



Dipartimento di Scienze Veterinarie Università di Pisa



Revisitation SER

Department of Veterinary Sciences
University of Pisa



Acknowledgment

After the great effort of preparing and carrying out the ESEVT visitation in 2022, the presence of deficiencies has forced the VEE to pay even more attention to the improvement of its culture of quality. This has required a huge commitment from some members, support from many and attention from all. Simultaneously the VEE was challenged by the conception and writing of a five-year development plan which, while it contributed to the generation of a shared vision, was a source of other effort and commitment.

By warmly thanking all the members of the VEE for their willingness to provide ideas, realizing corrective actions, monitoring their implementation, and producing this Revisitation SER, I wish everyone to succeed in obtaining the results they aim for, convinced that as a whole they are the best contribution to the growth of the University of Pisa – Department of Veterinary Sciences.

Francesco Paolo Di Iacovo, Head of the Department

List of contributors

Redactors – Francesca Bonelli, Michele Vanni, Vincenzo Miragliotta.

Correctors – Chiara Mariti, Carlo Cantile, Micaela Sgorbini, Fabio Macchioni, Stefania Perrucci, Barbara Turchi, Maurizio Mazzei, Valentina Meucci, Angela Briganti, Elena Luchetti, Francesco Di Iacovo, Alessandra Rota, Elisabetta Giannessi, Giovanni Barsotti, Roberta Moruzzo, Francesco Camillo.

Liaison Officer – Vincenzo Miragliotta.



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List of acronyms & abbreviations

A

- **AY:** Anno Accademico / Academic Year

C

- **CIRAA:** Centro di Ricerche Agro-Ambientali “Enrico Avanzi” / Agro-Environmental Research Center “Enrico Avanzi”

D

- **D-JFSC:** Commissione Paritetica di Dipartimento / Department Joint Faculty Students Committee
- **DVM:** Corso di Studio in Medicina Veterinaria / Degree in Veterinary Medicine
- **DVS:** Dipartimento di Scienze Veterinarie / Department of Veterinary Sciences

E

- **ECOVE:** European Committee of Veterinary Education
- **ECTS:** European Credits Transfer System
- **ESEVT:** European System of Evaluation of Veterinary Training

F

- **FSQ:** Food Safety and Quality
- **FTE:** Full-Time Equivalent

G

- **GPP:** Good Pharmacy Practice

N

- **NAS:** Nuclei Antisofisticazioni e Sanità

O

- **OSCAR:** Open Science in Co-creative Animal Research

P

- **PPE:** Dispositivo di Protezione Personale / Personal Protective Equipment
- **PPT:** Tirocinio / Professional Practical Training

Q

- **QA:** Assicurazione Qualità / Quality Assurance

S

- **SER:** Self-Evaluation Report
- **SOP:** Procedure Operative Standard / Standard Operating Procedures

U

- **UniPi:** Università di Pisa / University of Pisa

V

- **VEE:** Veterinary Education Establishment
- **VTH:** Ospedale Didattico Veterinario / Veterinary Teaching Hospital

Introduction

The Veterinary Education Establishment (VEE) of Pisa was visited in 2022 (04th – 08th April) by a Visitation team chaired by Dr. Lynne Victoria Hill and supported by Prof. Pierre Lekeux as European System of Evaluation of Veterinary Training (ESEVT) Coordinator.

The Self-Evaluation Report (SER ) was provided on time and written in agreement with the Standard Operating Procedures (SOP) 2019 as amended in 2021. Replies to the pre-Visitation questions from the experts were provided before the Visitation. In agreement with the Exceptional Rules, an Addendum was also provided on time for explaining how the COVID-19 outbreak affected the VEE and what actions were taken to alleviate the impact of the lockdown.

The Visitation team identified several areas worthy of praise (i.e., Commendations), e.g.:

- Highly motivated teaching staff who are available to mentor students in their field of interest.
- Strong involvement of junior staff in the learning process and in the ESEVT Visitation.
- Enthusiastic students.
- Expansion of teaching in the English language for all undergraduate students.
- Swift adaptation to online teaching during the COVID-19 lockdown.
- Extensive training in Food Safety and Quality (FSQ).
- Encouragement of staff to undertake the European Board of Veterinary Specialisation residencies.
- Increased number of scientific publications during the last three years.

Also, four areas of concern (i.e., **Minor Deficiencies**) were identified:

1. Partial compliance with Standard 3.1.3 because of suboptimal clinical training in exotic pets.
2. Partial compliance with Standard 4.7 because of suboptimal ambulatory clinic for ruminants.
3. Partial compliance with Standard 4.9 because of suboptimal Good Pharmacy Practice (GPP).
4. Partial compliance with Standard 5.1 because of suboptimal diversity of cadavers for anatomical dissections and suboptimal caseload in necropsy.

And two **Major Deficiencies**, then confirmed by the European Committee of Veterinary Education (ECOVE) decision were recognized:

1. Non-compliance with Standard 3.1.4 because of insufficient clinical training in individual medicine of food Producing animals under the supervision of academic staff, which may affect the acquisition by all students of Day One Competences in these species.
2. Non-compliance with Standard 4.3 because biosecurity and biosafety measures are not systematically implemented in the Veterinary Teaching Hospital (VTH), necropsy room, Teaching Farm and Equine Reproduction Unit.

For all these reasons, in compliance with the ESEVT SOP 2019 as amended in September 2021, the VEE was granted the status of Pending accreditation.

The time following the visitation has been used for intense consultations which resulted in a set of measures to mitigate/correct the identified deficiencies that will be explained and commented in the following report.

