



The long-term plan for the period 2014-2024

The long-term plan of Pavol Jozef Šafárik University in Košice, Faculty of Medicine for the period 2014-2024

Long-term plan of educational, scientific, research, development and artistic or other creative activities of a public university (hereinafter referred to as the long-term plan of a public university) and its updating specifies the goals of the university for the nearest future in connection with state policy (concept) higher education, information technology, research and development and contains major trends and measures to achieve them. According to § 9 par. 1 letter j) of Act no. 131/2002 Coll. about universities (hereinafter referred to as the Higher Education Act) the intention of a public higher education institution (and its updating) is submitted to the approval of the academic senate of a public university after prior discussion within the scientific public university board.

The presented update of the long-term plan of the Pavol Jozef Šafárik University in Košice (UPJŠ), Faculty of Medicine (FM) follows the Long-term plan of UPJŠ FM for the period 2011-2017 and resolution no. 47/2008 Rector of UPJŠ prof. MUDr. Ladislav Mirossay, DrSc.

1. Scientific research activity

Scientific research activity at the faculty in the following period can be divided into three overlapping areas:

1. Area of basic research
2. Area of clinical research
3. Area of prevention

The research focus of the faculty in the area of basic research will gradually shift to cellular, subcellular and molecular levels. Altered interaction of molecules is the cause of cell metabolism disorders with subsequent manifestation of pathological signs at the organism level. Basic medical research in the coming years will be based on technology of genomics, proteomics, metabolomics and tissue engineering. On the methodological basis laboratories specializing in genomics methods (PCR, FISH, Microarray assay) proteomics (2D electrophoresis, 2D Nano HPLC, mass spectrometry), metabolomics (GC MS), flow cytometry, in vitro cell culture cultivation, electrophysiological monitoring, cardiovascular and respiratory parameters, analysis of blood rheological properties, etc. will be built.

We plan to reduce excessive research divergence at the faculty by integrating similar topics into several major research directions. The criterion for designating the research direction as the main one is the scope and quality of research work together with the number of faculty workplaces that work in the given area of research. The concentration of faculty resources can be an important tool for increasing quality research at the faculty in the long run.

The focus of the concept of scientific research activities at the Faculty of Medicine in the coming years is to support the development of research directions in which the faculty will be



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an equal partner for research institutes at European universities in connection with the integration of Slovakia into Europe. We consider the following to be the main research directions for the next period:

1. Oncological research direction
2. Research direction of cardiology, respirology and metabolism
3. Research direction of regenerative and preventive medicine

The necessary condition for achieving the research goals is the instrumentation of the faculty. In the coming years, we will continue our efforts to engage in projects funded by the EU Structural Funds, which will be aimed at completing the research infrastructure of the Faculty of Medicine. Instrument infrastructure should be concentrated in specialized laboratories (SL) listed in the organizational rules of the Faculty of Medicine, approved by the AS UPJŠ FM 27.6.2012. Based on the statute of the SL, which was approved by the Board of UPJŠ FM on 18 May 2011, SL are to serve the needs of creative workers of all UPJŠ FM workplaces, resp. UPJŠ. This way, we will achieve efficient use and strategic concentration of the faculty's instrument fund. In the organizational rules of the Faculty of Medicine approved by AS UPJŠ FM are the following specialized laboratories:

- Specialized morphology laboratory
- Specialized laboratory of proteomics
- Specialized laboratory of biomodulation medicine
- Specialized laboratory of clinical cytometry
- Specialized biology laboratory
- Specialized laboratory of clinical biochemistry
- Specialized laboratory of clinical physiology
- Specialized laboratory of molecular microbiology
- Specialized laboratory of regenerative medicine
- Specialized laboratory of experimental surgery
- Specialized laboratory for pneumology research

Part of the funds obtained from the teaching of foreign students will be used to support scientific research activities in specialized laboratories and support for the funding of "Internal Grants" to support the research activities of the gifted students and PhD students.

