



DEPARTMENT OF VETERINARY SCIENCES

University of Messina

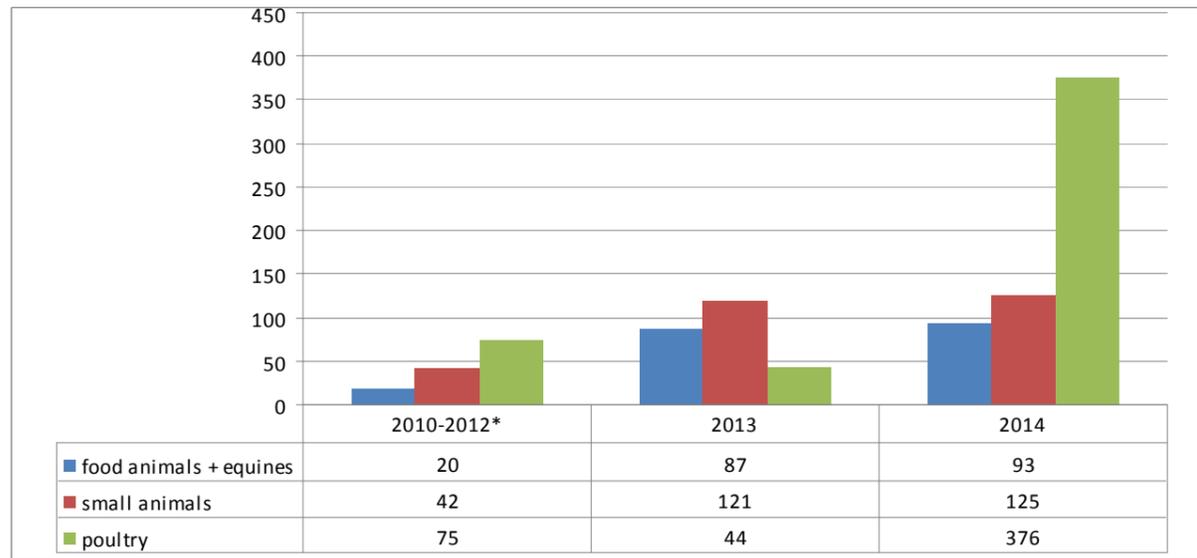
REVISIT REPORT
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Major deficiency no.1 - Inefficient number of necropsies in large and companion animals resulting in insufficient hands-on-training

The number of necropsies has increased since the EAEVE visit in March 2013 (see Fig. below).



The chart reports the necropsies performed in years 2013 and 2014; necropsies in the period 2010-2012 (*) are reported as yearly average.

Necropsies carried out in 2013 and 2014 are listed by species in the following Table.

SPECIES	2013	2014
FOOD ANIMALS + EQUINES	87	93
BOVINE	16	19
OVINE	33	23
CAPRINE	1	16
SWINE	22	29
HORSE	15	6
SMALL ANIMALS	121	125
DOG	88	99
CAT	33	26
SMALL PRODUCTION ANIMALS	44	376
POULTRY	26	358
RABBIT	18	18
EXOTIC	11	26
PARROT	1	-
WILD BIRDS	9	26
LEOPARD GECKO (<i>Eublepharis macularius</i>)	1	-

The increased number of necropsies was mainly the effect of enhanced awareness and commitment by the teaching staff, and greater collaboration by general practitioners. In

addition, an experienced colleague (Dr. F. Antoci, on the staff at the Istituto Zooprofilattico Sperimentale della Sicilia - IZS Sicily) has been hired as Collaborating Professor. The new agreement aimed to enhance student exposure to large animal necropsies (eg, laying cows) in the dairy area of Ragusa, where such activity is intensely carried out by the local IZS section. These field necropsies are carried out in the frame of a one-week extramural training period in the 4th year. Organization of the extramural training (including the transport of students) is done by the Department/University, and all activities are supervised by an academic pathologist.



Special attention has been dedicated to enhancing biosafety and biosecurity standards in the necropsy room. In the changing room, students are now provided with a laminated non-woven coverall with hood and boot cover, which they must put on before entering the necropsy room. After use, the coverall is disposed of in a dedicated safety box. Before returning to the changing room, students must disinfect their boots by use of an electronic atomizer followed by crossing a disinfection carpet.