Before the ECOVE decision of June 2022, based on the visitation report , the VEE Quality Assurance (QA) group met to analyse the visitation team suggestions for improvement and comments, in order to formulate a proposal to the Department of Veterinary Sciences (DVS) Council that was adopted on the 21st of April 2022 meeting, together with DRAFT C visitation report analysis. For each of the deficiencies that were recognized, the QA group proposed actions (that were discussed and amended during the DVS Council meeting) and specific VEE responsible bodies in charge of the proposal and/or adoption of corrective actions. The DVS Council unanimously approved the QA group proposal and gave the latter mandate to monitor the activities, thus allowing the council to eventually deliberate for the revisitation request already in June 2022, therefore aiming for an ECOVE decision along 2023.

Due to the complexity of the identified actions, the need for extra funding and the time needed for implementation of facilities and equipment (in particular, to correct the non-compliance with Standard 4.3), the DVS Council meeting, on June 22nd, 2022, unanimously decided to post-pone the revisitation request to the following autumn.

In the six months between the full visitation and the revisitation request (approved by the DVS Council that was held on October 26th, 2022), the QA group, the Degree in Veterinary Medicine (DVM) Coordinator, the DVM Council, the VTH direction, and the Security/Biosecurity Committee were fully committed to rectify the deficiencies and to become entirely compliant with the ESEVT Areas and Standards; this effort has generated a new step forward the growth of the culture of quality.

These last months were also characterized by a second effort: the VEE was listed among the best 350 departments within the Italian National Agency for the Evaluation of Universities and Research Institutes, thus securing the right to participate in a project-based competition consisting in a five-year development plan, whereby the best 180 departments will be specifically funded. On December 28th, 2022, the VEE project, named Open Science in Co-creative Animal Research (OSCAR) has been approved, thus the VEE will receive specific funding in the period 2023-2027 to further improve the quality of its research and education. Actions funded by OSCAR (just to name a few) that are relevant for the European Association of Establishments for Veterinary Education accreditation status are: recruitment of academic staff (7 Full-Time Equivalents (FTEs)) and support staff (6 FTEs), purchase of phantoms and equipment for the skill-lab, purchase of simulators for higher education in surgery, dedicated resources for internationalization, specific co-creation labs with participation of stakeholders from the territory.

1. Corrections of Major Deficiencies

1.1. Major Deficiency 1

Non-compliance with Standard 3.1.4 because of insufficient clinical training in individual medicine of food producing animals under supervision of academic staff, which may affect the acquisition by all students of Day One Competences in these species.

1.1.1 Factual information

The visitation team realized that the total European Credits Transfer System (ECTS) covered in the Professional Practical Training (PPT) organisation for food producing animals was insufficient in comparison to clinical sciences in companion animals and FSQ. Additionally, there were inadequate opportunities for students to experience emergencies in food producing animals, suggesting that External Practical Training may offer an opportunity to compensate for a limited caseload. The visitation team concluded that the hands-on training on sick ruminants in the Teaching Farm was low for most students and not sufficiently compensated by the cases covered by the ambulatory clinic, therefore suggesting to improve the clinical training in individual medicine in ruminants, e.g. by enhancing the collaboration with local practitioners and the availability of videos on sick animals.

The VEE was already conscious of the insufficient clinical training on ruminants' individual medicine, for this reason, a revision was made in the Academic Year (AY) 2017-2018 (thus starting with the 2018-2019 student cohort), devoting an entire ECTS of the PPT program to food producing animals medicine.

After the visitation, to correct the Non-compliance with Standard 3.1.4, the VEE subscribed to two different electronic repositories of teaching material on sick animals. The first one, VetPro[®], is specifically dedicated to bovine medicine: access was given to the 3rd, 4th and 5th year DVM students and all teachers; clinical sciences teachers use this resource to integrate theoretical information given during lectures with description of clinical cases and to stimulate student self-learning. A second electronic resource, eClinic[®], collects clinical cases on companion animals, non-conventional species, equines, and ruminants which can be used through a problem-oriented approach. Access to eClinic was given to the 4th year DVM students and to each rotation group attending the 5th year, along with clinical science teachers who use this resource to integrate theoretical information given during lectures with description of clinical cases and to stimulate student self-learning.

Among other actions, by means of the National Recovery and Resilience Plan, three additional PhD scholarships were allocated to the ruminant welfare and health area.

Also, the syllabus of the teaching subject “Internal medicine 3” was modified as follows: 10 hours/student previously used to discuss clinical cases were modified as 5 hours/student devoted to equids and food producing animals' clinical case discussion using the eClinic software plus 5 hours/student of exposure to individual clinical cases on food producing animals during ambulatory clinic under the supervision of academic staff.

Finally, the VEE obtained specific funding to improve the ambulatory clinic service by contracting a private practitioner from the beginning of 2023. All students are now requested to spend 9 hours in ambulatory clinics in groups of maximum 2 students during the PPT-ECTS devoted to food producing animals medicine (Table 3.5.1 of the SER[®]).

Moreover, after OSCAR funding approval, the VEE will buy simulators for bovine obstetrics and for laparoscopy, to improve practical teaching using mannequins.

1.1.2 Comments

The activated contract with a professional of the territory, to strengthen the mobile clinic service creates the basis for a substantial improvement in the number and usability of cases relating to animals in

livestock production. By the end of 2023, an assessment of the new initiative will be made by the Department Joint Faculty Students Committee (D-JFSC) in relation to the number of cases to which the students have been exposed, their variety and the degree of students' involvement in their management.

1.2. Major Deficiency 2

Non-compliance with Standard 4.3 because biosecurity and biosafety measures are not systematically implemented in the VTH, necropsy room, Teaching Farm and Equine Reproduction Unit.

1.2.1 Factual information

At the time of the full visitation, insufficient biosecurity controls were found throughout the VEE; specifically, in the necropsy room protective clothes including boots were not available, and students wore their own white coats which they then took home; insufficient biosecurity signals and behaviours were found at the VTH, Equine Reproduction Unit and the Teaching Farm.

The VEE Security/Biosecurity Committee intensively operated to rectify this major deficiency.

