

**European Association
of Establishments for Veterinary Education**



RE-VISITATION REPORT

To the Faculty of Veterinary Medicine, Lusofona University, Lisbon, Portugal

On 18 – 21 October 2021

By the Re-visitation Team:

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Introduction

The Faculty of Veterinary Medicine of the Lusofona University, Lisbon, Portugal (referred to as Veterinary Education Establishment (VEE) in this Report) was evaluated by the ESEVT on the 20 to 24 of February 2017.

The previous Visitation Team considered that the students did not benefit of sufficient research based teaching due to insufficient allocated funding. The necropsy facility for large animals was absent and the one for small animals was inadequate; the isolation facilities for large animals were inadequate, while the number of real cases and cadavers for necropsy was insufficient. There was an insufficient number of full-time academic teachers, the training of all staff being insufficient for research-based education, while there was a lack of clearly defined careers for teaching staff as well.

These findings led to the identification of seven Major Deficiencies:

1. Absence of funding and available time for research activities, with as a result a negative impact on research-based teaching and education to research;
2. Absence of relevant dissection and necropsy rooms for large animals and inadequate necropsy room for small animals;
3. Absence of adequate isolation boxes for large animals;
4. Insufficient caseload of ‘real’ patients;
5. Insufficient cadavers from sick patients in large animals;
6. Lack of clearly defined career progression pathways, especially for teaching staff;
7. Insufficient number of full-time academic teachers and insufficient training of all the staff involved in teaching including practitioners to ensure research-based education.

Similarly, areas of concern (minor deficiencies) were identified by the Team, such as:

1. Absence of an operational plan with timeframe to adapt the facilities, staff and patients’ caseload to the increasing number of students;
2. Absence of well-defined tiered structure for the organisation of the VEE;
3. Insufficient involvement of staff, students and stakeholders in the decision-making process;
4. Absence of correlation between the number of enrolled veterinary students and the funding allocated to the VEE by the ULHT;
5. Insufficient autonomy of the VEE to use the funding allocated by ULHT;
6. Lack of continuity in subjects oversight due to continual changes of staff;
7. Lack of identified subjects leaders and formal exchanges between them in order harmonise the curriculum;
8. Insufficient practical dissection of large animals;
9. Insufficient exposure of students to emergency cases in all species;
10. Lack of prerequisites for accessing the courses at the master level;
11. Insufficient equipment in the equine teaching hospital;

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12. Insufficient formal training in modern pedagogical methods for all staff involved with teaching;
13. Overload of staff with teaching and administrative duties, with as a result not enough time for research and continuous professional development activities;
14. Insufficient operational plan for the recruitment of recognised clinical specialists and the development of residency programmes.

The decision by ECOVE, who met on May 17, 2017 was Non-Approval status.

The Re-visitation Self Evaluation Report (RSER), the Addendum and Annexes included, describing the progress during the period of repeated RV postponements and including the anti-COVID measures applied to ensure the VEE's appropriate functioning, were provided to the Re-visitation Team on time and contained relevant information. The RSER was informative, some pending issues were answered before the Re-visitation and on-site.

Although the Full Visitation SER was written under the 2016 SOP, the Visitation took place under the 2012 SOP.

The Re-visitation was well prepared and well organised by the VEE. It was performed in a cordial working atmosphere, in agreement with the ESEVT 2016 SOP.

1. Correction of the Major Deficiencies

1.1. Major Deficiency 1 (“Absence of funding and available time for research activities, with as a result a negative impact on research-based teaching and education to research”)

1.1.1. Findings

Since 2018, the University supported financially the research at the VEE from its own fund, investing firstly 36,000 Euro, with other 50,000 Euro in the next academic year.

ILIND (Instituto Lusófono de Investigação e Desenvolvimento) was created by Lusofona University as a Unit dedicated to exclusively sustain and to promote research and development activities in all scientific areas; similarly, the unit is involved in supporting individual researchers or research groups to manage from scratch scientific proposals.

ILIND is involved in creating programmes such as “FAZER +: a support programme for Science and Innovation” (2020), which aims at launching calls for applications and awards for research and research based teaching (“Excellence in Research”, “Best innovative pedagogical practice” and “Good research practices in teaching”). Another programme of the ILIND, “Seed Funding” financed by the Foundation for Science and Technology (FCT), encourages and financially supports up to a maximum of 15,000 Euro multidisciplinary strong projects (first edition opened in 2020, the second edition in 2021). Some of these proposals could also be submitted to other financing bodies.

Recently, Colab4food, which is a national strategic collaborative network of companies and research institutions, included the VEE of Lusofona University as a member, providing help in national and mainly European project applications for projects.

Collaborations were initiated by the FCT with the highly ranked institutions: Centre for interdisciplinary Research in Animal Health of the Faculty of Veterinary Medicine of Lisbon (15), Centre for the Research and Technology of Agro-Environmental & biological Sciences of University of Trás-os-Montes e alto Douro (4), Research Centre for Biosciences & Health Technologies of The Lusofona University (8), Linking Landscape, Environment Agriculture and Food of the Higher Institute for Agriculture, Lisbon University (5), other various research Centres (10).

Thus, the total number of participations in research projects of the VEE of Lusofona University is over 100, of which 37 benefit of various European funding (PT2020, FCT, Horizon 2020 and

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COST Action. The main partners are located at national level (UA, UC, UM, FCM-UNL, FM-UL, IST-UL, IGC, INSA) but also in foreign countries (EU, BR, UK, USA).

