

REPORT of the Expert Panel on the

RE-ACCREDITATION OF The Faculty of Veterinary Medicine, University of Zagreb

Date of the site visit: $2^{nd} - 3^{rd}$ March 2015

Contents

INTR	ODUCTION	3
SHOF	RT DESCRIPTION OF THE EVALUATED INSTITUTION	6
CONC	CLUSIONS OF THE EXPERT PANEL	9
ADVA	NTAGES OF THE INSTITUTION	9
DISA	DVANTAGES OF THE INSTITUTION	9
FEAT	URES OF GOOD PRACTICE	9
RECO	MMENDATIONS FOR IMPROVEMENT	10
1.	Management of the Higher Education Institution and Quality Assurance	10
2.	Study Programmes	10
3.	Students	11
4.	Teachers	11
5.	Scientific and Professional Activity	12
6.	International Cooperation and Mobility	12
DETA	AILED ANALYSIS OF INSTITUTIONAL COMPLIANCE TO THE STANDARDS AND	
CRIT	ERIA FOR RE-ACCREDITATION	14
1.	Institutional management and quality assurance	
2.	Study programmes	15
3.	Students	16
4.	Teachers	19
5.	Scientific and professional activity	21
6.	International cooperation and mobility	23
7	Resources: administration space equipment and finances	25

INTRODUCTION

This report on the re-accreditation of the Faculty of Veterinary Medicine, University of Zagreb (FVMUZ) 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 and supporting documentation and a visit to the institution.

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 ENQA (European Association for Quality Assurance in Higher Education) as a full member, 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 (OG 45/09).

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

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
- detailed analysis of the compliance to the to the Standards and Criteria for Re-Accreditation.

The members of the Expert Panel were:

- Professor Katharina D.C. Stärk Spallek, Royal Veterinary College, University of London, United Kingdom
- Professor Matthew J. Allen, Department of Veterinary Medicine, University of Cambridge, United Kingdom
- Professor Pieter Brama, UCD School of Veterinary Medicine, University College Dublin, Ireland
- Professor Boris Antunović, Faculty of Agriculture, Josip Juraj Strossmayer University of Osijek, Republic of Croatia panel chair
- Ana Vuković, student, Department of Biology, Josip Juraj Strossmayer University of Osijek, Republic of Croatia

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

- Ivana Borošić, coordinator, ASHE
- Marina Grubišić, coordinator, ASHE
- Marko Hrvatin, translator

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

- The Management;
- The Working Group that compiled the Self-Evaluation and the representatives of the Quality Assurance Committee;
- The heads of divisions, departments, clinics and laboratories;
- Teaching assistants and junior researchers:
- Students;
- Teachers;
- The Vice-Dean for Education:
- Research projects leaders;
- The Vice-Dean for Science and International Cooperation.

The Expert Panel also had a tour of the library, IT rooms, student register desk, classrooms, departments, laboratories, teaching premises for practical classes at the FVMUZ, where they held a brief question and answer session with the students and clinical teachers.

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 Veterinary Medicine, University of Zagreb

ADDRESS: Heinzelova 55, Zagreb, Croatia

NAME OF THE HEAD OF HIGHER EDUCATION INSTITUTION: Prof. Tomislav Dobranić

ORGANISATIONAL STRUCTURE:

- Basic and pre-clinical sciences division: Department of anatomy, histology and embryology; Department of biology; Department of physics; Department of physiology and radiobiology; Department of chemistry and biochemistry; Department of pathological physiology; Department of history and ethics of veterinary medicine
- Faculty of veterinary medicine Clinics: Mobile clinic; Surgery, orthopaedics and ophthalmology clinic; Reproduction and obstetrics clinic; Internal diseases clinic; Department of veterinary pathology; Department of radiology, ultrasound diagnostics and physical therapy; Department of forensic and judicial veterinary medicine
- Animal production and biotechnology division: Department of hygiene, ethology and animal welfare; Department of game biology, pathology and breeding; Department of biology and pathology of fish and bees; Department of nutrition and dietetics of animals; Department of animal husbandry
- Veterinary public health and food safety division: Department of pharmacology and toxicology; Department of hygiene, technology and food safety; Department of microbiology and infectious diseases with clinic; Department of parasitology and parasitic diseases with clinic; Department of poultry diseases with clinic; Department of veterinary economics and epidemiology
- Chairs: Chair of physical and health education; Chair of foreign languages
- Scientific-educational grounds: Faculty property; Hunting-training grounds
 Črnovšćak

• Faculty administration:

- Deanery Dean's office; Office for international cooperation, science and technology; Office for integrated and postgraduate studies; Office for associate and professional titles; Office for students
- Secretariat Secretary's office; Legal affairs and human resources division; Maintenance division; Department of health and safety at work; Central faculty archive
- Accounting Bookkeeping department; Accounting and finance department
- Library