The first action was the organization of an educational day entitled “*EAEVE accreditation: The VEE must demonstrate a clear commitment for the delivery of biosafety and biosecurity*”, that involved speakers from accredited VEEs in Italy. The educational day was made available on the DVS youtube channel . The program is attached as Annex 1; Maria Teresa Capucchio from the University of Turin spoke about the procedures, their communication to staff and their implementation – specificities related to the necropsy room were also illustrated; Maria Elena Gelain and Michele Drigo from the University of Padua lectured about biosecurity measures related to the teaching laboratories; Saverio Paltrinieri from the University of Milan and Claudio Bellino from the University of Turin addressed themes related to the VTH and the clinical activity, including isolation facilities; Silvia Piva from Bologna talked about clinical assistance-related themes.

The VEE dissected this big issue in different deficiencies that were corrected in a coordinated approach, to empower people directly involved in specific activities as follows.

- Teaching laboratories and staff education

The Security/Biosecurity Committee launched a survey to identify risks associated to any of the practical activities included in the core curriculum. Once all activities were classified, the academic staff was asked to include details about the educational activities on biosecurity risks/measures into the syllabus of each teaching subject (when relevant). All the syllabi have been checked by the DVM Coordinator for presence of the requested references.

In December 2022, the Security/Biosecurity Committee set a “biosecurity” learning day with different activities performed by academic staff, support staff and PhD students to refresh the general and specific knowledge about biosecurity. A similar activity is foreseen for students at the beginning of the second teaching semester (i.e., February 2023).

- Necropsy room

The necropsy room suffered from inadequate paths separating clean from dirty areas. The VEE asked the support of the University of Pisa (UniPi) Building management unit  which provided a structural solution. Various meetings with the VEE Security/Biosecurity Committee allowed for its refinement (see Annex 2).

In addition, personal lockers have been provided to students to leave their personal belongings before practical activities. Students are requested to wear their personal coats before entering any of the teaching laboratories, including the necropsy room. In the changing room, they must wear the following specific Personal Protective Equipment (PPE): rubber boots, washable apron, disposable sleeve covers and gloves. Face mask, protecting eyewear, and hairnet are worn when exposition to potentially harmful biological material is anticipated (e.g., airborne bone dust from sawing procedures, risk of blood spatter or exudate). Having done the practical activity, students leave their aprons in the dirty area where they

are cleaned and disinfected by the technical staff before storage. A walk-through boot washer separates the dirty area from the changing room. Signals showing the specific PPE that must be worn have been installed.

- VTH

Boot washers have been installed at the VTH for activities that are performed externally. A specific dress code was identified for people working into the VTH including students. Students and personnel wear their uniforms once they start their activity; in particular, within the companion animal facility, uniforms are dark blue for veterinarians (either academic staff or contracted), green for support staff and light blue for students. Similarly, veterinarians working with equines/livestock, are equipped with blue uniforms, whereas support staff wears black uniforms and students are in green.

Within the VTH, students' lockers are in the rooms 0058 (males) and 006 (females) visible on the SER Annex C . Pertaining signals were installed.

Specific colour-coded areas/paths were identified in the VTH (Annex 3). Only authorized personnel can enter the yellow, orange, and red areas.

- Teaching Farm (Centro di Ricerche Agro-Ambientali “Enrico Avanzi”, CIRAA)

A boot washer was installed at the CIRAA. Moreover, the dairy farm perimeter was closed with a gate that defines the “authorized staff only” reserved area. Also, specific paths and procedures were defined for activities performed with either calves or adults. CIRAA was finally implemented with a locker room in which students can put their belongings and change their clothes and shoes at the beginning and end of the activity. A dedicated sink was also mounted. Signals showing the specific PPE that must be worn were installed.

- Reproduction Unit

Signals showing the specific PPE that must be worn were installed. Staff and students participated to formative activities organized by the DSV Security/Biosecurity Committee.

1.2.2 Comments

The DVS realized that the main issue with biosecurity compliance was related to the understanding and the general culture of its community. For this reason, improvement of facilities was paralleled by a special attention to educational activities, starting with a dedicated event which attracted participants from all Italian VEEs. Other educational activities were aimed to either staff and/or students.

Upgrading the facilities and equipment was also costly and time consuming. The necropsy room has been completely renovated with the creation of a well-defined path that prevents cross-contamination between clean and dirty areas. Student lockers, biosecurity signals, and identification of specific access controls and dress codes have been installed at all locations. The adaptation of the systems and equipment required a considerable economic effort (exceeding 100.000 euro) entirely financed by UniPi; similar efforts are now required from the personnel for changing their culture and contributing to the maintenance of high standards. Cultural change of the entire VEE remains the main issue; we believe that the group of people who led the mentioned activities will be the driving force for the development of a new way of thinking.

2. Corrections of Minor Deficiencies

2.1. Minor Deficiency 1

Partial compliance with Standard 3.1.3 because of suboptimal clinical training in exotic pets.

2.1.1 Factual information

As stated in the Visitation report, the visitation team recognized that the core curriculum included 10 hours of lectures covering exotic pets. *These pets were not routinely seen in the VTH and the practical training was in form of a single session during PPT, in which a variety of “new pets” were brought into the clinic by a contracted veterinarian. The clinical cases of exotic animals, including birds, was thus limited to animals being brought in by the contracted staff member and some emergency cases brought to the VTH.* The visitation team concluded that students can not undertake clinical treatments on a diverse range or number of exotic animals or species suggesting to increase the number of individual animals and species of exotic animals being seen by students to ensure they are competent in their handling and treatment.

The VEE performed a thorough analysis of syllabi highlighting the training received by students on non-conventional pets: the path starts with anatomy and embryology (20 hours on amphibian – fish - birds), physiology (4 hours of seminars on reptiles and cetacean peculiarities), reproduction (1 hours on ferret reproductive physiology and pathology), finishing with medicine and surgery (4 hours lectures and 5 hours of clinical practical activities per student, likely corresponding to the 10 hours recognized by the visitation team limited to those of reproduction, medicine and surgery), for a total of 34 hours/student.