Furthermore, a dedicated path was designed to connect the unloading zone for cadavers and pathological organs with the departmental necropsy room, in compliance with acceptable biosecurity standards.

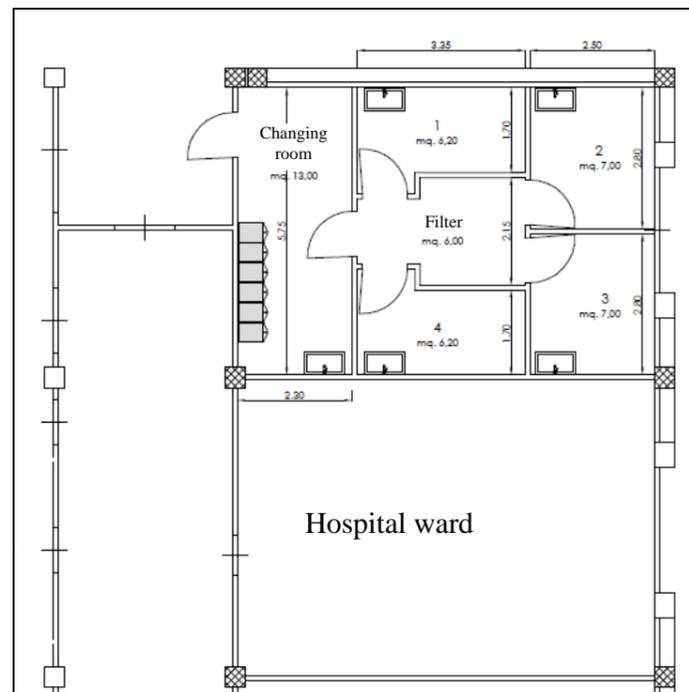
Guidelines for safe access to and exit from the necropsy room and good practices for the use of the "dirty" route have been defined and published on the Department website. <http://www.unime.it/dipartimenti/vet/pagine/-19555.html>

Major deficiency no. 2: Lack of isolation unit especially in large animals

The Isolation Units for small and large animals are now amongst Veterinary Teaching Hospital (VTH) premises. The effective management of these structures is under the responsibility of the Health Director of the VTH.

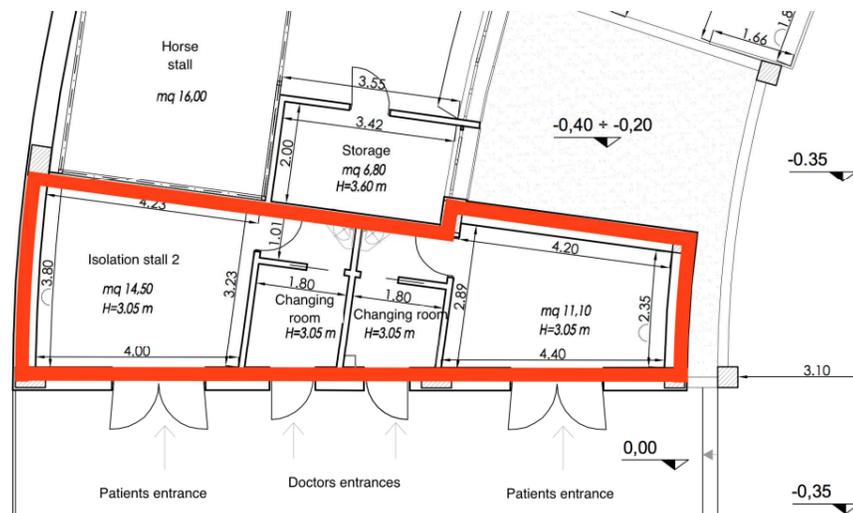
The small animal Isolation Unit is already fully operational and available for any infectious emergency that may occur. In order to ensure the isolation of the infected animals and to prevent cross infections, the environment (50 square meters) is divided into six areas: a dressing room with outside access for the staff; a central hallway; four separated places for isolation (about 7 square meters each) in accordance with rules for the hospitalization of individual infected animals (see map below). An air conditioning system designed to prevent the spread of airborne pathogens has been installed. Moreover, air purifiers with sterilizing filters (HEPA - High Efficiency Particulate Air filter) and carbon filters are present in every room. Four (one per room) Isolation/Parvo cages are present.