LIST OF STUDY PROGRAMMES (and levels):

- 6-year Integrated undergraduate and graduate university study of veterinary medicine (IUGUSVM)
- 3-year Postgraduate doctoral study in veterinary sciences (DSVS)
- Postgraduate specialist study (PUS): Hygiene and Technology of Foodstuffs of Animal Origin; Exotic and Pet Animals Breeding and Pathology; Laboratory Animals Breeding and pathology; Swine Production and Health Care; Game Breeding and Pathology; Theriogenology of Domestic Mammals; Sanitation; Pathology and Breeding of Domestic mammals; Surgery, Anaesthesiology and Ophthalmology with Veterinary Dentistry; Internal Diseases; Microbiology and Epizootology; Veterinary Pathology; Animal welfare; Reproductive Health Management of Dairy Cows; Implementation of Veterinary Food Safety Procedures in a Slaughterhouses Facility; Forensic Veterinary Medicine

NUMBER OF STUDENTS (part-time/full-time/final-year): 739 (full time); 191 (part time, postgraduate)

NUMBER OF TEACHERS (full-time, external associates): 112 (full time); 120 (external associates)

NUMBER OF SCIENTISTS (doctors of science, elected to grades, full-time): 112

TOTAL BUDGET (in kuna): 88.984.623

MSES (Ministry of Science, Education and Sports) FUNDING (percentage): 72%

OWN FUNDING (percentage): 20%

THE EU SUPPORT FOR INTERNATIONAL PROJECTS: almost 7%

SHORT DESCRIPTION OF HIGHER EDUCATION INSTITUTION:

The Faculty of Veterinary Medicine, University of Zagreb (FVMUZ) is public institution of higher education that organizes and conducts university studies, scientific and professional work in the field of biomedicine and health sciences, the field of veterinary medicine, as well as continuing education programs for graduates. It is one of the oldest faculties in Croatia (established more than 95 years ago).

The FVMUZ conducts an integrated undergraduate and graduate study of veterinary medicine in Croatian, 16 programs of postgraduate university specialist studies, one postgraduate university (doctoral) study in veterinary sciences and classes in continuing education (about 11 courses per year). All study programs conducted at the FVMUZ are accredited.

There are clear and binding provisions on mutual relations between FVMUZ and the teaching bases outside the FVMUZ that enable better integration of preclinical and clinical education. Besides practical/clinical training, the FVMUZ organizes practical/professional extramural training within certain subjects of the study program. Clinical teaching, i.e. training on different types of animals (patients) with day and night work (with the possibility of volunteer work) of students at the FVMUZ clinics, is a specific characteristic of teaching and learning in the study.

The FVMUZ is at the same time a research institution and a clinic with the ability to provide 24/7 care to animals.

In order to complete the harmonization process of the study programs with the EU Directive 2005/36 EC of the European Parliament and of the Council, Law on regulated professions and recognition of professional qualifications (OG 124/09 and 45/11) and Ordinance on the Content of Licence and Conditions for Issuing Licence for Performing Higher Education Activity, carrying out a Study Programme and Re-accreditation of Higher Education Institutions (OG 24/10). On 31st July 2014, the FVMUZ received the decision of the MSES on the harmonization of the study program with the Directive.

In 2014, the FVMUZ became a competent authority for issuing certificates on the formal qualifications of veterinarians in accordance with the provisions in Paragraph 5.4.1. Annex V of the Directive 2005/36/EC on the recognition of professional qualifications.

CONCLUSIONS OF THE EXPERT PANEL

ADVANTAGES OF THE INSTITUTION

- 1. Spacious and well-resourced institution;
- 2. Enthusiastic student body and junior researchers/teachers;
- 3. Enthusiastic and competent management team providing clear evidence of significant change over the relevant time period;
- 4. Early and extensive clinical training provided in the veterinary curriculum;
- 5. Investment in the professional development and careers of junior faculty teachers.

DISADVANTAGES OF THE INSTITUTION

- 1. Large size and the significant cost of ongoing maintenance and enhancement of the facilities;
- 2. Some duplication of resources in terms of space and equipment;
- 3. Economic climate and related limitations on personnel and research funding;
- 4. Limited translation of strategy into objectives and key performance indicators;
- 5. Fragmented Departmental structure creating inefficiency in the execution of strategy and preventing development of critical mass in strategic research and service areas.

FEATURES OF GOOD PRACTICE

- 1. Accredited laboratories;
- 2. Quality management assurance system;
- 3. Descriptors of curriculum, learning objectives and competencies;
- 4. Early exposure to clinical work;
- 5. Emphasis on student care (counselling, restaurant, extracurricular activities, mentoring programme).