Since the full visitation, actions were undertaken to improve the quality of clinical training on exotic pets, including the addition of 8 hours/student of theoretical training as follows:

- 2h on exotic birds and birds of prey within the 3rd year subject “Avian pathology” held by Dr. Renato Ceccarelli DVM.
- 2h on the reproductive pathology of non-conventional animals within the 4th year subject “Andrology and reproduction technologies” held by Dr. Cristiana Manetti DVM.
- 2h on the management of exotic and non-conventional animals (nutrition, vaccination, clinical examination of small rodents and birds) within the 4th year subject “Semeiotics, clinical pathology and internal medicine” held by Dr. Daniele Petrini DVM.
- 2h on non-conventional and exotic small mammals’ pathologies within the 4th year subject “Surgical pathology, surgical semeiotics and diagnostic imaging” held by Dr. Daniele Petrini DVM.

The VEE had already identified the deficiency related to non-conventional pets and since 2019, as the visitation team noticed, a specific VTH contract is active to implement the number of patients and thus clinical training. The contracted veterinarian is also (since AY 2021/2022) a contracted teacher for 44h, 4 of lectures and 40 of practical training (5h/student as mentioned above for 8 groups of students) within the 5th year teaching subject “*Veterinary surgery, surgical procedures and anaesthesiology - 107GG*” : these student activities are accessible at the related teaching register on the UniPi website   and include handling, clinical examination, medical and surgical diseases of exotic pets. Thanks to the adopted actions, the pertaining ESEVT indicator “I11” is above the minimal value. The DVS plans to maintain this contracted figure.

2.1.2 Comments

While the related indicator (I11) was below the minimal value in the years requested in the SER (i.e., the last two COVID-free AYs), it was already corrected (if the three years preceding the visitation would have been considered) and it is now above the minimal value considering ESEVT indicators provided in this Revisitation SER (see chapter 3 below).

2.1.3 Suggestions for improvement

ESEVT indicators are annually monitored by the D-JFSC as part of its duties: it proposes corrective actions that are then adopted by the DVS Council. The QA group must monitor the functioning of the VEE quality system and support the VEE management to identify and propose actions.

2.2. Minor Deficiency 2

Partial compliance with Standard 4.7 because of suboptimal ambulatory clinic for ruminants

2.2.1 Factual information

The VEE was deemed partially compliant with standard 4.7 because *the number of cases seen by the ambulatory clinic was suboptimal as the majority of cases deals with herd health management rather than unhealthy animals, so students do not undertake examinations, diagnosis and treatments in sick animals.*

This partial deficiency overlaps with the non-compliance with Standard 3.1.4 which was amended by carrying out several corrective actions (listed in 1.1.1) which include the improvement of the ambulatory clinic service by contracting a private practitioner: students will now spend 9 hours in ambulatory clinics in groups of maximum 2 people. A dedicated car has been specifically equipped for being permanently used for the ambulatory clinic service.

2.2.2 Comments

See 1.1.2

2.2.3 Suggestions for improvement

See 2.1.3

2.3. Minor Deficiency 3

Partial compliance with Standard 4.9 because of suboptimal GPP.

2.3.1 Factual information

Despite the VTH pharmacy is managed in compliance with an UNI EN ISO 9001:2015 quality system, the visitation team observed a suboptimal implementation of procedures. These were corrected starting with a dedicated meeting promptly called by the UNI EN ISO 9001:2015 pharmacy responsible person (Dr. Elena Luchetti), that involved the VTH director and the staff involved to the pharmacy management.

The pharmacy is accessible through 5 people: three of them serve as “service staff” - two technicians (Michela Tantini and Lucia Franchi) and 1 professor (Francesca Bonelli) – the fourth is the UNI EN ISO 9001:2015 pharmacy referent (Dr. Elena Luchetti), and, for emergencies/control purposes, the fifth is the VTH director (Micaela Sgorbini).

In the pharmacy there are two controlled drugs cupboards, one for veterinary drugs and one for human and psychotropic drugs. The keys for both cupboards hang in the pharmacy but the pharmacy itself is permanently closed and accessible only through the 5 abovementioned people.

During the service hours (07:30-18:30 from Monday to Friday), the pharmacy service staff provides drugs to the clinical services: these are taken from the pharmacy and stored in a controlled cupboard that is present in the Intensive Care Unit, under the responsibility of the veterinarians on duty. During nights and weekends, the lockable cupboard of the Intensive Care Unit lab room is charged in advance based on the average caseload of the service.

Concerning psychotropic drugs, a ledger located in the relevant lockable cupboard is used to register the quantity of drugs moved by the pharmacy service staff to the dedicated lockable compartment of the Intensive Care Unit cupboard at the beginning of the veterinary activities (morning at 7:30 from Monday to Friday), and to register the unused quantity that is returned by the anaesthesiologists at the end of the veterinary activities (18:00 from Monday to Thursday, 14:00 on Friday). During nights and weekends the lockable compartment mentioned above is charged based on the average caseload of the service.

Drugs administration is directly recorded on the software OCIROE. The update of the official Narcotics Register (in compliance with the National Law 193/2006) is carried out by the UNI EN ISO 9001:2015 referent. Compliance with the national law is assured since medicines are stored in locked units and used quantities are regularly discharged within 48h from use.

2.3.2. Comments

The VTH pharmacy periodically undergoes UNI EN ISO 9001:2015 audit certification and is periodically inspected by the NAS (Nuclei Antisofisticazione e Sanità, unit of the Italian army body “Carabinieri” responsible for preventing the adulteration of foodstuffs and beverages, medicines etc.). Accordingly, the partial compliance that emerged during the Visitation was not expected. However, the ESEVT visitation pointed out that a better implementation of procedures is needed, and the VEE realized that the absence of “service staff” during nights and weekends may represent a critical point.

2.3.3. Suggestions for improvement

The VEE might improve the quality of the service by ensuring the presence of pharmacy service staff during nights and weekends.

