the focus on the particulars of the profession and the development of study subjects and study programmes in English. So far, two English language courses for teachers and administrative staff were organized in 2010 (10 participants) and a course in German for teachers and administrative staff. The development of a study programme in English is just in the process of planning. Actually, the Faculty has had few foreign students for regular program studies (majority – are visitors through European Medical Students' Association) and is developing their offer of courses taught in English. The Faculty should increase their activities in this aspect.

- 6.6. During the period of 2009 – 2014 20 teachers from abroad visited the Faculty of Medicine, most of them from regional partners. Currently, foreigners are mostly coming for short stays. Although we are aware that this is difficult, increased project funding should help improving conditions for attracting teachers, both from Europe and less developed countries. As the current number is very small, we find that such conditions are not present and the Faculty should look more into this.
- 6.7. Since the academic year 2008/2009. University of Josip Juraj Strossmayer is the holder of the European University Charter and participate in the organization of mobility of students for studies or vocational training, combination of studying and practice and organization of mobility of teaching and administrative staff for the purpose of teaching or professional training. From 2014 University of Osijek participates in the implementation of Erasmus+ programme, based on the Erasmus+ Charter. There is good regional cooperation and there is some outgoing Erasmus mobility, however, it would be crucial that the Faculty uses the existing agreements to send more students abroad in order to reach the European goal of 20% of mobile students by 2020. Also, students should receive additional (e.g. language) support and encouragement to go to countries beyond the region, e.g. Austria, Germany and the rest of Europe. Panel has not got any evidence of existence of joint programs with other institutions (already in place or planned).

Resources: administration, space, equipment and finances

- 7.1. Preclinical subjects are conducted in the university buildings MEFOS I (J. Huttlera 4), MEFOS II (Cara Hadrijana 10E), as well as at teaching sites in affiliated institutions of the Faculty. Currently MEFOS has 859.51 m² dedicated to labs, practice classrooms, as well as cabinets for skills, which were used for both research and teaching. All the teaching spaces (lecture halls, classrooms, laboratories and training centres) are equipped with multimedia equipment and Internet access. Videoconference room is used for all study programmes. Classrooms located at the clinics and departments of Osijek University Hospital are also equipped with multimedia equipment. Most resources for preclinical studies at the faculty, and skills cabinet are excellent, except the library, which should be larger and with longer working hours (more staff) as a burning issue. Students can use the mannequins upon request for independent practice, which we commend. The panel expects this to improve with the new buildings and the attic currently being refurbished.
- 7.2. At the Medical Faculty in Osijek, administrative, technical and support staff accounts for 18.18% of all employees. This number is satisfactory in relation to the number of students, available space, technical and maintenance equipment as well as current financial capabilities.
- 7.3. Regardless not existing written policy for professional development of non-teaching staff it is continuously being educated according to the needs of their scope of work.
- 7.4. The laboratory equipment at the Faculty premises is excellent and usage protocols amply with international standards too.
- 7.5. Equipment at the clinic leaves much to be desired, and the clinical equipment is equally important for training students as that at the Faculty.

- 7.6. Library of Faculty of Medicine Osijek is located in a common area of the Professional Library of the Osijek University Hospital. The Library uses the area of around 165 m² with user open space, open access to bookshelves and a reading room with 16 seating positions that are equipped with computers connected to the Carnet network. The library is open from 7.30 to 15.30 for students, teachers and other users in need of medical information. The panel expects that the library should be larger, with more space for independent and group study, and have longer working hours (in the afternoon and evening; probably additional staff should be employed for this). This will be improved when the university library will be completed.
- 7.7. MEFOS revenue comes predominantly from the state budget. State funds made up for 72.94% of total revenue in 2013 and 75.19% in 2012. Market revenue amounted to 19.74% in 2013, and 18.92% in 2012. The Faculty is overtly dependents on the state budget – they should continue trying to diversify sources of funding, to increase their autonomy and assure sustainability. We understand that this might be an issue for this region, but the goal should be to acquire at least 20-30% of funding from other sources, such as the EU funds, cooperation with other faculties and businesses and offering services to the local community. It is very difficult to do this without becoming overtly dependent on the market funding, but the Faculty should be working in this direction.
- 7.8. The Faculty is following the law and investing the proscribed portions of own funds into development of teaching and research.