RECOMMENDATIONS FOR IMPROVEMENT

1. Management of the Higher Education Institution and Quality Assurance

- The management should develop an implementation plan to execute their strategy.
- Regular monitoring of progress of implementation in comparison with the strategy is recommended.
- Alignment of the strategy with the expectations and needs from stakeholders should be assured.
- The organisational structure should be revisited in order to optimise efficiency in communication and operation. Consolidation of the organisational structure by reducing the number of departments should be considered.
- The quality assurance cycle should be closed by using feedback from all stakeholders to steer improvements.
- Formal feedback mechanisms for staff should be implemented such as annual appraisals with line managers where specific objectives are set for the next period.
- Financial sustainability can be supported by commercial initiatives and collaboration.
- The management should continue to develop proactive strategies to increase income that is independent from MSES.
- Awareness for ethical good practice should be increased at staff and student level by information and open discussion.

2. Study Programmes

- Survey of recent graduates and employers should be conducted to obtain feedback on alignment of competencies with requirements from the job market.
- Continuing education activities of all teachers should be assured through regular active participation of all teaching staff in international conferences or visits or exchange.
- Research-based updating of curriculum contents should be assured in all disciplines.

- The list of specialisation programmes should be reviewed and possible combination and options for cross-teaching should be explored. This should also enhance quality, optimize revenue for the FVMUZ and ensure that courses provide a tangible and marketable advantage to graduates.
- Efforts to improve teaching opportunities for large animals through the development of teaching farms and through contractual collaboration with pig farmers and veterinary practices must be continued.

3. Students

- According to long-term plan of the FVMUZ that expresses the wish to be recognized by foreign students, the website supplemented with information in English.
- It is recommended to make a little more effort to inform students about employment opportunities.
- It is advisable to increase visibility and promote employment opportunities of the veterinary profession throughout Croatia, especially in high schools.

4. Teachers

- It is recommended to investigate the possibility to use a more encompassing workload model to provide clarity on the diversity of activities performed by staff members and therefore provide a more accurate workload representation.
- It is advisable to investigate the possibility of implementing a transparent performance management system for staff that incorporates 360 degrees feedback, setting objectives, key performance indicators etc.
- Clinical workload of teachers should be accounted for more clearly and either be incorporated as a separate activity or incorporated in teaching workload, while clinical work also includes teaching components.
- It is recommended to incorporate post-graduate education into a performance management system in order to widen voluntary participation of staff in the offered opportunities for further scholarship/training. Senior management should plan and make provisions for contingency plans/continuity issues that might result from specific age demographics in certain staff categories. Spotting of talent amongst staff and provision of specific support in a

competitive and transparent way is required to allow for high potentials to flourish and to be maintained for the institution. Management already stimulates proactive staff informally in for instance obtaining specialist qualifications, but a formalized approach in all areas would be most preferable.

5. Scientific and Professional Activity

- Clear key performance indicators should be developed to allow direct comparison of publication quality and quantity against similar metrics from peer institutions.
- Faculty-generated funds could be invested into a seed (pilot) grant program to strategically support and enhance early scientific development of young researchers.
- A standardized process for performance evaluation across the FVMUZ should be developed. This assessment should include summative and formative components that focus on clinical productivity, scientific/research output and student mentoring as appropriate for the individual's specific appointment.
- Outstanding performance in the above-mentioned areas should be acknowledged annually at the Faculty or Division level (travel awards might be a popular option for the FVMUZ)

6. International Cooperation and Mobility

- Investment in the international training and professional development of outstanding young teachers and researchers should be continued with a high priority.
- Tactical investment in visits from external scientists, with a goal of developing international research teams that are competitive for EU and other funding should be sustained.
- Development of a limited number of clinical internship and residency programs based on best practices in other European and international schools would provide important training opportunities that are currently not

- available in Croatia. These initiatives should focus on the highest-performing clinical disciplines.
- The impact and benefits from offering an English language version of the integrated program should be assessed to ensure that it is financially sustainable and enhances the international visibility and reputation of the FVMUZ.

7. Resources, Administration, Space, Equipment and Finance

- A space usage study is advisable to reduce redundant areas that bring overhead and maintenance costs towards the FVMUZ budget.
- Similarly, an equipment usage study is advisable to prevent duplication of equipment purchase or maintenance costs on existing equipment.
- Although the FVMUZ explores and creates income sources that is non-exchequer (non-government/external) funding, it should attempt to increase non-exchequer funding over the current 20% of total funding as is common in most renowned European veterinary institutions.
- Further clarification and attempts should be made to prevent students transferring to other studies after the first year of study; this is costly for the FVMUZ and creates difficulties in planning and budgeting.
- The FVMUZ current structure with a multiple of small departments that duplicates both material and human resources and might duplicate subject areas seems rather inefficient. Although communication and management structures might be very efficient, within each department it should be noted that running costs might be not sustainable towards the future.
- The subdivision of clinical areas over different more or less separate hospital areas reduces efficiency of support services such as patient administration, stock control etc. A "one hospital" structure managed by a management team with oversight over all hospital areas might allow for more commercial activity and strategy, increase efficiency and enhance non exchequer income.