2.4. Minor Deficiency 4

Partial compliance with Standard 5.1 because of suboptimal diversity of cadavers for anatomical dissections and suboptimal caseload in necropsy.

2.4.1. Factual information

The Visitation report points out a suboptimal diversity of cadavers for anatomical dissections that were mostly performed on healthy carcasses obtained from the slaughterhouse on a ruminant and a non-ruminant species (i.e., sheep and pig). Dissection also included poultry and fish cadavers. The deficiency can be thus attributed to the absence of carnivores as dissected species.

Concerning the suboptimal caseload in necropsy, a negative indicator was present for ruminant and pig, and equine necropsies (last two COVID-19 free years); when the last three years were included to calculate the indicators, the equine necropsy indicator was already corrected, while the number of ruminant and pig necropsies was still below the minimal expected values. Restrictions due to the COVID-19 pandemic have also reduced the number of companion animal necropsies.

Corrective actions were related to:

1. Increasing diversity of cadavers for anatomical dissections.

To increase the diversity of cadavers in anatomical dissection, the VTH agreed to provide n=12 cadavers of carnivores (dogs/cats) per year. This will allow groups of 5-6 students to perform practical activities on a whole cadaver.

2. Increasing the caseload in necropsy.

As mentioned, the number of companion animal necropsies has been lower than expected during the COVID-19 pandemic. As shown in the appended indicators below, the number of necropsies on companion animals returned to normal in the AY 2021-2022. Furthermore, the equine necropsy

indicator, which was below the minimal expected value in the last two years before the COVID-19 pandemic, is now steadily above it.

The necropsy indicator on ruminants and pigs remains below the minimal expected value, despite the numbers increased in the last two AYs. To correct this deficiency, the VTH will provide a minimum of 84 cadavers during the AY 2022-2023 (including ruminants, and pigs) at the necropsy service, which will be specifically used for the students' practical activities. In addition, the VEE has contracted a carcass disposal service to offer free transport and necropsy services to local farmers. Furthermore, the VEE expects that the ambulatory clinic service described as a corrective action for non-compliance with Standard 3.1.4 will itself contribute to increase the caseload of ruminants and pigs for necropsy activities.

The number of necropsies is expected to further increase thanks to an agreement with the local branch of the Experimental Zooprophyllactic Institute (a Veterinary Public Health institution that provides multiple services to support official and private veterinarians, breeders and the general public) which recently established the necropsy service.

2.4.2. Comments

Different factors contribute to the impairment of cadaver availability for teaching purposes. With regards to ruminants and pigs, what was stated in 1.1.2 “comments” section applies here. Moreover, another constrain is the amount of money that are available in the VEE to cover carcasses disposal costs. The VEE management is providing efforts to obtain UniPi support for activities that are specific of the veterinary training and are not specifically acknowledged: UniPi is considering revising the process of resources attribution in order to acknowledge specificities.

In addition to the whole-body necropsies, many organs, and pathological specimens mainly of ruminants and pigs are obtained from local slaughterhouses once a week during teaching periods and used for hands-on practice of 3rd year students (during the *Veterinary Pathology* subject) and PPT rotating students as well. Organs include lungs, liver, kidneys, heart, spleen, and other viscera of sheep, pigs, cattle, and, occasionally, horses and goats.

2.4.3. Suggestions for improvement

The VEE should provide financial support for teaching activities that include the use of cadavers. ESEVT indicators are annually monitored by the D-JFSC as part of its duties: it proposes corrective actions that are then adopted by the DVS Council. The QA group must monitor the functioning of the VEE quality system and support the VEE management to identify and propose actions.

3. ESEVT Indicators

3.1. Factual information

		VEE values	Median values ⁽¹⁾	Minimal values ⁽²⁾	Balance ⁽³⁾
I1	n° of FTE academic staff involved in veterinary training / n° of undergraduate students	0.128	0.16	0.13	0.002
I2	n° of FTE veterinarians involved in veterinary training / n° of students graduating annually	0.733	0.87	0.59	0.143
I3	n° of FTE support staff involved in veterinary training / n° of students graduating annually	0.921	0.94	0.57	0.354
I4	n° of hours of practical (non-clinical) training	748.667	905.67	595.00	153.667
I5	n° of hours of clinical training	746.000	932.92	670.00	76.000
I6	n° of hours of FSQ & VPH training	478.000	287.00	174.40	303.600
I7	n° of hours of extra-mural practical training in FSQ & VPH	105.000	68.00	28.80	76.200
I8	n° of companion animal patients seen intra-murally / n° of students graduating annually	59.671	70.48	42.01	17.662
I9	n° of ruminant and pig patients seen intra-murally / n° of students graduating annually	13.534	2.69	0.46	13.071
I10	n° of equine patients seen intra-murally / n° of students graduating annually	13.000	5.05	1.30	11.702
I11	n° of rabbit, rodent, bird and exotic seen intra-murally / n° of students graduating annually	2.007	3.35	1.55	0.46
I12	n° of companion animal patients seen extra-murally / n° of students graduating annually	0.158	6.80	0.22	-0.066
I13	n° of individual ruminants and pig patients seen extra-murally / n° of students graduating annually	0.623	15.95	6.29	-5.671
I14	n° of equine patients seen extra-murally / n° of students graduating annually	1.568	2.11	0.60	0.973
I15	n° of visits to ruminant and pig herds / n° of students graduating annually	1.055	1.33	0.55	0.508
I16	n° of visits of poultry and farmed rabbit units / n° of students graduating annually	0.027	0.12	0.04	-0.017
I17	n° of companion animal necropsies / n° of students graduating annually	1.411	2.07	1.40	0.011
I18	n° of ruminant and pig necropsies / n° of students graduating annually	0.349	2.32	0.97	-0.621
I19	n° of equine necropsies / n° of students graduating annually	0.192	0.30	0.09	0.099
I20	n° of rabbit, rodent, bird and exotic pet necropsies / n° of students graduating annually	1.110	2.05	0.69	0.417
I21*	n° of FTE specialised veterinarians involved in veterinary training / n° of students graduating annually	0.373	0.20	0.06	0.310
I22*	n° of PhD graduating annually / n° of students graduating annually	0.137	0.15	0.09	0.049