The motivating factor for the faculty employees will be further improvement of the point evaluation of scientific research and pedagogical activities. Based on the point evaluation allocation of personal salaries to the most efficient creative employees of the faculty will be proposed. We will try to stabilize young faculty members under the age of 35 who have demonstrated the ability to publish in scientific journals, (or in journals with an impact factor) at faculty with preferential point evaluation of scientific research and pedagogical activities. One of the priorities will be improving the qualification structure of the creative employees of the Faculty of Medicine by creating jobs for successful graduates of full-time PhD studies.

In terms of long-term prospects for the development of the faculty and the acquisition of a larger number of talented students for scientific work one of the priorities will be financial and moral



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support of ŠVOČ (SSA, Student Scientific Activities) involving the allocation of funding for student research in various forms, e.g. direct grants, student internal grants, support for student research conferences, encouraging student participation in international conferences and rewarding advisers of students. The Faculty of Medicine will strive to prioritize successful SSA solvers when filling for PhD positions at the faculty. We expect to increase the number of university faculty members with excellent preconditions for scientific work by this way.

The faculty will continue supporting the publishing of Folia Medica Cassoviensia and Atherosclerosis magazines.

The strategic goal of UPJŠ Faculty of Medicine by 2024 is to reach the level for equal competitiveness in the European university environment.

2. Educational process

Further development is based on the basic principles:

- creating a suitable organizational model that takes into account the approximation to functional curricula in the most developed EU countries
- preferring qualitative rather than quantitative indicators in the pedagogical process

Development priorities in individual areas and not quantitative indicators in the pedagogical process

a) Number of students

- to adapt the number of students studying in Slovak language to the needs of society and financial support from the Ministry of Education of the Slovak Republic in order to ensure quality theoretical and clinical teaching
- maintain a reduced number of students in accredited non-medical disciplines
- continue the trend not only of increasing the number but also the quality of students studying in
- English. In recent years, the Faculty of Medicine has been very successful in all basic areas of its activity, moreover, by significantly improving its marketing activities, the interest of studying in English at the Faculty of Medicine has increased rapidly and this trend allows the selection for better adepts for study.

b) Specific goals

- to study medicine with the application of modern teaching methods in the application of credit
- system
- support the mobility of students and teachers
- create suitable conditions for the implementation of study plans for students involved in the program Erasmus+



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- in co-operation with the medical faculties of the Slovak Republic, based on trends in the EU states, re-evaluate the length of dentistry study

c) Form of teaching process

- improve the educational process in preclinical and clinical teaching
- in the dental medicine program, develop information and communication technologies to strengthen the student's manual skills in preclinical subjects so that all ethical standards are met in the clinical treatment of patients and the graduate is able to work independently as a dentist
- strive for the development of combined and distance forms of teaching, e.g. e-learning
- increase the activities of teachers within the existing functional network MEFANET
- ensure more intensive use of audio-visual technology in full-time forms of study
- in the implementation of contact teaching creating conditions for the use of interactive seminars in smaller groups
- to ensure the improvement of the quality of education through regular evaluation of pedagogical
- staff and involving students in the evaluation process (e.g. surveys, black boxes, surveys)

d) Clinical teaching

- strive to create a clinical teaching base owned by UPJŠ Faculty of Medicine
- strive to use the professional potential of teaching staff in all UPJŠ bases of Faculty of Medicine in the field of undergraduate teaching and specialized clinical training
- strive for legislative enforcement of the university hospital model, with also takes into account the system of current funding of teaching bases, which in principle is based on the volume calculations for the number of students and not for the number of teachers
- to create a modern simulation centre for teaching in clinical disciplines

e) Stimulus tools

- financially favour pedagogical employees of UPJŠ FM in inclusion in the specialization study
- strengthen teachers' technological skills (free statistics courses and computer technology)
- a part of the complex scoring system of creative faculty employees will also be their pedagogical activity, characterized not only by the fulfilment of quantitative teaching indicators, but also by the observance of standards and procedures necessary for maintaining the required quality