The increased number of academic staff (also see Major Deficiency 1.7) now allows time for research, by decreasing teaching duties of the academic staff. A well-managed employment policy, as well as the new teacher's evaluation system, that includes research activities (see Major Deficiency 1.6) also allowed an increased time allocation for research.

1.1.2. Comments

The VEE of Lusofona made important efforts to improve its research activities, by promoting and implementing a highly proactive research strategy. Similarly, the commitment of staff and students to improve the VEE's research status is praiseworthy.

Established relationships, high in number, led to an increase in the budget allocated to research and allowed reinvestment of revenues from research projects in further development of research themes and activities.

Moreover, one of the important achievements to commend is motivating the people to participate in research activities, to initiate research projects or multidisciplinary R&D directions, to advance research based education. The numerous connections established helped the staff of VEE Lusofona to foster their ideas, further broadening their collaborative projects and improving their research by the financial support gained. The increase in staff numbers favoured the increase of time amount dedicated to research by individual members of the academic personnel.

The Team was provided a list of communications and full papers that have been delivered in the past years, as a matter of result of this global strategy.

1.1.3. Suggestions

None .

1.1.4. Decision

Major Deficiency 1 ("Absence of funding and available time for research activities, with as a result a negative impact on research-based teaching and education to research") has been corrected.

1.2. Major Deficiency 2 ("Absence of relevant dissection and necropsy rooms for large animals and inadequate necropsy room for small animals")

1.2.1. Findings

Beginning with the academic year 2017/2018 the INIAV (National Institute of Veterinary and Agriculture Research) a public laboratory that develops diagnostic and research activities in agronomic and veterinary sciences at Oeiras, near Lisbon was contacted and a protocol was signed to allow the use of the necropsy rooms for large animals by the students of VEE Lusofona, mainly pigs, sheep and small animals being necropsied there. Another possibility for the students to perform necropsies on large animals (ruminants and equine) which died on farms, in veterinary hospitals or clinics continues to be provided by ETSA, a private provider of necropsy material for the national veterinary authority that controls BSE/TSE in ruminants. The number of visits to ETSA increased. Further, conditions at the VEE's small animal necropsy facility improved by implementation of new procedures and biosecurity measures to avoid cross contamination between clean and dirty areas in the changing room. Specialized equipment for effluent control at Campo Grande was acquired and is functioning. The future Catapereiro Campus barns will be equipped with a dissection room suitable for large and small animal species, further improving the quality of anatomy/patho-anatomy teaching.

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At Campo Grande, anatomy practicals substantially improved by purchase of a high-performance software, plastinated anatomical pieces, and by increasing the dissection caseload.

1.2.2. Comments

The Biosecurity Manual was revised to cover the newly allocated necropsy facilities at INIAV, ETSA and Campo Grande. Stricter biosecurity measures were adjusted to the facility's needs and implemented to allow adequate protection of students and staff during the necropsy classes. All the information present in the Manual is available and highlighted to students via Moodle.

1.2.3. Suggestions

The VEE is advised to pursue the construction of the large animal clinic at Catapereiro to further improve the input of necropsy classes in student education and acquisition of Day One Competences.

1.2.4. Decision

Major Deficiency 2 ("Absence of relevant dissection and necropsy rooms for large animals and inadequate necropsy room for small animals") has been corrected.

1.3. Major Deficiency 3 ("Absence of adequate isolation boxes for large animals")

1.3.1. Findings

After securing the contract with the private owner of the Veterinary Teaching Hospital for Equine (VTH-E), the VEE was supported by the University to build an isolation unit for horses; this unit was found completed and fully operational at the time of the Re-visitation. The isolation unit includes a vestibule, a changing room, a preparation and cleaning room and one box of 13m². The wastewaters from the isolation unit are collected in a separate tank without communication to neighbouring areas.

A manual including guidelines and protocols for the appropriate conduct of staff and students, biosafety measures and procedures related to equine treatments, cleaning and disinfection principles, waste triage of the facilities and equipment for equine isolation units was issued. This Biosecurity manual was distributed among staff and students to guarantee compliance with all the rules. Moreover, QR-Codes displayed on the walls of the facility in easily visible points, enhance the retrieval of such information for the students by use of their smartphones.

The Team was shown the buildings the VEE acquired at Catapereiro and also the construction plans for the Farm Animal Facilities at this campus. Unfortunately, due to anti-COVID 19 measures in place for almost two years, the VEE had serious difficulties in starting the construction of their new facilities.

According to the plan, the facilities to be built will include an area dedicated to the treatment of infectious diseases, with adequate isolation boxes for farm animals, including bovine (building 2). In the infectious diseases' unit (75 m²) a total area of 21 m² will be dedicated to 2 isolation boxes, while the treatment area will cover 37 m². A pharmacy, washing and sterilization rooms, areas for staff will be also comprised in this unit. A dedicated biosafety manual for farm animals and infectious diseases area/ isolation boxes to warrant that biosafety procedures are accessible to staff and students is in place.

1.3.2. Comments

The isolation facilities for Equine are adequate, fully functional and well-equipped. They could also be used for food-producing animals.

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1.3.3. Suggestions

The VEE is encouraged to pursue the continuation of the construction plan to reality to allow the handling of the bovine isolation in case of need.

1.3.4. Decision

Major Deficiency 3 (“Absence of adequate isolation boxes for large animals”) has been has been corrected.