(1) Median values defined by data from VEE with Accreditation/Approval status in May 2019; (2) Recommended minimal values calculated as the 20th percentile of data from VEE with Accreditation/Approval status in May 2019; (3) A negative balance indicates that the Indicator is below the recommended minimal value; * Indicators used only for statistical purpose

Raw data on the years 2019/2020 – 2020/2021 – 2021/2022

	2021-2022	2020-2021	2019-2020	Mean
n° of FTE academic staff involved in veterinary training	45.4	46	46.1	45.83
n° of undergraduate students	365	360	350	358.33
n° of FTE veterinarians involved in veterinary training	35.7	36.8	34.5	35.67
n° of students graduating annually	56	47	43	48.67
n° of FTE support staff involved in veterinary training	42.8	44.8	46.8	44.8
n° of hours of practical (non-clinical) training	750	755	741	748.67
n° of hours of clinical training	746	746	746	746
n° of hours of FSQ & VPH training	484	485	465	478
n° of hours of extra-mural practical training in FSQ & VPH	97	106	112	105
n° of companion animal patients seen intra-murally	2674	3142	2896	2904
n° of ruminant and pig patients seen intra-murally	590	690	696	658.67
n° of equine patients seen intra-murally	629	484	785	632.67
n° of rabbit, rodent, bird and exotic patients seen intra-murally	115	90	88	97.7
n° of companion animal patients seen extra-murally	18	5	0	7.7
n° of individual ruminants and pig patients seen extra-murally	36	36	19	30.3
n° of equine patients seen extra-murally	92	77	60	76.3
n° of visits to ruminant and pig herds	53	36	65	51.3
n° of visits of poultry and farmed rabbit units	4	0	0	1.3
n° of companion animal necropsies	102	72	32	68.7
n° of ruminant and pig necropsies	29	18	4	13.0
n° of equine necropsies	10	8	10	9.3
n° of rabbit, rodent, bird and exotic pet necropsies	71	68	23	54.0
n° of FTE specialised veterinarians involved in veterinary training	17.8	19.6	17.1	18.2
n° of PhD graduating annually	8	5	7	6.7

Some indicators (such as I12, I16, I17) were dramatically affected by the COVID-19 pandemic. For this reason, we provide below the indicator table of the AY 2021-2022.

3.2. Comments

By looking at ESEVT indicators of the last three AYs preceding re-visitation, 4 of them are below the minimal expected value:

- I12 - n° of companion animal patients seen extra-murally/n° of students graduating annually.
- I13 - n° of individual ruminants and pig patients seen extra-murally / n° of students graduating annually.
- I16 - n° of visits of poultry and farmed rabbit units / n° of students graduating annually.
- I18 - n° of ruminant and pig necropsies / n° of students graduating annually.

I12 related data showed an increase in the AYs included in the calculation. I13 is expected to benefit from the ambulatory clinic contract starting in January 2023. Indicator I16 was affected by the COVID-19 pandemic: in the AYs 2019-2020 and 2020-2021, no visits were made to poultry and farmed rabbit units; in this last year the number of visits is optimal for the indicator. I18 also showed an increase in numbers over the last AY and we expect that the ambulatory clinic contract starting in January 2023 will further help to correct the indicator.

Considering the last AY alone, only the indicators related to “ruminants and pigs” are below the minimal expected value and are specifically targeted by the corrective actions included in this Revisitation SER. Also, this last year has recorded a decrease in FTEs due to physiological turnover.

3.3. Suggestions for improvement

The VEE has introduced a Plan-Do-Check-Act cycle to monitor ESEVT indicators as mentioned above; the correct application of the measures in place should guide the strategical decisions of the VEE in order to implement timely corrective actions.

ESEVT Indicators on the last academic year (2021/2022)

		VEE values	Median values ⁽¹⁾	Minimal values ⁽²⁾	Balance ⁽³⁾
I1	n° of FTE academic staff involved in veterinary training / n° of undergraduate students	0.124	0.16	0.13	-0.002
I2	n° of FTE veterinarians involved in veterinary training / n° of students graduating annually	0.638	0.87	0.59	0.048
I3	n° of FTE support staff involved in veterinary training / n° of students graduating annually	0.764	0.94	0.57	0.198
I4	n° of hours of practical (non-clinical) training	750.000	905.67	595.00	155.00
I5	n° of hours of clinical training	746.000	932.92	670.00	76.00
I6	n° of hours of FSQ & VPH training	484.000	287.00	174.40	309.600
I7	n° of hours of extra-mural practical training in FSQ & VPH	97.000	68.00	28.80	68.200
I8	n° of companion animal patients seen intra-murally / n° of students graduating annually	47.750	70.48	42.01	5.741
I9	n° of ruminant and pig patients seen intra-murally / n° of students graduating annually	10.536	2.69	0.46	10.072
I10	n° of equine patients seen intra-murally / n° of students graduating annually	11.232	5.05	1.30	9.934
I11	n° of rabbit, rodent, bird and exotic seen intra-murally / n° of students graduating annually	2.054	3.35	1.55	0.509
I12	n° of companion animal patients seen extra-murally / n° of students graduating annually	0.321	6.80	0.22	0.098
I13	n° of individual ruminants and pig patients seen extra-murally / n° of students graduating annually	0.643	15.95	6.29	-5.652
I14	n° of equine patients seen extra-murally / n° of students graduating annually	1.643	2.11	0.60	1.048
I15	n° of visits to ruminant and pig herds / n° of students graduating annually	0.946	1.33	0.55	0.399
I16	n° of visits of poultry and farmed rabbit units / n° of students graduating annually	0.071	0.12	0.04	0.027
I17	n° of companion animal necropsies / n° of students graduating annually	1.821	2.07	1.40	0.421
I18	n° of ruminant and pig necropsies / n° of students graduating annually	0.518	2.32	0.97	-0.452
I19	n° of equine necropsies / n° of students graduating annually	0.179	0.30	0.09	0.086
I20	n° of rabbit, rodent, bird and exotic pet necropsies / n° of students graduating annually	1.268	2.05	0.69	0.575
I21*	n° of FTE specialised veterinarians involved in veterinary training / n° of students graduating annually	0.318	0.20	0.06	0.255
I22*	n° of PhD graduating annually / n° of students graduating annually	0.143	0.15	0.09	0.055