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

1. Institutional management and quality assurance

1.1. The criteria on strategic planning are mostly achieved. A participatory approach was used in strategy development which assures general support for the strategic direction at all levels of the staff and student body. While good progress was made in strategic planning, there is a lack of involvement of stakeholders in strategy development. Also, the translation into goals and operational objectives is lacking.

The main strategic risks have been identified and thoughts are put into contingency planning with regard to the continuing limitation of finances. The management has demonstrated follow-up on weaknesses identified during the current management period, for example in terms of developing the faculty farm. The processes for decision making are clear.

- 1.2. The organisational structure is mostly effective. The introduction of Divisions is perceived as a promising development by staff. As Divisions lack decision power, their role remains largely for coordination. The number of departments continues to be very high. This is leading to fragmentation of the organisation and runs the risk of duplication and inefficient use of resources. It also makes it difficult to achieve critical mass in all areas. Coherence in the implementation of strategy is more difficult in fragmented organisations. There is a risk of inefficient management processes and a loss of information.
- 1.3. The criterion of contributing to the university constituent is fully achieved by participating in the appropriate bodies and processes. The strategy is aligned with the University.
- 1.4. All study programmes are fully in line with the mission of the institution.
- 1.5. The FVMUZ as a higher education institution (HEI) has mostly achieved adoption of quality-assured policies and procedures, in some areas leading to full accreditation according to ISO standards and also satisfying international standards such as EAEVE. The concept of quality is internalised to a very high degree in the staff's thinking and behaviour. Some gaps are observed in the degree of stakeholder involvement.

- 1.6. The mechanisms of monitoring teaching quality are mostly implemented. Some stakeholders are not yet integrated in the feedback system. Good feedback from students is currently not systematically rewarded, but there is follow-up for under-achievement.
- 1.7. The mechanisms of monitoring research quality are mostly implemented. The indicators used are mainly quantitative. No research performance objectives are set for individuals at regular intervals in formal settings. Direct communication of objectives and agreeing necessary measures for individual staff to make progress is good practice in comparable organisations in Europe.
- 1.8. The monitoring of unethical behaviour is partly achieved. While there is a code of ethics available at University level, there are no mechanisms in place in the FVMUZ to deal with issues related to, for example, plagiarism in student work. Awareness for and understanding of unethical behaviour appears to be limited.

2. Study programmes

- 2.1. The procedures in place to monitor and improve study programmes are mostly effective. While there is evidence of substantial improvements in the teaching including new didactic approaches, some feedback from relevant stakeholders is still lacking. Most importantly, feedback from recent graduates and employers has not yet been collected, but is already planned.
- 2.2. The needs from society are mostly taken into account when establishing enrolment quotas. Through the University process of senate and stakeholder involvement, the needs of the job market are collected and integrated in the planning. More detailed information on the development of the employment situation in the veterinary job market would be useful. The potential for growth is limited. Due to the current practice of enrolment, some students that aim to graduate via other, non-veterinary courses, the effectiveness of use of some of the resources dedicated to the first and second year can be questioned.
- 2.3. The enrolment quotas are mostly in line with the resources. The current infrastructure capacity would allow for increased student numbers which can be seen as inefficient use of available resources.
- 2.4. The learning outcomes fully describe the knowledge and skills obtained by students at the end of the programme.

- 2.5. The assessment of students is fully in line with the learning outcomes. The latter are fully documented. Formative assessment and feedback are used extensively throughout the course. The students are offered a number of exam dates creating substantial work for academic staff. External examiners are not used. Standard setting for exams is conducted informally by the teachers involved. Quantitative performance measures for exam questions are not yet used.
- 2.6. The allocation of ECTS fully reflects the student workload.
- 2.7. The content of the programme mostly conforms to internationally recognised standards. Some course contents are not fully up-to-date with recent scientific progress. There is limited opportunity for herd-health practical work in pig farms due to reluctance of farmers to allow access to high-health farms. The specialisation programmes appear extensive and do not always achieve critical mass so resources may be used ineffectively.
- 2.8. The teaching methods used are fully up to date. Small group teaching is used extensively. E-Learning is also being developed.
- 2.9. Supplementary teaching resources are fully appropriate. Full access is available to international electronic journals.
- 2.10. Opportunities for students to reinforce learning outcomes are fully appropriate. This is achieved through species tracking. Most notably, there are opportunities in the final year to obtain additional experience through placements in a range of institutes and organisations. Many students engage in voluntary activities in private practices thus establishing good conditions for a successful start into their professional career.