PhD studies

The UPJŠ FM is currently implementing PhD studies in 11 accredited study programs. In order to increase the relatively low percentage of daily PhD students, one of the reasons for which there is a high turnover of PhD students from clinical workplaces to health care due to better financial evaluation of doctors in health care, the faculty will continue to apply the scoring system of PhD students, which was introduced in 2010. This system will need to be adjusted due to salary increases in 2013 for beginning physicians in the health sector.



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3. Specialization study

The UPJŠ FM acquired its specialization study in **Accreditation for specialization study**, in 2006 thus providing continuous lifelong learning in the field of medicine. As of **May 9, 2014**, UPJŠ Faculty of Medicine has a total of **30 accredited specialization study programs** of which:

- (24) for the medical profession, **doctor**,
- (3) for the medical profession, **dentist**,
- (2) for the medical profession, **nurse**,
- (1) for the medical profession **physiotherapist**.

As of **9. 5. 2014**, **698 health care professionals** were included in specialisation study. The strategic goal of the specialization study is the education of an educated doctor, a dentist (nurses, physiotherapist) - a specialist who will apply in the labour market.

The course and implementation of the specialization study is based on Government Regulation no. 111/2013 Coll. From April 30, 2013 and from Government Regulation no. 296/2010 Coll. of 9 June 2010 on professional competence at performance of the medical profession, the method of further education of medical staff, the system specialized departments and a system of certified work activities. Course and implementation of specialization studies are closely related to ensuring a smooth financial subsidy from the state budget to cover the costs associated with the specialization study, with a precisely defined financial volume per applicant/year of study. However, this financial subsidy has not yet been implemented and specialization studies at the Faculty of Medicine are funded only by tuition fees.

Priorities of UPJŠ FM for the following years:

- seek financial support for specialization studies from the state budget
- continue to resolve controversial legislative issues in relation to partner medical facilities (in particular the UNLP) - for example in the matter of fees for specialization study, temporary assignment of an employee to a medical facility during the implementation of studies, etc.
- in cooperation with partner health care facilities, create opportunities for involvement of daily PhD students into specialization studies
- consistently applying the internal system of quality assessment of specialization studies for lecturers as well as participants in individual study programs
- check compliance with the conditions of the accreditation study stated for the individual accreditation files
- support the accreditation of other specialization programs
- create conditions for re-accreditation of previously accredited fields of specialization study
- increase the number of accredited health care facilities outside the existing training facilities at Faculty of Medicine in order to improve the availability of specialization studies in individual regions



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- participation in the Resident Program of the Ministry of Health of the Slovak Republic in the fields of general medicine and paediatrics

4. Foreign relations

- Support the development of the ERASMUS + program.** In the field of foreign relations, the goal of UPJŠ FM is to support the development of the ERASMUS+ program with a focus not only on undergraduate students, but also on PhD students. Research fellowship of PhD students can be the basis for later international cooperation in the field of science and research international projects followed by joined publishing activities.
- Support activities** to maintain a favourable trend of growing interest of foreign students in studying at the faculty so that in the coming years we will ensure the selection of quality students, especially
 - efforts to approximate the content of agreements with foreign partners
 - continuing support for improving the English language of UPJŠ FM teachers
 - in cooperation with UPJŠ it is necessary to focus on building new accommodation capacities.
- To improve and expand the presentation of UPJŠ FM.** It is necessary to improve the presentation of UPJŠ FM at international events in order to make visible positive results in scientific and pedagogical field and thus pave the way for further international cooperation.