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Annex 1. Biosecurity Educational Day Program

Accreditamento EAEVE:

**“The VEE must demonstrate a clear commitment
for the delivery of biosafety and biosecurity”**

Martedì 14 Giugno 2022, 9.00 – 12.30



9.00 – 9.20 Introduzione e saluti

Domenico Berghero, Università di Torino, Coordinatore della conferenza dei direttori

Laura Helen Kramer, Università di Parma, Coordinatore gruppo di lavoro EAEVE Italia

9.20 – 10.00 Il lavoro documentale, di verifica e di formazione

La sala di necropsia

Maria Teresa Capucchio, Università di Torino

10.00 – 10.30 L'implementazione delle procedure

I laboratori didattici

Maria Elena Gelain, Università di Padova

Michele Drigo, Università di Padova

10.30 – 10.45 Pausa

10.45 – 11.25 Siamo una struttura sanitaria

L'ospedale didattico, l'isolamento, l'azienda zootecnica e la clinica mobile

Saverio Paltrinieri, Università di Milano

Claudio Bellino, Università di Torino

11.25 – 11.45 La sorveglianza delle infezioni correlate all'attività assistenziale

Silvia Piva, Università di Bologna

11.45 – 12.30 Approfondimenti e domande

Moderatori:

Vincenzo Miragliotta, Università di Pisa

Andrea Barbarossa, Università di Bologna



Maria Teresa Capucchio, Università di Torino

Maria Teresa Capucchio, è professore associato settore VET03, Dipartimento Scienze Veterinarie (DSV), Università di Torino. Laureata cum laude nel 1992, specializzata in Sanità Pubblica Veterinaria nel 1996, ha conseguito il PhD nel 2000 discutendo una tesi di neuropatologia. La sua attività di ricerca primaria verte sulla salute intestinale ed animale associata all'uso di nuovi supplementi dietetici; si occupa inoltre di indagare le interazioni ospite-patogeno in particolare in corso di malattie infettive negli animali domestici e selvatici. Membro della Commissione Terza Missione del DSV, Coordinatore del Dottorato in Scienze Veterinarie per la Salute Animale e la Sicurezza Alimentare, Università di Torino e Presidente della Commissione Biosicurezza del DSV dal 2019.

Maria Elena Gelain, Università di Padova

Laureata in medicina veterinaria nel 2002, presso l'università degli studi di Milano, dottore di ricerca in Igiene e patologia animale, Diplomata al College Europeo di Patologia Clinica Veterinaria (ECVCP) nel 2006, è attualmente Professoressa Associata in Patologia Generale e Anatomia Patologica presso il Dipartimento di Biomedicina Comparata ed Alimentazione dell'Università degli Studi di Padova dove è responsabile del servizio di diagnostica citologica. Dall'ottobre 2021 è Vice Presidente del corso di Laurea Magistrale a ciclo unico in Medicina Veterinaria. I principali interessi di ricerca vertono sullo sviluppo di nuove tecniche diagnostiche clinico-patologiche e citofluorimetriche in medicina veterinaria, sullo studio della risposta immunitaria innata ed acquisita nei mammiferi e sulla valutazione delle alterazioni ematologiche e sulla valutazione clinico-patologica dei disturbi linfomieloproliferativi degli animali domestici.

Michele Drigo, Università di Padova

Professore Ordinario di Malattie Infettive degli Animali Domestici presso l'Università di Padova, Dipartimento di Medicina Animale, Produzioni e Salute. Ha conseguito il titolo di dottore di ricerca in "Sanità Pubblica, Igiene Veterinaria e delle Produzioni Animali" presso il Dipartimento di Sanità Pubblica, Patologia Comparata e Igiene Veterinaria, di Padova, nel 2005 con tesi dal titolo "Geographic Information Systems e analisi spaziale in epidemiologia veterinaria: studio dell'epidemia di Influenza Aviaria ad Alta Patogenicità in Veneto e Lombardia (1999-2000)". L'attività di ricerca e professionale svolta ha avuto ed ha come oggetto principale argomenti di epidemiologia molecolare, epidemiologia clinica e diagnostica virologica, con particolare riguardo alle virosi del suino sostenute da virus ad RNA (virus della Sindrome Riproduttiva e Respiratoria del Suino) e da virus a DNA (Circovirus e Parvovirus del suino), e ai Parvovirus del cane e del gatto. Direttore della Scuola di Specializzazione in Sanità Animale, Allevamento e Produzioni Zootecniche, presso il Dipartimento di Medicina Animale, Produzioni e Salute, Università di Padova.

Saverio Paltrinieri, Università di Milano

Si è laureato nel 1990 presso l'Università degli Studi di Milano dove ha anche conseguito il Dottorato di Ricerca in Patologia Comparata degli animali Domestici nel 1994. Ricercatore dal 1995, dal 2001 è Professore associato e dal 2016 Professore Ordinario di Patologia Generale Veterinaria presso il Dipartimento di Medicina Veterinaria e Scienze Animali di Milano. Dal 2002 è diplomato all'European College of Veterinary Clinical Pathology (ECVCP) di cui è stato presidente dal 2011 al 2014. Dal 2016 al 2021 è stato Direttore del Centro clinico-veterinario e zootecnico-sperimentale e dell'Ospedale Veterinario Universitario dell'Università di Milano. È stato Presidente della SIMEF (società italiana di medicina felina) ed è membro del Gruppo di Studio sulla Leishmaniosi Canina (GSLC). L'attività di ricerca è rivolta principalmente alla valutazione diagnostica e patogenetica delle principali alterazioni clinico-patologiche rilevabili in medicina veterinaria, alla validazione di metodi diagnostici, ed alla diagnosi delle principali malattie infettive feline.