1.4. Major Deficiency 4 (“Insufficient caseload of ‘real’ patients”)

1.4.1. Findings

The number of extramural clinical and first line cases in farm animals increased mainly due to a higher number of collaboration protocols with farms in the area. Further, the employment of new clinical lecturers and clinical support staff and the effort to ascertain an emergency on-call system contributed to higher numbers of real cases seen by students. For the next year, 2 Veterinarian Internships and 2 undergraduate students’ trainings were approved for the Farm Animal Clinics. Moreover, the existence of two full-time academic teachers, PhD and Diplomates of the European College of Bovine Health Management, all the necessary conditions could be in place for the creation of a Residency Programme in this area, also contributing to the increase of real case numbers.

The intramural cases were mainly covered by the activity on healthy animals within the “Herdade dos Coelhos” dairy cattle. Although an excellent hands-on exposure of the students to farms animals, “Herdade dos Coelhos” was considered in 2017 a farm, not a bovine clinic. To overcome this situation, in 2018, an important contract was signed with Companhia das Lezírias, the largest agricultural, livestock and forestry operation in Portugal for the rental of land and buildings in Catapereiro area, which is located not far (37 km) from Lisbon. This agreement was expanded in 2019 for 3 more buildings with a total of 2 000 square meters of construction. Thus, the total area increased to 2.5 acres, with 4 buildings covering 1851m². The areas of hospitalization/Boxes for large and small ruminants and pigs will accommodate at least 10 animals per day.

The contract was signed for 25 years, with automatic renewal, thus providing the VEE with the possibility to create a Campus focused in Large /Farm Animals. The space allocation for clinic and surgery rooms, diagnostic laboratories, animal boxes/areas, infectious diseases unit, farm animals’ anatomy and dissection rooms, classrooms, offices, spaces for students, properly equipped for teaching and research, will allow an adequate turn-over of large animals and farm animal cases. Therefore, the students’ exposure to “real” sick farm animals and the corresponding medical and surgical procedures (parturition handling, obstetrics, C-section, abomasal displacement surgery and others) will increase during the next years.

Concurrently, in addition to the other buses and ambulatory vans already in use, another 30 seat bus was purchased by the VEE improving the students’ mobility to large animals’ facilities outside Lisbon.

In the VTH-E as well as in the Campo Grande small animal VTH, the caseload significantly increased as a result of appointment of new academic staff, including board-certified specialists, new collaboration protocols (see Minor Deficiency 2.9., 2.9.1 Findings) and acquisition of high standard equipment, for example in diagnostic imaging. All cases are recorded through different systems that are easily accessible, including a medical software (Boommmed), used for small animals and equine and Excel files.

Moreover, the students paper-based logbook system is now mandatory in all species, attesting the individual student exposure to clinical cases.

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1.4.2. Comments

In spite of strict anti-COVID 19 measures to be applied, by which the VEE was seriously hindered in accomplishing its activities, alternative means (increase in farm contracts, new employments, and increased mobility with the ambulatory clinic) were found which allowed the VEE to increase its total number of real cases, which is shown by increased Indicators (especially I10 and I13).

1.4.3. Suggestions

The VEE is encouraged to continue its work on completing the construction of the Farm animal clinic at Catapereiro to further increase its caseload and also continue its employment policy that helped attaining positive results in increasing their numbers of patients and attracting future referral cases.

1.4.4. Decision

Major Deficiency 4 (“Insufficient caseload of ‘real’ patients”) has been fully corrected.

1.5. Major Deficiency 5 (“Insufficient cadavers from sick patients in large animals”)

1.5.1. Findings

As mentioned in 1.2., the VEE uses for necropsies the facilities from INIAV with outstanding conditions for 2nd and 3rd-year students, which also allowed a better planning of the number of cadavers of small ruminants, pigs and companion animals needed for teaching purposes. The use of the necropsy room at ETSA substantially increased the number of necropsies performed in farm animals, bovine, equine, swine, ovine/caprine, birds, rabbits. Furthermore, the necropsy room at the university was upgraded, increasing the number of necropsies on companion animals and exotic animals from the VTH and shelters.

Other measures were implemented to improve the activity and the quality of student training such as:

- Smaller student groups in a rotation scheme (one group in INIAV, another in ETSA, another at the VEE’s necropsy room)
- Necropsy classes are organized for 4th and 5th-year students
- An on-call system was implemented, where an academic pathologist accompanies the students in their extramural farms and equine hospital and field, every time a necropsy needs to be performed
- A better recording protocol, including student input, was implemented, each animals subjected to necropsy being registered on two digital platforms: on “Boommmed”, and on an online drive shared by all Anatomical Pathology teaching staff

In 2021 a Diplomate by the American College of Veterinary Pathology was hired to further increase the teaching quality of anatomical pathology at the VEE and to help achieve the goal of creating residency programmes.

1.5.2. Comments

The measures implemented by the VEE to increase the necropsy caseload led to the increase of corresponding Indicators (I17 to I20) well above not only the minimum but the median value, proving the correctness of those. The implementation of a residency programme will further improve the quality of training in necropsy at both under – and postgraduate levels.

1.5.3. Suggestions

None.

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1.5.4. Decision

Major Deficiency 5 (“Insufficient cadavers from sick patients in large animals”) has been corrected.