3. Students

3.1. The FVMUZ has an excessive attrition rate especially in the first year. However this does not seem to result from inappropriate admission criteria. In principle admission criteria, although fairly limited and solely based on grades, are in line with the learning outcomes achieved upon graduation and necessary for future professional work. High attrition rates seem related to a bypass route used by students to make a future entry into dentistry and medicine. The Expert Panel

expresses its concern regarding this phenomenon, causing severe financial and logistical issues for the FVMUZ, but realises that this is outside the control of the institution. It would welcome inclusion of additional admission criteria towards the admission process to better align students intentions, as it is common practice nowadays in many renowned European institutions to include additional criteria such as interviews etc. into the admission procedure. Finally the admission procedure fulfils the requirements for transparency of criteria and procedures of enrolment. It assesses prospective applicant's competencies and enrolled students in a transparent way and monitors background and attrition rate correlations, therefore criterion 3.1 is mostly implemented by the Expert Panel.

- 3.2. The FVMUZ fully supports students in their extracurricular activities. Many students participate is some kind of extracurricular activities which the FVMUZ recognized as an important item in personal and professional development of students. Some students are active members of associations like "EQUUS" and IVSA Croatia, some of them are students-athletes, and some of them promote musical and artistic activities through Vet Choir 'Ab ovo'. For these activities the FVMUZ provides students a well-equipped space for use and helps them financially. What is more, the FVMUZ has a special document that set specific measures designed to motivate students (awards and honours).
- 3.3. The FVMUZ fully ensures personal and professional development of the students. Students are extremely satisfied with the support that is provided to them. Through mentorship and the Student Office they get advice, support and help. A student mentor system is in place and functions well and relies on input of both professors and students. Particularly noteworthy is the work of the Student Office. Students pointed out that they can fully rely on the work of the Student Office. The Student Office is very visible and approachable for students and provides counselling and career guidance. Although the student office is not under the jurisdiction of a professional psychologist, access to psychological counselling is provided by the University of Zagreb and it is available to all students.
- 3.4. Mostly implemented. The FVMUZ has established a framework for assessing skills and knowledge which is applied to assessments, grading and monitoring of student work in each course. Students are informed clearly and in time on assessment methods. Students are entitled to a grade appeal in line with an established procedure. However, the FVMUZ could improve on outcome assessment analyses through for instance focus group feedback sessions and

more detailed outcome assessment methodology, which are commonly used in renowned European institutions to continuously improve and modernize assessment.

- 3.5. The FVMUZ is in the starting phase regarding alumni management and the organization is starting to collate information on career and employment status of their graduates. They have recently established an Alumni Club and it is highly recommended by the Expert Panel to build further on this initial work both from a potential funding perspective and the value of obtaining such information for strategic planning and adaptation of programmes and curriculum.
- 3.6. Informing the public about study programmes, learning outcomes, qualifications and employment opportunities has been mostly implemented. The FVMUZ website and promotional materials available are to be commended upon by the Expert Panel, it includes a vast amount of information on study programmes, study conditions and learning outcomes for current and future students. Although the public is also very well informed on the activities of the FVMUZ through the website, no information is provided on available employment opportunities.
- 3.7. During the meetings of the Expert Panel with both student and teacher groups, it became clear that communication between groups is perceived as excellent. Students participate in different ways in decision-making and problem-solving processes, especially through student representatives in the Faculty Council (12 undergraduates + 8 graduates). A student ombudsperson is also available, but to date has had no official cases submitted to him, suggesting that no significant problems with teaching and research staff occur. Students clearly expressed during the meeting with the Expert Panel that they can fully express their opinions and give suggestions for improvement. This can be done through student representatives, vice-dean for students (Student Office) and, most importantly, through student surveys. It should be noted, however, that the meeting with the student body was a selection of students rather than open access for all students. The criterion 3.7. has been evaluated as fully implemented by the Expert Panel.
- 3.8. Student surveys are used regularly at different levels within the organisation and have proven to be an excellent way of indicating problems. Besides student surveys at the university level, the FVMUZ also organizes its internal surveys. Surveys are perceived effective by staff because raised issues are resolved efficiently and it is perceived that teacher performance improves based on

feedback given. Several examples are provided by the students that demonstrate that surveys result in mutual satisfaction of teachers and students – through constructively critique of students, teachers improve their work and relationships with students and it is also being used as a feedback to students that their opinions and suggestions are accepted. The FVMUZ is to be commended for this. The criterion 3.8. has been evaluated as fully implemented by the Expert Panel.