5. Development and investment plans

- Reconstruction of the premises of the UPJŠ Faculty of Medicine at Trieda SNP 1 in Košice.** In the period 2014-2024, it is necessary to ensure a comprehensive reconstruction of the premises of the theoretical institutes of the UPJŠ FM at Trieda SNP 1. As part of the reconstruction, we propose to rebuild the premises of the Aula and lecture rooms so that they can serve for organizing domestic and international congresses. We consider a comprehensive reconstruction of the premises to be a priority that is extremely economically demanding, but in the future, it will support the improvement of the quality of the teaching process, enable better implementation of scientific research tasks and make our faculty more attractive for international students as well as for the implementation of international research tasks. Reducing energy costs and increasing security in the building will also be a significant benefit. The costs of the reconstruction will need to be determined by an audit. We consider the most optimal method of obtaining funds to be direct financing of the Ministry of Education of the Slovak Republic, obtaining funds from the EU structural funds, including the approved MEDIPARK project, or using extra-budgetary funds obtained by teaching students in English.
- Teaching bases.** It is essential to seek a change of the content of contractual relations with teaching bases in order to change the status of heads of the departments so that they can ensure comprehensive development of clinics in the basic areas of their activities, i.e. in the



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field of provision of health care, pedagogical and scientific research. It is necessary to strive for the creation of a clinical teaching base owned by the Faculty of Medicine and to try to establish contractual relations with regional healthcare providers.

- c) **Construction of a simulation centre UPJŠ FM.** The growing number of international students and the lack of suitable patients in real time as well as the availability of new technologies is a challenge for building a simulation centre. The simulation centre of UPJŠ FM will enable improvement of the quality of practical activities of UPJŠ FM students and will reduce the dependence of practical teaching on the number of hospitalized patients. The simulation centre will teach basic medical, diagnostic and technological skills of undergraduate and postgraduate students of UPJŠ FM. The construction of a simulation centre can also contribute to the stabilization of a large number of foreign students in undergraduate and specialized studies.
- d) **Construction of specialized laboratories FM.** In connection with the optimal use of more than 21 million EUR obtained from the EU structural funds for the renewal of the UPJŠ FM technology park, it is necessary to complete and financially support the activities of UPJŠ FM specialized laboratories in order to increase the quality of scientific activities and scientific outputs of UPJŠ FM.
- e) **Accommodation capacity.** Due to the continuing increase of the number of foreign undergraduate and specialized students, it is necessary in cooperation with UPJŠ to strive for the creation of adequate accommodation capacities and social facilities.
- f) **To support the solution of the problem of the shortage of doctors in some specializations.** It is necessary to address the looming shortage of doctors in the coming years specializing in general medicine and paediatrics. In cooperation with MŠaS SR, MZ SR we will strive for obtaining objective information in order to optimize the number of doctors admitted to the specialization preparation and to obtain adequate funding from the EU Structural Funds.

6. Provision of services to the public

Pavol Jozef Šafárik University in Košice, Faculty of Medicine will use various tools for promoting and providing services to the public in the period 2014-2021. Activities are focused on:

- a) **Study promotion for our and foreign students.** We plan to develop marketing communication through the publication of information brochures and leaflets on study opportunities in English and Slovak language, information DVDs, regular updates of the faculty website. Faculty staff will actively present study opportunities at several events abroad. We plan to hold an Open Day in the premises of UPJŠ Faculty of Medicine with tour of selected departments and laboratories of the faculty every year.
- b) **In cooperation with the Association of Medics of the City of Košice and the Slovak Association of Dental Students We will continue to implement extensive health information and medicine in the future health education activities for the general public.**



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Activities will be focused on ensuring the provision of first aid, providing information on the most common diseases and their prevention - cardiovascular and metabolic diseases, oncological diseases, sexually transmitted diseases and AIDS, systemic connective tissue diseases and oral health. The Association of Medics of the City of Košice will cooperate with UPJŠ FM to organize a Health Day in a selected shopping centre or in another frequently visited area every year.