1.6. Major Deficiency 6 (“Lack of clearly defined career progression pathways, especially for teaching staff”)

1.6.1. Findings

The Lusofona University took several measures to improve the transparency of its institutional and regulatory framework for staff promotion, namely:

- it has issued, published and officially approved the Teaching and Research Staff Career Regime
- it defined the Regulation of Performance Evaluation of Lecturers and Researchers in 2020
- it laid down the Regime for the Progression of Lecturers and Researchers of ULHT in 2021, providing the University with better suited to the fulfilment of its mission.
- It has defined the categories of the career teaching staff: Full professor, Associate professor and Assistant professor

The evaluation of each lecturer is carried out every three academic years, considering teaching; scientific research, innovation and cultural creation; University management; University outreach, scientific dissemination, and provision of services to the community.

The first evaluation for the entire University took place in 2021 for academic years 2017/2018, 2018/19 and 2019/2020; self-evaluations by academic staff were submitted to the AVADOC platform.

The Scientific Council appointed an evaluation committee for the VEE, including the Dean and two full-time professors. The results of the evaluation by the Committee were validated by the Scientific Council of the VEE; the results were then submitted to the Rector for approval.

1.6.2. Comments

The process of clear definition of progress in the academic career provides more promising opportunities and a more solid background for the permanent staff. The evaluation system and career progression increase the individuals’ awareness of potential progression and the criteria to achieve it. Similarly, it encourages professional and scientific development of the teachers, leading to a more research-based, learning inductive environment. These advancements are now unanimously seen as strengths of the VEE.

1.6.3. Suggestions

None.

1.6.4. Decision

Major Deficiency 6 (“Lack of clearly defined career progression pathways, especially for teaching staff”) has been fully corrected.

1.7. Major Deficiency 7 (“Insufficient number of full-time academic teachers and insufficient training of all the staff involved in teaching including practitioners to ensure research-based education”)

1.7.1. Findings

Since 2017 till 2020/2021, there was a 24% increase in the total number of FTE academic staff involved in veterinary training at the VEE of staff, from 50 to 58 FTE. The increase in numbers of FTE academic staff paralleled the 33% increase in the numbers of undergraduate students in

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the same interval of time. For the academic year 2021/2022, 6 more FTE full-time academic staff and part time academic/research staff with strong curriculum in the areas of One Health were already hired, to improve research-based education for an increased number of students. Of those, the FTE academic staff holding a PhD increased from 26 to 42 FTE, which represents a 62% increment. Due to the improvement of career path, those who finished their PhD degrees and new academic hiring, 42 of 58 FTE full-time academic staff (72%) hold now a PhD degree. In the year of the audit, we had 19 FTE veterinarian full-time academic staff with a PhD. One full-time staff member with academic and research duties is responsible for every student to present their project/thesis at the end of the degree.

A wide range of courses is provided to the staff by the VEE, including general training in languages, computer software, technological innovation, research activities and teaching methods. Practitioners hired by the VEE are also included in the compulsory system of 30 h of training in subjects of their choice. An internal platform for digital training based on Edex was implemented by the University.

1.7.2. Comments

The broad range of training programmes made available for staff based on their option but compulsory to a certain extent (30 h) improved the interest and involvement of the staff towards research-based professional activities and teaching. The tendency to further increase the number of personnel and especially diplomates provides the students of the VEE with a wide variety of possibilities to gain research skills and experience.

1.7.3. Suggestions

None.

1.7.4. Decision

Major Deficiency 7 (“Insufficient number of full-time academic teachers and insufficient training of all the staff involved in teaching including practitioners to ensure research-based education”) has been fully corrected.

2. Correction of the Minor Deficiencies

2.1. Minor Deficiency 1 “Absence of an operational plan with timeframe to adapt the facilities, staff and patients’ caseload to the increasing number of students”

2.1.1. Findings

The Scientific Council, Pedagogical Council, Commission of Stakeholders, VEE Shelf-Evaluation Commission, teachers, staff, and students decide upon the 3-year Strategic Plan of the VEE, within the Strategic Plan of the University. The objectives are detailed in the VEE’s annual plan, including timelines and indicators of the objectives as well as expected timeframe for their accomplishment, in line with the expected student numbers. Those plans are followed by the VEE Scientific Council, the Dean, the Vice-Deans, the Administration and Rector’s representatives and timely adjustments are made if necessary. The adjustment of facilities planned to concord with increasing numbers of students included an investment of 20 million Euros in infrastructures such as new clinical skills labs, clinical and research laboratories, anatomy areas, the Veterinary Teaching Hospital of Companion Animals (VTH-A), Veterinary Teaching Hospital of Equine (VTH-E), and the new Farm Animals Campus at Catapereiro. Significant investments were made in equipment for laboratories, pre-clinical and clinical areas in all species, including several relevant animal models, real size and others, in the ICU conditions for all species, the increase of 22 boxes patient hospitalization, a plasma sterilizer, a top-of-the-line CT scanner (GE Revolution ACT) and fluoroscope machine (GE oec one), a portable ultrasound machine was acquired (Mindray TE5 Vet) as well as other emergency

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monitoring equipment. Increase in the number of FTE academic and supportive staff was adapted to the increased number of students.

2.1.2. Comments

The implementation of three year and yearly strategic planning ensures the fluency of investments and the consequent improvement of the facilities and equipment adapted to increasing number of students enrolled for veterinary studies. The achievements of the VEE were significant, showing substantial improvement in spite of all difficulties posed by the lock-down and restrictive measures imposed by the COVID-19 pandemic.