4. Teachers

- 4.1. The FVMUZ fully implements requirements to employ a sufficient number of qualified full-time teachers to ensure the quality and continuity of teaching and learning on the currently provided study programs. Number and qualifications of the teaching staff adequately cover core disciplines and is in line with the Ordinance on the Content of Licence and Conditions for Issuing Licence for Performing Higher Education Activity, carrying out a Study Programme and Reaccreditation of Higher Education Institutions (OG 24/10). The study programmes delivered by the FVMUZ are comparable to relevant study programmes at renowned European institutions regarding staff qualifications, their number in the basic discipline and the number of interdisciplinary teachers. The Expert Panel would like to commend FVMUZ for having a resilient and highly motivated work force. Staff members are perceived proactive and realistic. There are clear challenges in relation to the recent economic downturn, particularly regarding the recruitment ban and the lack of promotional prospects but these seem outside of the control of the FVMUZ .Additionally, the management of the FVMUZ is to be commended to recognize the need for internationally recognized specialist qualifications in certain disciplines and implementation of strategy and funding to obtain these.
- 4.2. The FVMUZ partly implemented policies of growth and development of human resources. Challenges occur due to the recruitment freeze, although external income generated by (clinical) services allow for some appointments although only temporary appointments. This might challenge staff retainment in the future when employment opportunities improve, especially in the area of clinical staffing and specialist clinicians. A more commercial strategic and business plan for the hospital component of the FVMUZ might provide additional income and opportunities to grow and develop human resources specifically at a clinical level.

Additionally, the Expert Panel has slight concerns on the following:

- The high level of upcoming retirements caused by the age profile of staff and succession possibilities in the current economic situation. Especially the support staff age profile raises concerns from a human resource perspective.
- Some "specialist programs" seem rather resource intense and might not seem sustainable when all costs are taken into account. These programs might generate funding at a local level, but potentially bear a negative impact on the institution as a whole.
- It is unclear for the Expert Panel where responsibilities lie with regard to human resource management and if a designated human resource structure is in place to provide assistance and expertise in human resource tasks such as job vacancies, grade approvals, advertising, human resource development plans etc. In most European counterpart institutions such structures will be in place.
- 4.3. The FVMUZ is fully compliant and takes into account the number of full-time teachers, maintaining the optimal ratio between students and full-time teachers, comparable to that of renowned European institutions.
- 4.4. The FVMUZ has policies for scientific-teaching staff to provide them with the required professional development opportunities, however only specific staff engages and avail of these opportunities. Therefore, the FVMUZ has only partly implemented this criterion. The Expert Panel advises the FVMUZ to investigate why the take on these opportunities is limited to certain staff members and how they can improve staff involvement. Potentially, a culture shift is required at certain levels and a well suited performance management system with 360 degrees feedback is required to secure that all staff members possess the necessary knowledge from the course they teach, stay abreast of developments in the field of teaching and follow the examples of good practice.
- 4.5. The FVMUZ mostly implements policies that distribute teachers' workload in an attempt to provide a fair and equitable distribution of effort. The Expert Panel however feels the workload model currently used and imposed from higher organisational levels does not reflect the different areas staff in veterinary institutions commonly divide their attention to: i.e. research and innovation, teaching, clinical work, administration and outreach. Nevertheless distribution of workload is generally perceived fair in the FVMUZ by staff members. A more

- extensive workload model including all components of the work performed however would be advisable working towards the future from the Expert Panel's viewpoint.
- 4.6. The FVMUZ has fully implemented policies ensuring that teaching and research activities of the employed teaching staff are not affected by their external commitments. External commitments of scientific-teaching staff are regularly monitored to ensure that quality and efficiency of their work at the parent institution is not jeopardized.

5. Scientific and professional activity

- 5.1. A strategic research agenda has been partly implemented, but the evaluation of this program appears to be less advanced. The four main research themes were mentioned in the strategic research agenda, but their integration with other elements of the strategic plan (e.g. student and faculty recruitment and retention; resource allocation, etc.) is less clear. The strategic research agenda described a robust plan for assessment, but the practical steps for monitoring, assessing and reporting on the execution of this agenda were generally lacking. It is important that the FVMUZ develops appropriate key performance indicators that can be used to provide an objective assessment of the research agenda. It is also important that the plan describes the steps that will be taken to reward programs that perform well, as well as the remedial steps that will be taken if programs and individuals fail to meet expectations.
- 5.2. The FVMUZ vision for developing cooperation with other scientific programs has been mostly implemented. Particular strengths in this regard include the VetNEST program and the developing emphasis on EU funding.
- 5.3. The FVMUZ has several highly productive researchers with good international and/or national visibility, and this strategy has been mostly implemented. However, in light of uncertainty regarding the recruitment of junior researchers, long-term sustainability is uncertain. It is understood that decisions on the overall funding of science rest with the MSES. Nevertheless, the FVMUZ is encouraged to develop its own strategy to address this critical issue. The decision of the FVMUZ to invest in the career development of young scientists represents a proactive, creative approach that will be needed to improve the scientific output, as well as the attractiveness of academic life at the FVMUZ.
- 5.4. The FVMUZ publication record for high-quality papers in prestigious journals has

been improved recently, but more needs to be done to expand this further and the Expert Panel considers this partly implemented. The recent move away from publication in the institutional journal towards international publications is to be commended, but more needs to be done. Improvements in funding of research, especially through the development of collaborative trans-disciplinary or multi-institutional studies would lead to tangible improvements in both the overall number and the quality of scientific publications.