Biosecurity standards in the Isolation Unit include the use, by all operatives (medical staff, technical staff, students), of disposable uniforms (non-woven laminate jumpsuits), headgear, gloves and over-shoes that are placed in a dedicated safety box after use. When applicable, additional disposable clothing will be worn and changed before entrance into each individual room, to prevent cross-infections. Finally, special carpets and a hand sanitizer dispenser system are placed in the central hallway. A dedicated parking area is available near the entrance to the Isolation Unit. A path connecting the car parking and the external access to the Isolation Unit has been designed and marked.



Map of the Isolation Unit for companion animals

The contracts for the Large Animal Isolation Unit were awarded in October 2014 and the construction is well advanced. In order to ensure the isolation of infected large animals and the prevention of cross infections, the unit is divided into 6 rooms, two separate dressing rooms with access from the outside, two independent corridors and two isolation stalls (14.5 and 11.1 square meters, respectively, see map below).



Map of the Isolation unit for large animals (encircled in orange)

Access to both Isolation Units is limited. All students receive specific training on biosafety and biosecurity rules during the Infectious Diseases lectures, in the third curricular year. Other targeted information is provided during the fourth and fifth curricular year, so they are trained for any critical situation during attendance at the Isolation Units. All information on the procedures that student are bound to adhere to when involved in activities at the Isolation Units are published in the website of the Department <http://www.unime.it/dipartimenti/vet/pagine/-19555.html>

"Manual of the trainee in the VTH":

http://www.unime.it/__content/files/20140910081840manuale_studente_1_.pdf

Major deficiency no. 3: Lack of mobile clinic

Since the EAEVE visit in March 2013, more time has been allocated to mandatory participation of all students in the Mobile Clinic work. Outside training is now organized in small groups (1-5 students) and structured as follows:

- 4th curricular year: Term A - 56 hours (8 hours x 7 consecutive days in Ragusa, the main dairy area in Sicily);
- 5th curricular year: Term B - 225 hours (8-9 hours x 27 non consecutive days; of these, 9 days are devoted to training on equines, 9 on cattle and 9 on other species (small ruminants and swine).

Students doing Term B are also on duty for the 24h Emergency Service (ES).

In total, there are 10 members of the permanent teaching staff and 20 hired practitioners involved in training the students during Term A and Term B. The members of the permanent teaching staff (academic tutors) and hired practitioners (external tutors) jointly contribute to all Term A activities and approximately the first half of Term B activities. Following participation in the fore mentioned training, 5th year students have to spend the second half of Term B activities under the exclusive supervision of external tutors. PhD students, specializing students and interns are generally involved in the 24h ES.

Organization of shifts during Term A and B is the responsibility of appointed members of the permanent teaching staff, who rotate on a weekly basis in the role of academic coordinator. Along with the other tasks, coordinators adapt the schedule to on-call opportunities.

There are two cars and a van, which are used for the 24h ES and the remaining activities involving members of the permanent teaching staff. All costs related to the use of these vehicles are covered by the University of Messina, which also contributes to the other costs incurred by students in both Term activities. On average, in 2013 and 2014 there were 38 students/year involved in large animal clinical training.