2.1.3. Suggestions

The VEE is encouraged to further plan to continue its endeavour in completing the Catapereiro premises, facilities as well as equipment to further improve the quality of teaching in farm animals.

2.2. Minor Deficiency 2 “Absence of well-defined tiered structure for the organisation of the VEE”

2.2.1. Findings

The division of various tasks in administration or teaching, informally assumed by staff was regulated at the VEE’s level by creation of a Vice Dean position. The Division Heads initiated formal meetings with the staff to improve the curriculum along with the Vice Dean. In the academic year 2020/2021 the Scientific Council approved the division of the Vice Dean’s tasks in two directions, along with corresponding positions: a Vice-Dean for Academic Management (student admissions, academic staff career evaluation, coordination communication with the Divisions Heads, QA) and a Vice Dean for Students Affairs (class timetables, room allocation, questions related to the curricula, internal QA, etc.).

Specific tiered structures are in place in various segments of the VEE (VTH, Clinics, Laboratories and Research activities).

2.2.2. Comments

The presence of tiered structures at different organisational levels of the VEE allows a much better monitoring and adjustment of the processes to the increasing number of staff and students over time.

2.2.3. Suggestions

None.

2.3. Minor Deficiency 3 “Insufficient involvement of staff, students and stakeholders in the decision-making process”

2.3.1. Findings

Students and stakeholders are now included in decision-making structures at both University and VEE levels. These structures are the University Council, the University Scientific Council and the University Pedagogical Council while at the VEE level they are the Scientific Council and Pedagogical Council. The academic staff is represented in the Scientific and Pedagogical councils. The students also have also their own yearly representatives to communicate with the Dean and Vice-Deans their specific matters.

A formal stakeholders’ commission was created in 2018 by inviting the representatives of major partners of the VEE, i.e. the Portuguese Veterinary Order/Association, Official National Veterinary Services, Research Institutes, Meat Production and Industry, Animal Nutrition and Feed, Zoophytic Associations, Association of Pharmaceutical companies, Supermarkets, Food

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Industry Federation, Federations of Animal Producers, Agricultural an Industry Associations and Federations, etc.

Alumni, students and stakeholders were also included in a newly established Degree Self Evaluation Commission, along with staff to evaluate the course and the curriculum, and improve those if necessary.

2.3.2. Comments

The activity of these committees and councils provided important inputs for the improvement of the curricula and helped issuing the new 3-year (2021-2025) VEE Strategic Plan. Improvement has been recorded in the involvement of all interested parties in the decision-making process at VEE level.

2.3.3. Suggestions

The VEE initiated a process that should be continuous, closing the loop based on feed-back of staff, stakeholders and students by adjustments to the curriculum following societal needs.

2.4. Minor Deficiency 4 “Absence of correlation between the number of enrolled veterinary students and the funding allocated to the VEE by the ULHT”

2.4.1. Findings

The funding allocated to the VEE by the ULHT subsequent to the previous visitation continuously increased to support the investments in buildings, equipment, and research. As mentioned, a major investment of 20 million euros in the last years envisaged to adapt the facilities, numbers of staff, and caseload to the increasing number of students was which further improved the quality of teaching and research.

2.4.2. Comments

University and VEE funds were invested and reinvested in the last years based on the Strategic plans' objectives, with responsible people and timeframe – which were in their majority accomplished. The quality of infrastructure and equipment is continuously improving. Moreover, the University rephrased its personnel policy, new contracts being signed and new academic and support staff being hired, in order to achieve better educational results.

2.4.3. Suggestions

None.

2.5. Minor Deficiency 5 “Insufficient autonomy of the VEE to use the funding allocated by ULHT”

2.5.1. Findings

By national regulations, the VEE's budget is part of the University budget, approved by its Board and official institutions responsible for budgeting at country level. The budget of the VEE is designed yearly by understanding with the Dean, based on the identified VEE needs. The administration of the funds is performed at University level; the Office of the Finances Managing Director must approve these budget modifications. The Dean can still request changes in the budget, when well supported. It is the Dean who is responsible for drawing up and implementing the VEE budget, investments being based on yearly activity plans and recommendations by the Dean.

2.5.2. Comments

The VEE benefitted in the last years of a much stronger financial support from the University, being able to reinvest some of its revenue in planned objectives.

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2.5.3. Suggestions

None.

2.6. Minor Deficiency 6 “Lack of continuity in subjects oversight due to continual changes of staff”

2.6.1. Findings

The VEE increased its staff numbers due to hiring more qualified personnel, including diplomates in different areas. The University strategy has been changed, the promotion process has been regulated and made transparent which led to a more stable academic group. The number of veterinary practitioners hired also increased. Good contractual and working conditions were provided to newly hired staff, thus stabilizing the continuity in subjects taught.

2.6.2. Comments

Recently two new private schools of Veterinary Medicine were approved in Porto and Lisbon. In spite of their dedication to English and French speaking students, they might be competitors for competent staff, which is considered to be a potential threat by the VEE. Nevertheless, the VEE plans to continue its staff support policy, further improving the judicious division of time, allowing besides teaching periods, enough time for research and other activities within the VEE or University for personal and professional development.

2.6.3. Suggestions

Supporting the continuous development of a stable working environment would enhance the persistence of well-trained and competent staff along with continuity in subjects taught.