- 5.5. Recent investments in the clinical and research training of young scientists from the FVMUZ are seen as evidence that the faculty is actively monitoring and rewarding excellence in its students and trainees. This emphasis on early career development is especially important in the current climate of restricted funding for young researchers, and the foresight of the management team in identifying and addressing this need is seen as a particular strength of the strategic plan. The Expert Panel considers this component to be mostly implemented.
- 5.6. The FVMUZ publication record for peer-reviewed scientific publications is considered to have been partly implemented. The average number of publications per year for the researchers from the FVMUZ is slightly less than 1.0; given the strong publication record of some researchers, this means that a substantial proportion of researchers are not publishing peer-reviewed articles on an annual basis. Factors such as total publication number, journal quality (impact factor) and citation number are commonly used as key performance indicators for research impact, and it is critical that the institution continues to work towards enhancement of these metrics.
- 5.7. The portfolio of domestic and international research projects is substantial and this element is mostly implemented. There is a strong (and logical) emphasis on projects involving production animals, wildlife, comparative oncology and food safety. Small animal and translational biomedical research studies are comparatively under-resourced and tactical investment in these activities is likely to yield significant benefits in terms of research income and training opportunities for graduate and post-graduate students. This is an area in which it should be possible to develop and leverage relationships with the medical faculty at the University of Zagreb, especially within the fields of translational research on biomedical devices, drugs and biologics. Strategic development and expansion of the Faculty farm into a preclinical research facility for laboratory animal studies should be considered.
- 5.8. The FVMUZ established a Technology Transfer office in 2013. This represents an essential first step towards commercialization of intellectual property, and is to

be commended. To date, the Technology Transfer process does not appear to have yielded a commercial product or service, and this area is scored as being in the starting phase. Tactical investment in this area has high potential for a return, particularly since a significant component of the income from commercial services and products flows to the faculty and can provide competitive seed funding for young investigators.

- 5.9. Following from 5.8, plans to maintain a healthy balance between commercial and core activities are considered to be mostly implemented. The accredited laboratories serve as model examples of this approach. It was also noted that active steps have been taken to avoid unnecessary duplication and competition with diagnostic laboratory services offered through the Croatian Veterinary Institute.
- 5.10. The quality metrics for the post-graduate (doctoral) program have been mostly implemented. The research undertaken by PhD students lacks strategic alignment with the priority research areas that have been identified in the Strategic Plan. This was especially evident from the Expert Panel's meeting with the research project leaders, in which only three of the project leader's indicated active PhD student involvement. Given the high visibility, and strong funding, of these programmes, steps should be taken to incorporate PhD students into as many of these projects as possible. By enhancing student involvement in peer-reviewed, extramurally funded research, one would expect to see improvements in the research metrics for the PhD program (more publications, better impact factors, shorter time to graduation, improved employment rates post-graduation).

6. International cooperation and mobility

- 6.1. The FVMUZ has fully implemented steps to enhance the mobility of students from other HEIs. Programs such as IVSA and Erasmus have proved to be extremely valuable in this regard.
- 6.2. The ability of students to complete part of their programme abroad has been fully implemented. This is true at the undergraduate level, at the graduate level (with several students undertaking part or all of their thesis work at overseas institutions) and at the post-graduate level (with at least two recent graduates from the doctoral program undertaking post-doctoral programs at renowned overseas laboratories, and three young clinicians undertaking residency programs in European or American veterinary programs). This focus on

enhancing the international exposure and training of the FVMUZ students and faculty is a particular strength of the program and is to be commended. Steps must be taken to ensure that the enhanced training of these individuals is matched by improved career opportunities back at the FVMUZ; if this is not realized, the enhanced mobility will serve only to accelerate the departure of these well-trained individuals to other institutions abroad.