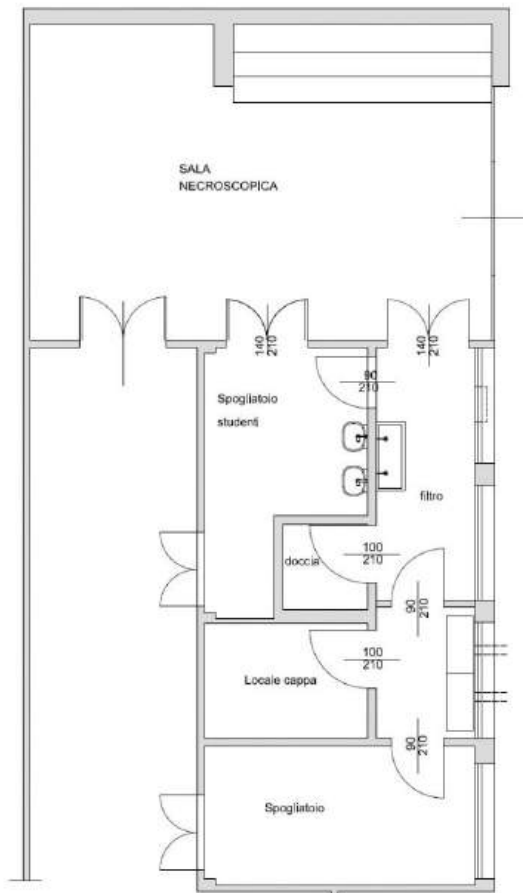
Claudio Bellino, Università di Torino

Laureato in medicina veterinaria presso l'università degli studi di Torino (2000), dottore di ricerca in Scienze Cliniche Veterinarie (2004) e specializzazione in Patologia Suina (2007). Dal 2015 è Professore Associato presso la Sezione di Clinica Medica del Dipartimento di Scienze Veterinarie di Torino. È affidatario di insegnamenti presso il Corso di Laurea Magistrale in Medicina Veterinaria e la Laurea in Gestione e Produzioni degli Animali in Allevamento e Selvatici. Dal 2015 è delegato del Direttore per l'Orientamento il Tutorato e il Job Placement. Attualmente è responsabile dell'unità di isolamento e del servizio di ricovero Production Animal (ruminanti e suini) presso l'Ospedale Veterinario Universitario di Grugliasco. I principali interessi di ricerca vertono sulla medicina interna degli animali domestici, il monitoraggio dell'utilizzo di antibiotici negli allevamenti e lo studio del microbioma in corso di patologia.

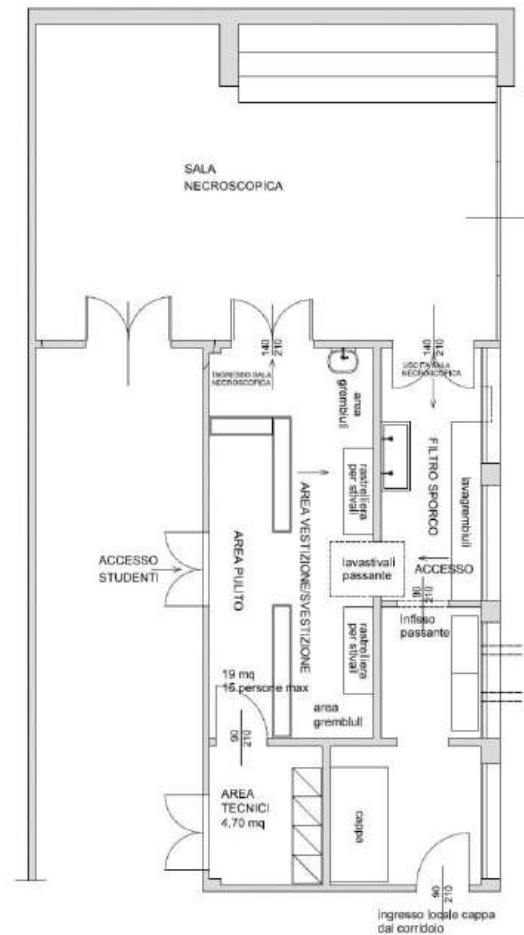
Silvia Piva, Università di Bologna

Professore Associato di Malattie Infettive degli Animali Domestici presso l'Università di Bologna. Ha conseguito il titolo di dottore di ricerca in "Epidemiologia e controllo delle zoonosi" presso il Dipartimento di Sanità Pubblica Veterinaria e Patologia Animale dell'Università di Bologna, nel 2007 con tesi dal titolo: "La sorveglianza epidemiologica della leishmaniosi canina: esperienze di un triennio". Attualmente, i principali temi di ricerca sono l'antimicrobica resistenza, studiando il pattern di resistenza dei batteri commensali isolati da animali, cibo, uomo e ambiente e su batteri patogeni isolati da animali; infezioni batteriche del cane e gatto, bovino e cavallo; sistemi di sorveglianza delle infezioni correlate all'assistenza. È responsabile del Laboratorio di Batteriologia Veterinaria del Dipartimento di Scienze Mediche Veterinarie dell'Università di Bologna.

Necropsy room facility changes



SITE PLAN DURING THE FULL VISITATION



SITE PLAN DURING THE RE-VISITATION



Via S. Maria, 83/B - 56126 Pisa
T. 0502212140
E. spp@adm.unipi.it

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