2.7. Minor Deficiency 7 “Lack of identified subjects leaders and formal exchanges between them in order harmonise the curriculum”

2.7.1. Findings

All the subjects are now organized in the Academic Divisions, led by a head appointed by the Scientific Council, who is responsible of organizing meetings to harmonize and improve the curriculum. The written agenda and the meeting minutes are sent to the Dean. Subject leaders were identified and their tasks include responsibilities towards the subject/curricular unit form (FUC), evaluations and a curricular unit report (RUC), submitted at the end of the semester and validated by the Dean and academic services. RUC allows a critical analysis of the subject curricula, identification of critical events and their correction/improvement.

2.7.2. Comments

The presence of Academic divisions and Subject leaders included in those, made the decision making more interactive and more fluent, meantime adapted to the requirements of all organisational levels at the VEE.

2.7.3. Suggestions

None.

2.8. Minor Deficiency 8 “Insufficient practical dissection of large animals”

2.8.1. Findings

During the academic year 2017/18, the number of dissections increased subsequently due to the introduction of whole ovine carcases, followed in 2018/2019, by the introduction of dissection on whole animal carcases in all species of farm animals (ruminants, bovine and ovine, equidae, swine and companion animals including exotics, rabbits, rodents, birds, and fish). For small ruminant animals and other small species mainly dissections are performed at the Campo

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Grande facilities, while dissections of whole large animals, bovine, and equine take place at ETSA. The anatomical specimen and model collection was enlarged, including more anatomical models of different species (whole body models of equine, bovine, caprine , swine, domestic hen, rabbit, and bony fish). Further, models for joints, individual organs, and body parts were added. The bone collection substantially increased; plastinated organs were purchased, and the collection of permanently fixed specimens is continuously increasing. Students are welcome to practice and improve their dissection skills on freshly prospected specimens of various species.

Anatomical posters, including dental charts of dog, cat, and horse as well as e-learning materials are available during practical lessons. For further dental anatomy teaching, in 2021/22 students will be exposed to an advanced and true-to-life model and simulator of canine dental surgery. A variety of virtual software relating to different species nomenclature, structures, and anatomical topography were acquired, while open access virtual software and atlases are suggested as supplemental teaching material. Two more PhD staff were hired in Anatomy to improve teaching and research.

2.8.2. Comments

During the COVID-19 ETSA closure, dissections were mainly performed on bovine, sheep and some equine carcasses. To maintain the dissection activity educational, a reasonable number of carcasses of other species, namely companion animals including exotics, rabbits, birds, and fish were dissected.

2.8.3. Suggestions

The completion of Catapereiro Campus would improve the training activity of the VEE in large/farm animal anatomy.

2.9. Minor Deficiency 9 “Insufficient exposure of students to emergency cases in all species”

2.9.1. Findings

a) There was a continuous increase in the emergency caseload at the Equine VTH due to collaboration protocols signed by the VEE with the National Republican Guard Horse Hospital (GNR's hospital), Abrantes Professional School of Rural Development (EPDRA), the Equine Hospital of Mata de Santa Iria in Torres-Vedras and associations involved in the official rescue of equine animals. Two part-time European Diplomates from Spain and increased numbers of teaching and support staff contributed to the increase in the quality of teaching and clinical services. All 4th and 5th year students attend on mandatory bases a night rotation per semester at the VTH-E in equine emergencies and they are also required to sign up for an on-call emergency shift (VTH-E equine hospital, Mata de Sta. Iria Equine Hospital, the National GNR's Equine Hospital, or other locations). An “on call” WhatsApp group, moderated by the academic staff, has been created to foster the information about emergencies. Students may also volunteer to assist in the emergency cases, while not on the mandatory rotations. During COVID-19 restrictions, compensations were provided to the students i.e. to compensate two mandatories on call dates were created for each student. The curriculum has been enriched with a new optional subject in Equine Emergencies. Equine models in the Clinical Labs Skills improve the quality of teaching of emergency situations.

b) Since 2018, an emergency on-call group for the 4th and 5th year students, in was established. Students on-call but also volunteers can attend, assist and help in emergency cases. The exposure of the students to at least one emergency case in these species has been achieved through ambulatory clinic as well, in groups of 5. A new optional subject “Emergency in Farm

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Animals” was initiated for the 5th year students. Bovine models at the Clinical Skills Lab allow students to practice their skills more confidently. The construction of the Farm Animals Hospital at Catapereiro, will provide adequate facilities and equipment to increase the caseload in all farm animal species, including emergencies. Two full-time Diplomates from ECBHM and part-time collaboration with two other European Diplomates improved the quality of teaching in farm animal emergencies.

c) To increase exposure of students to emergency cases in companion and exotic species, protocols were signed with large animal shelters, small animal associations and local and national government animal protection agencies for wildlife and of exotic animals, to provide emergency, week-end and overnight veterinary services and care. The emergency cases seen in the VTH represented an addition. By 2020/21 there was a 5.5-fold increase in comparison with the year of the last audit (730 versus 133 cases). The hospital 24h cycle including day, night, and weekend shifts is completed by the students in groups of 3 to 5, in a compulsory 2-week hospital rotation in different departments including first aid, the ICU and after-hours emergency service. In the 5th year training focusing on CPR, triage, shock, SIRS and sepsis monitoring in the ICU occupies more than 70 h.

Theoretical and practical classes were designed in the two newly created subjects in Emergencies and Critical Care. Companion animal models are available in the Skills lab. Internationally renowned Specialists/Diplomates are invited to train the VEE’s students in emergency situations along with their own staff from the VTH.