- c) At least once every two years we will **organize a press conference** during which we will be informing about the successes of UPJŠ FM in the teaching process and scientific research activities.
- d) In the future, we plan to implement **educational campaigns in the field of public health** for marginalized and at-risk groups and to develop cooperation with patient organizations.
- e) UPJŠ FM will participate in **providing continuous education to the wide range of health care community.**

7. Personnel development

The staff development of the Faculty of Medicine in the period 2014-2024 concerns the following areas:

Undergraduate teaching

- a) It is necessary to build on the successes in improving the personnel structure of UPJŠ FM staff
- b) achieved in the period 2007-2014 compared to 2003-2007 and continue to implement comprehensive measures for further improvement.
- c) It is necessary to continue efforts to increase the number of teachers - professors, associate professors and professional assistants with PhD degree in order to meet the increased demands on teaching doctoral, bachelor's and master's studies both, in English and Slovak.
- d) In connection with the provision of clinical training, it will be necessary to increase the number of employees in teaching bases who will be involved in undergraduate teaching.

Specialization study

- a) In connection with the increased personnel requirements for the implementation of the specialization study it is necessary to increase the number of teachers in clinics involved in the implementation of specialization studies for doctors and other health care professionals. It is necessary to ensure that there is a maximum of two students per lecturer in a specialized study.
- b) It will be necessary to conclude contracts with lecturers who ensure the implementation of the specialization study outside the teaching bases of UPJŠ FM.
- c) In connection with the increased demands, it will be necessary to provide financial coverage for the personnel of specialization study.



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Scientific research activity

- a) The number of researchers at the faculty in future must cover the increase in demands for implementation of research projects within centres of excellence, framework projects as well as others in future of solved grant tasks.
- b) It is necessary to comprehensively complete and financially support the activities of specialized laboratories in order to ensure the further development of the scientific research activities of the faculty.
- c) Due to the increased complexity, it will be necessary to reduce the number laboratory employees with a secondary education and gradually replace them with employees with a bachelor's degree and master's degree, researchers and PhD students.
- d) UPJŠ FM will continue its efforts to increase the financial subsidy from the Ministry of Health of the Slovak Republic for securing specialization study.
- e) UPJŠ FM will support the efforts of creative faculty employees to carry out scientific research activities with the potential for uniqueness in the European, resp. on a global scale.
- f) UPJŠ FM will support clinical research carried out in the teaching bases of UPJŠ FM at on the basis of contractual relations.

Worker mobility

- a) Ensure greater flexibility in the recruitment of researchers for implementation grant tasks.
- b) UPJŠ FM will support the efforts of creative employees to implement part of their research tasks at workplaces abroad.

Keeping the best students

It will be necessary to create mechanisms for financial evaluation of graduating students of UPJŠ FM so that the students who finish UPJŠ FM with the best results or achieve excellent results in scientific - research work during their studies, will stay working at UPJŠ FM.

8. Development in the field of information and communication technologies

In the field of development and use of information and communication technologies at the faculty, efforts will be made to implement the most modern technological solutions enabling the increase of the quality and efficiency of pedagogical, scientific-research and medical-preventive activities in the planned time horizon.

Priority will be given to conceptual solutions for information systems and eHealth technologies with an impact on all three of the above areas.

In cooperation with clinical teaching bases, the faculty will support integration of text and visual health information processed using interconnected hospital, laboratory and radiological information systems and apply anonymization outputs in pre- and post-graduate education.

The faculty will promote telemedicine communication tools to a significantly greater extent with the aim of unlimited availability of professional, clinical and scientific knowledge for both employees and students.



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The faculty will further integrate electronic forms of education into curricula in all fields of study, including online approaches using the principles of “Evidence Based Medicine”, “Problem Based Learning” or “Virtual Patients”.

Preparation for clinical practice will be qualitatively strengthened by hardware and software means of simulation processes integrated in faculty or university simulation centres.

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