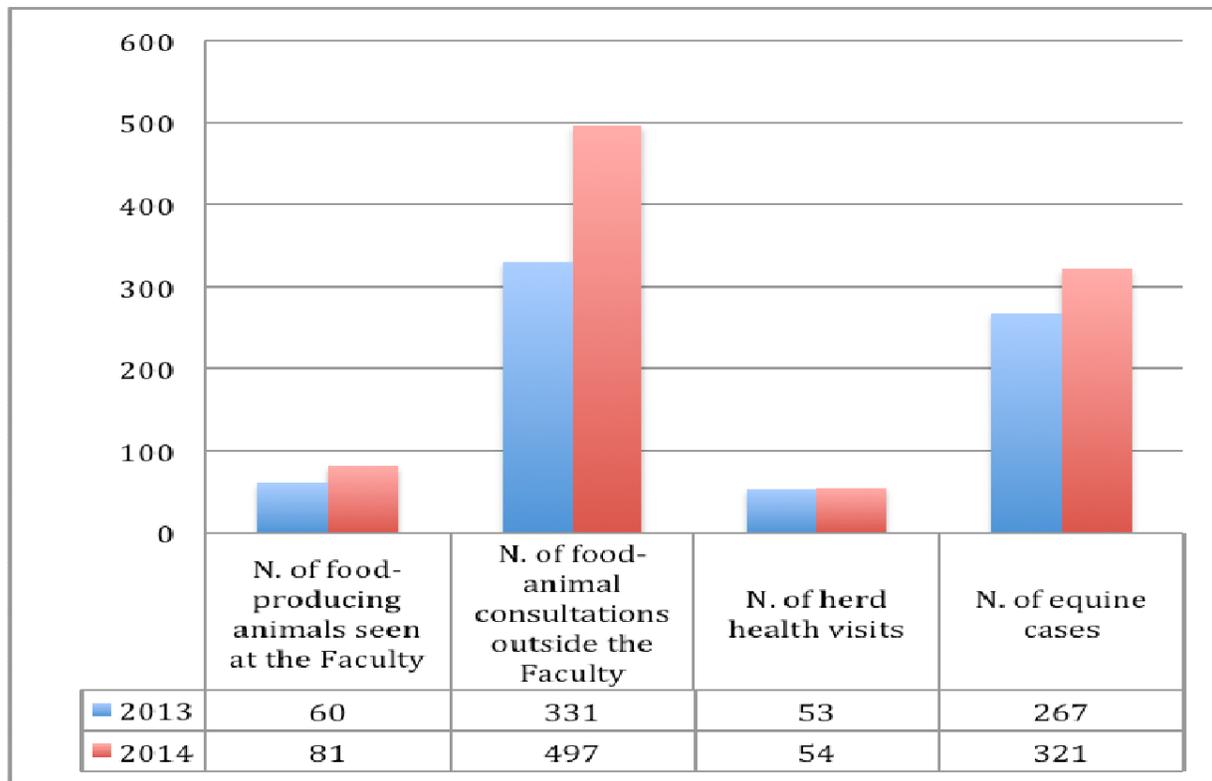
The ES has a dedicated telephone line, available 7days/24h. There is a vehicle, parked in the VTH, which is exclusively intended for emergencies. Equipment, accessories and drugs are stored in the VTH and loaded into the vehicle when necessary. In case of life threatening emergencies, on-duty personnel and students are able to leave the VTH within 30 min. from call.



Students are the responsible for filling in the clinical forms and uploading them to the database at the VTH, under the supervision of a teacher. Each student must upload a minimum of 26 cases, subdivided by species. Feedback from different sources (eg, tutors, log-books, other students in the same group) is cross-checked to prevent upload of false cases. For the sake of clarity, it is stressed here that all cases mentioned in this report (see

data below) were aimed at and formed undergraduate training and were accredited by (at least) one teacher.

The Figure below summarizes the large animal caseload (including patients examined at the VTH) recorded in 2013 and 2014.



A special Committee including student representatives is in charge of evaluating the quality and organization of large animal clinical training with special attention to caseload, completion of the expected skills, homogeneity of the training in all areas (ie, surgery, medicine and reproduction) and student satisfaction (as per anonymous on-line questionnaires).

Biosecurity rules while in farm work are emphasized, and targeted information is given to students prior to enrolment in Term A or B activities.

Finally, it is worth mentioning that two PhD students are currently specializing in large animal clinics, by attending European Diplomates at the Veterinary Schools in Utrecht and Hannover, respectively. Both have been already involved in Term A and Term B training activities.

Major deficiency no. 4: Low caseload in the small animal teaching hospital

In the two years prior to the EAEVE visitation in March 2013, the total number of patients admitted to the VTH was 1184 (60% were dogs, 28% cats and 12% exotics), with no hospitalization.

In 2013 and 2014, the total number of patients admitted to the VTH was 1,699 and 2,954, respectively, whereas the total number of examinations (including follow-up) was 2827 and 3,792. Of these patients, 74% were dogs, 20% cats and 6% exotics. Emergency cases were approximately 10% of the caseload. Additional 95 patients were rescued wildlife (mainly birds), but they were not counted in the small animals caseload.