2.9.2. Comments

As a preliminary stage, the exposure of students to animal models of various species in the Clinical Skills Lab enhanced their practice and increased their confidence in operating with future patients. The exposure to emergency cases was improved by improvement of facilities at the Small animal VTH, Equine VTH and during shifts and mainly ambulatory clinic for farm animals. The COVID-19 Pandemic period was covered by rotations and shifts as soon as it was safe for the students to perform those. The VEE enhanced exposure to emergency cases by increasing the number of its staff in all segments of their clinical activity.

2.9.3. Suggestions

The VEE is encouraged, as for correcting other major/minor deficiencies, to continue with its endeavour in finishing the Catapereiro Campus to further improve student exposure to emergency cases in farm animals.

2.10. Minor Deficiency 10 “Lack of prerequisites for accessing the courses at the master level”

2.10.1. Findings

The Regulation on Functioning of FMV-ULHT was reviewed, approved by the Scientific and Pedagogical Councils and by the ULHT Rectorate in order to provide the prerequisites for accessing the courses at the master level. Since 2018 it is available on the University website and it is controlled regularly by the VEE secretariat.

The adopted changes do not allow the students to enter a subject in following year’s degree without having completed or assure enrolment on previous years subjects and, the students having to complete the 1º cycle of 180 ECTS, before acceding the 2º cycle.

2.10.2. Comments

None.

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2.10.3. Suggestions

None.

2.11. Minor Deficiency 11 “Insufficient equipment in the equine teaching hospital”

2.11.1. Findings

As mentioned before, an important investment was approved by the University with the purpose of expanding the facilities and equipment allocated to the VTH-Equine. As such, significant improvements have been made in surgery, general anaesthesia, diagnostic imaging, including ultrasound and radiology, and outdoor support areas.

The changes envisaged included upgrading of the operating theatre:

- new surgical lamps, new surgical instruments. (a surgical drill, an osteosynthesis set, an electrical scalpel, a surgical vacuum drain)
- a ventilator, a vital signs monitor,
- an Anderson Sling system, to assist in post-anesthetic recovery,
- a new hemogram machine,
- an electronic stethoscope,
- weight scale,
- a FLIR thermographic camera for research purposes
- new podiatry material to be used in the orthopaedic shoeing unit.

Diagnostic imaging improvement envisaged:

- the newest endoscopy technology STORZ video endoscopy set, including gastroscope and bronchoscope equipment.
- a STORZ® laparoscope
- two arthroscopes, including HD recording and display, respective STORZ® high-quality instrumentation,
- a CO₂ endo-retroreflector
- a vascular sealer (ENSEAL®).
- an ultrasound scanner by General Electronics LOGIQS8, which includes 3 regular probes (liner, convex, cardiac) and 2 additional volumetric probes (linear and convex) which allow the acquisition of 4D images.
- an elastography and shear wave modules are part of ultrasound scanner technology, useful for research purposes as well as patient follow-up consults.
- a portable X-ray generator (Medical Econet meX+20BT lite) is part of the investment and is currently being used in diagnostic imaging for clinical practice and classes.
- a standing CT-Scanner Edamis Robotic System which consists of a dual-arm multi-modality imaging system for equine scanning (allowing digital radiography, Cone Beam CT, Fluoroscopy, Tomosynthesis and Circular Tomosynthesis) making it possible to assess orthopaedic and musculoskeletal pathologies of horses without the need of general anaesthesia,

At VTH-E, a new indoor arena for biomechanical research and lameness assessment is under construction, were a biomechanical model to be used is three-dimensional and is an output of VICON® system. Equimoves, a tool for objective lameness assessment and follow up was acquired to complement to the previous device.

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2.11.2. Comments

The VEE accomplished the creation of a state-of-the-art VTH Equine, well equipped and fully functional providing service in various fields of equine medicine, including equine sports medicine, but enforcing student training and research.

2.11.3. Suggestions

The VEE is encouraged to make best use of their well-equipped VTH E in attracting funds and also international collaborators for the rapidly developing segment of equine research, thus attracting more diplomats and continuously improving the quality of teaching.

2.12. Minor Deficiency 12 “Insufficient formal training in modern pedagogical methods for all staff involved with teaching”

2.12.1. Findings

Since 2018, the VEE formalised the training in modern pedagogical methods for all staff involved in teaching. Thus, a broad range of free elective courses encompassing pedagogical/teaching methods, languages, computer software, technological innovation, socio-professional skills, and research activities is offered on annual basis. A minimum of one training course comprising pedagogical methods is compulsory every year and a minimum of 30 hours have to be covered (12 h pedagogical training, 10h of research management and 8h in specific training of provenance unit).

In 2019, the VEE became a member of a project of the Centre for Educational Research and Innovation (CERI), the OCDE Project: “Fostering and assessing creative and critical thinking skills in higher education and teacher education”, which supports innovation in higher education and encourages students’ education towards creative and critical thinking. This project allowed the teaching staff to acquire new and innovative teaching strategies to be directly applied in the classroom and also the implementation of innovative assessment techniques, with student participation and feed-back. Since 2020, formal training of academic and research staff was given weight by the University.

2.12.2. Comments

The participation in the OCDE allowed the VEE to improve its training programmes in modern pedagogical methods, introducing critical thinking skills to be developed in the future years. It was also useful for designing the pedagogical plan, which includes a special compulsory course on pedagogical methods for teaching and assessing students, applied to their practical training designated for beginner teachers.