- 6.3. International cooperation and mobility is mostly implemented. Opportunities exist for the FVMUZ teachers and researchers to participate in international exchange programs. This is occurring mostly through short-term visits that are funded by grants and/or Department or University funds. Competitive funds are also available for longer-term visits, but the more established faculty appeared less interested in these opportunities than the more junior teachers and researchers.
- 6.4. The FVMUZ has fully implemented participation in international scientific associations through programs such as VetNEST, clinical exchanges under the ERASMUS mechanism and research interactions via EU-funded research grant programs. Enthusiasm for these bilateral exchanges was evident in discussions with both the student body and the young researchers/teachers.
- 6.5. The FVMUZ has started to implement a strategy for enhancing the enrolment of undergraduate students from abroad. The development of an English language version of the IUGUSVM is seen as a strong strategic initiative, although care will need to be exercised during the planning and deployment phases in order to ensure that resources are not over-strained by this additional faculty workload and pressure on laboratory and lecture facilities. EAEVE accreditation is a tremendous accomplishment that will further enhance the visibility and attractiveness of IUGUSVM for overseas students.
- 6.6. Conditions for attracting teachers from abroad are partly implemented. Many of the visits from overseas teachers are short-term in nature (less than one month) and the administration is encouraged to develop a strategy for aligning the recruitment of these visiting teachers/researchers with the teaching and research priorities of the FVMUZ. This is especially true within the research arena, where the expansion of an international network of collaborators can serve only to enhance the competiveness of the FVMUZ in European funding competitions.
- 6.7. The FVMUZ has made good use of European funding mechanisms to date, and the Expert Panel's assessment is that this has been mostly implemented. Several high

profile, well-funded programs are reported in the strategic research agenda, and the recent success with the FP7- ERA Chairs award mechanism is noteworthy. Recruitment of the new Chair, other personnel and the acquisition of state-of-theart instrumentation should allow the FVMUZ to enhance its visibility and connectivity with other biomedical faculties within the University of Zagreb. It should also significantly enhance the FVMUZ competitiveness in future international funding programs.

7. Resources: administration, space, equipment and finances

- 7.1. The FVMUZ fully implements appropriate learning resources for all enrolled students. The FVMUZ provides access to well-equipped classrooms, laboratories and libraries, modern computer equipment and adequate learning spaces, in line with professional standards and requirements of a good learning experience. The spatial resources of the institution are comparable to those of renowned European institutions however ongoing maintenance or refurbishment is required in certain areas.
- 7.2. The FVMUZ fully implements an adequate ratio of teaching and non-teaching staff in line with professional standards and requirements of a good learning experience.
- 7.3. The FVMUZ mostly implemented policies that ensure professional development of non- teaching staff however the Expert Panel was not exposed to a specific meeting with non-teaching staff, which limited the review of this specific criterion. Especially actual support and implementation as perceived by non-teaching staff could not be reviewed. Nevertheless the strategic research agenda and additional paperwork provided reassuring information on this criterion.
- 7.4. The number of laboratories and equipment available meet the needs of good studying experience and high quality research. The laboratories are comparable to those available at renowned European institutions and therefore this criterion is fully implemented. The Expert Panel would like to commend the FVMUZ in having several laboratories accredited and providing students with the possibility to experience and work in such environments. The Expert Panel also commends responsible staff and management in obtaining the recent ERA FP-7 project that provides substantial investment in research facilities.
- 7.5. The FVMUZ has mostly implemented the requirement to secure modern equipment, technology and technical support for teaching and research activities,

which is largely utilized in accordance with the mission. The Expert Panel noted, however, some health and safety issues that need attention:

- Usage of formalin specimens with no clearly visible mechanical ventilation systems, this would not be in line with current standards in most European institutions.
- Hand sanitizers were not always readily available, especially in the hospital areas.
- Biosecurity issues should be well documented and SOPs/contingency plans for infectious disease outbreak management should be available.
- 7.6. The central library visited during the tour was perceived rather small for the current student cohort, therefore criterion 7.6 was judged only partly implemented regarding size and usability of the library. The Expert Panel would like to remark however that electronic availability of library resources is excellent through a seemingly centralized country wide extensive coverage of licences. Therefore, space might be perceived less critical in the future although study spaces might be welcomed by the students.
- 7.7. Mostly implemented. The Expert Panel is convinced that financial sustainability is sufficient to guarantee that all students are enabled to successfully complete their study programmes. Additionally, the FVMUZ does not seem to be limited in its financial autonomy, which is very positive for strategic planning. However, the Expert Panel has some concerns regarding the sustainability of an organizational structure with so many separate departments and duplication of facilities. It is perceived that space usage and equipment usage could be more efficient and duplication should be reduced. This is critical because the budget is not showing a large surplus, in fact only was balanced by usage of savings that most likely are not without limits. Additionally, potential overheads and maintenance costs might be or become unsustainable in the future if reliant on direct government funding.
- 7.8. Mostly implemented. Through its various activities the FVMUZ generates income and uses it for improving its teaching and research activities. A rather social working mechanism seems to be in place to spread income earned amongst the different areas based on needs more so than earning potential. The Expert Panel also perceives that a less divisional clinical hospital, i.e. one hospital structure within a commercial management structure, might provide opportunities to increase income, reduce costs and prevent duplication of services and equipment.