Hospitalized small animals were 502 in 2013 (17.8% of the respective caseload) and 422 in 2014 (11.1% of the respective caseload). Of these patients, 65% were dogs and 33% cats. On average, hospitalized patients spent 5 nights at the VTH. In addition, there were 84 day-hospital cases in 2013 (78 dogs and 6 cats) and 220 day-hospital cases in 2014 (104 dogs and 116 cats).

The clinical forms of all mentioned cases have been electronically recorded and stored in EasyVet (see SER, pg. 134, 7.12.e). Most forms were actually filled in by students on duty, under the supervision of the clinician/s.

The bulk of improved small animal caseload lies in:

- enhanced and effective collaboration with kennels and catteries downtown, assuring a constant flow of patients (at least 10/week) in need of hospitalization and surgery;
- improvement of the 24h ES, resulting in better visibility and reputation amongst practitioners in the area.

In addition to fore mentioned cases, an active surveillance program for canine parasitic zoonoses (i.e. leishmaniasis and dirofilariosis) and feline infectious disease including leishmaniasis was launched since autumn 2014, in collaboration with Messina practitioners. Well beyond its primary goal, this program resulted in students being exposed to a range of paucisymptomatic conditions of parasitic and non parasitic origin. As of December 31st, 413 dogs and 63 cats were screened in the program.

A new agreement was stipulated on June 26th, 2014 between the Department (on behalf of the University of Messina) and the Veterinary Services of the National Health System (NHS), including relocation in the VTH of public clinics which were previously used for microchipping, castration and spaying of stray dogs and cats. As of November 10th, official veterinarians of the NHS started their activity in the new premises at the VTH, in collaboration with the departmental clinical staff and the active participation of students. In the short time interval between November 10th and December 23rd, a total of 250 microchippings and sterilizations were performed. Interestingly, in the last three years the average caseload of the official veterinarians operating at the NHS premises in Messina was 900 microchippings, 480 dog sterilizations and 420 cat sterilizations.

As regards the organization of small animal clinical training, more time has been allocated for rotation of students at the VTH. In parallel, an early clinical exposure program for students in their second and third curricular year (Junior Program) has been launched. Overall, small animal clinical training for all students is now (as of June 2013) structured as follows:

- 2nd and 3rd curricular year: 250 hours in total (normally shifts of 6 hours to complete the 250 hours before the end of the 3rd year; students may choose to do night and/or holiday shifts).

- 4th curricular year: 144 hours (6 night shifts of 12 hours each; 12 day shifts of 6 hours each);
- 5th curricular year: 234 hours (6 emergency shifts of 12 hours each; 27 shifts of 6 hours each, in rotation between the 24 h ES, Intensive Care Unit, Isolation Unit, and the Medicine, Surgery and Reproduction Sections).

In 2014, there were 124 students on clinical training at the VTH. Of these, 38 were 5th year students, 40 were in their 4th year and 46 were in their 3rd or 2nd year. All shifts are scheduled and the monthly plan is published on the Department website http://www.unime.it/dipartimenti/vet/news/turni_ovd_studenti_iv_e_v_anno_2014_2015-18535.html

The combined effect of:

- the enhanced small animal caseload at the VTH;
- the decreased number of students on clinical training (as per resolution of the MIUR, Italian Ministry of University and Research);
- the greater time allocated to student shifts at the VTH,

is a clear improvement in hands-on clinical training in small animals.

Students can find all practical information on their clinical training (including biosafety and biosecurity rules) in the "Manual of the Trainee at the VTH", which can be downloaded from the Department website

http://www.unime.it/__content/files/20140910081840manuale_studente_1_.pdf

Also, three seminars are organized in preparation for hands-on involvement of the students in activities at the VTH, namely:

- 1) Operating procedures at the VTH;
- 2) Management of the electronic medical record: the EasyVet system;
- 3) Management of First Aid patients.

Attendance at seminars is compulsory and learning is assessed by written tests.

The clinical staff has been recently enhanced by the enrollment of a Diplomate at the European College of Veterinary Dermatology (Dr. Ersilia Pappalardo). A contract as visiting researcher at the VTH was also signed with a Diplomate at the American College of Veterinary Behaviorists and the European College of Animal Welfare and Behavior Medicine (Dr. Carlo Siracusa).