2.12.3. Suggestions

The VEE should strongly encourage its staff to participate in the continuous training in pedagogical methods, aiming at further improvement of their own competences and improvement of the students’ training quality.

2.13. Minor Deficiency 13 “Overload of staff with teaching and administrative duties, with as a result not enough time for research and continuous professional development activities”

2.13.1. Findings

Changes in the hiring policy of the University which allowed the employment of more academic and research staff, reduced the teaching load and freed time for research at individual level for each teacher (see also Major Deficiency 7, Minor Deficiency 6). The quality of student research and research-based training was also improved this way.

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Furthermore, the hiring of assessors to the Dean and the nomination of Vice-Deans allowed a better distribution of administrative duties, which further diminished the time dedicated to those by academic staff.

2.13.2. Comments

By diminishment of teaching loads, the staff had an increased motivation to turn to research and scientific publishing, which led to an increase in the number of participations in conferences and also ISI articles. Numerous research grants are in place, participation in others, European level grants is aimed.

2.13.3. Suggestions

The VEE should encourage the participation of young teaching staff in enrolling for PhD and residency programmes to further enhance the level of the research and the quality of research based training of their students.

2.14. Minor Deficiency 14 “Insufficient operational plan for the recruitment of recognised clinical specialists and the development of residency programmes”

2.14.1. Findings

Since 2018, invitations for collaborators were launched to Portuguese diplomates working abroad and this has resulted in an increase in both full and part-time diplomates as members of our academic staff.

Nine specialized veterinarians (5.2 FTE) are involved in student training, indicating a 79% increase since the evaluation in 2017. Other two academic staff undertake residency programmes. The full or part time academic staff belong to various Colleges:

- 4 full-time teachers: 2 diplomates of the European College of Bovine Health Management (ECBHM), 1 diplomate of the American College of Veterinary Pathologists (ACVP) and 1 diplomate of the European College of Veterinary Dermatology (ECVD);
- 5 part-time teachers, 1 diplomate of the European College of Veterinary Clinical Pathology (ECVCP), 1 diplomate of the European College of Veterinary Surgeons (ECVS-LA), 1 diplomate of the European College of Veterinary Internal Medicine – Companion Animals (ECVIM-CA), 1 diplomate of the European College of Equine Internal Medicine (ECEIM) and 1 diplomates of the European College of Veterinary Dermatology (ECVD);
- 2 collaborators in residence programmes of the European College of Animal Welfare and Behavioural Medicine and European College of Veterinary Internal Medicine - Companion Animals (Oncology).

Additionally, diplomates are invited to lecture on a regular basis, a minimum of 16 hours in each semester, both for theoretical and practical classes, i.e. diplomates of the European College of Bovine Health Management (ECBHM); European College of Veterinary Surgeons (ECVS); European College of Animal Welfare and Behavioural Medicine (ECAWBM); European College of Veterinary Diagnostic Imaging (ECVDI); European College of Veterinary Anaesthesia and Analgesia (ECVAA). The VEE begun a process of selecting new diplomates in diagnostic imaging and cardiology.

Envisaging a future residency programme, the VEE started an internship programme in 2019, which includes training of 5 Companion Animal interns and 2 Large animals interns. For the academic year 2021/22, an increase in numbers and field for internships is planned, namely 6 interns in Companion Animals, 4 in Large Animals, 2 in Equine and 2 in Farm Animals, already publicized for applicants to start next September.

2.14.2. Comments

The VEE made efforts to improve the quality of the training provided to the students by recruiting specialists in different fields of veterinary medicine and the process seems to be continuous. Further, there are initiatives to start own residency programmes which will allow the VEE to further increase the competencies in different field and augment research.

2.14.3. Suggestions

None.

3. ESEVT Indicators

All Indicators' balance is in a positive range, with exceptional values for the practical non-clinical (I4) and clinical (I5) training as well as training in FSQ and VPH (I6). The n° of individual ruminants and pig patients seen extra-murally / n° of students graduating annually is also very high (I13). In spite of the restrictions imposed by the COVID-19 period, the VEE managed to find its ways to ensure an appropriate training of its students in all field of activity.

4. Conclusions

The VEE is to be commended for the significant improvement that was noticed by the Team in all areas of concern. The VEE is committed to continue the process of improvement in all fields of their activity.

The Re-visitation Team considers that the Major Deficiencies identified during the Visitation done in February 2017 (i.e. "Absence of funding and available time for research activities, with as a result a negative impact on research-based teaching and education to research", "Absence of relevant dissection and necropsy rooms for large animals and inadequate necropsy room for small animals", "Absence of adequate isolation boxes for large animals", "Insufficient caseload of 'real' patients", "Insufficient cadavers from sick patients in large animals", "Lack of clearly defined career progression pathways, especially for teaching staff", "Insufficient number of full-time academic teachers and insufficient training of all the staff involved in teaching including practitioners to ensure research-based education") have all been addressed and corrected by the VEE.

Improvements were observed in areas related to all Minor Deficiencies, some of them being entirely corrected. For some of them, conceptual follow-ups are recommended to further develop the corresponding fields.

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Decision of ECOVE

The Committee concluded that the Major Deficiencies identified after the full Visitation on 20 – 24 February 2017 had been corrected.

The Veterinary Education Establishment (VEE) of the Lusofona University is therefore classified as holding the status of: **APPROVAL**.