

## **INTERIM REPORT**

### **ON IMPLEMENTATION OF RECOMMENDATIONS AFTER THE EVALUATION VISIT OF EAEVE EXPERT GROUP TO THE FACULTY OF VETERINARY MEDICINE – STARA ZAGORA WITH REGARD TO THE EAEVE/FVE ACCREDITATION**

Trakia University's Faculty of Veterinary Medicine was visited during the period 26–30 October 2009 by a team of experts from ECOVE, in order to acquire approval for stage one of the accreditation procedure.

The expert team consisted of 7 members, with Professor Joao Manuel Ribeiro from Portugal as the chairman.

At a meeting, specially organised by ECOVE at EAEVE headquarters in Vienna on 2 and 3 February 2010, in the presence of the FVM Dean and the Deputy Dean, the experts announced their final decision of **non approval** of the Faculty of Veterinary Medicine in Stara Zagora due to four category I deficiencies they had identified:

1. Insufficient case load in pig and horse patients
2. Hygienic conditions and student security
3. Animal welfare – inadequate housing of animals, also experimental animals
4. Requirements with respect to basic equipment not met, since for adequate training adequate equipment is needed (ultrasound, equipment for ophthalmology).

The committee's decision was, at a certain extent, disappointing for us, as this was the second attempt to achieve a positive result after the first visit by European experts in 2001.

Despite the negative evaluation, we realized that some omissions were indeed allowed, to the point where we got used to them and could hardly notice them (e.g. using a pipetting technique which poses a certain risk to the students, the usage of towels rather than paper wipes, etc.).

Discussing in detail the reasons for our failure at department meetings and Faculty councils, we came to the realisation that the deficiencies identified by the commission should be accepted as benevolent advice aiming to improve the overall condition of the education and research activity of our Faculty.

It would probably be useful to share, in brief, the method we applied in order to overcome the deficiencies not only from category I, but those from category II as well.

Workgroups were formed and assigned specific tasks. These groups were led by the Faculty's Deputy Deans and included department and clinic heads among their members. The Dean of FVM was given the highly responsible task of providing financial resources to purchase all necessary equipment. It should be gratefully noted that the Trakia University Rector Professor Ivan Stankov's promise of substantial financial aid, given at the concluding meeting of the commission in Stara Zagora, has been fulfilled to a significant extent.

## **WHAT HAS BEEN DONE SO FAR TO ADDRESS THE IDENTIFIED ISSUES?**

### **GENERAL COMMENTS**

The main problem, the solution of which ensures the maintenance of the required level of educational and research activity, is financing. Considering the general financial crisis in the country, a number of unfortunate developments after 2010 led to a significant reduction (by about 20%) of the budgets of higher education institutions, including those from the field of veterinary medicine. Unfortunately, the state has not yet intervened in regulating the number of universities and the establishment of major programmes that make no sense in the context of the country's economy or lead to oversaturation of the labour market, as it happened

after introducing the veterinary medicine major at the University of Forestry in Sofia in 1994. This led to an enormous number of 220 students enrolled in both universities at an annual basis, while at the same time the available funding does not allow their concentration in a single elite university.

In 2012, our attempts to raise the basic coefficient of student state subsidy succeeded and it increased from 4.2 to 6.5 for first-year students only. The new increased subsidy was received for the first time in 2013.

The good news are that from 2010 to 2013, the FVM marked a steady trend for significant increase in the Faculty's own income – from 671,000 BGN in 2009 to 980,000 BGN in 2013 (increase by 31.5%). This income is formed mainly from tuition fees, clinical activity and continuing education courses, and is a result of following the commission's recommendation of increasing the Faculty's own income. It should be noted that higher education establishments in Bulgaria are still not legally allowed to engage in business activities, which precludes the accumulation of significant revenues.

In 2010, the Ministry of Education announced, for the first time ever, the ratings of universities and the various major programmes. Just as we expected, the FVM Stara Zagora took the top of the chart, being significantly ahead of the Faculty of Veterinary Medicine in Sofia. Rating studies were also performed in 2011 and 2013, in which FVM gained even higher ranks. For instance, in 2013 it holds the 58<sup>th</sup> place among 370 professional directions in the Republic of Bulgaria. In the same year, the FVM received a score of 9.67 from the maximum of 10.00 by the National Evaluation and Accreditation Agency (NEAA) after the programme accreditation of the Veterinary Medicine major. This is among the highest evaluation results obtained by majors from Bulgarian higher educational establishments.

Regarding the number of animals used for educational purposes, it can be noted that clinical education with productive animals, as well as horses, has been transferred outside the clinics. A large part of these activities are part of herd health management training, while the rest of medical-preventive activities – such as parasite control, tuberculinisations, dehorning, castration of male and female pigs, treatment of hoof diseases, etc. Moreover, in compliance with expert team recommendations, the FVM has started an obligatory training on Herd Health Management. Regarding the issues related to productive animals, we would once

more point out that our students are taught extramurally using a sufficient number of patients, yet it seems that there has been a misunderstanding on the part of the commission. We simply follow the principle of going to the animals if the animals wouldn't come to us. What is unfortunate in this case is that all expenses (which are quite significant in some cases), related to treating patients in private farms are covered by the Faculty, yet this is justified as it ensures the quality of education.

## **A) CATEGORY ONE DEFICIENCIES**

### **Deficiency № 1: Insufficient case load in pig and horse patients**

#### **Solution:**

- 1) The number of horses referred to the clinic in 2010 increased from 36 to 59, without counting the horses examined during the extramural training of the Equine Diseases course. During the next 3 years, the case load remained almost the same. In the period following the visit the faculty administration made efforts to increase the equine patient flow to the specialized clinic although in general, the number of these animals in the country is relatively lower compared to the other European countries. The equipment in the horse clinic was improved. Teaching staff members working in the clinic have specialized in renowned university clinics in Europe (Hannover and Budapest) and the acquired experience and skills resulted in the implementation of surgical interventions not practiced by us so far. That enhanced the interest of horse owners and as a result, for the first trimester of 2014 the number of horses seen at the Equine clinic was by 50% higher than respective periods of past few years. We believe that the number of equine patients will continue to grow steadily in the future.
- 2) Contracts have been signed with equine farm owners offering them price preferences for our medical services against the obligation from their part to use exclusively the faculty equine clinic.
- 3) A number of articles were published in popular magazines for equine breeders about the quality of medical services in our equine clinic, especially for colic

treatment. All faculty clinics were advertised as well. Promotional materials were printed.

- 4) The remark about the low number of pig patients is not justified for us as the swine diseases training is mainly carried out during the mobile clinics and extramural training. It should be remembered that Bulgarian legislation prohibits the free movement of pigs with regard to prevention of classical and African swine fever and when necessary, private pig owners seek consultation of local veterinary practitioners. The suggestion to increase the number of pigs in the University Experimental Farm is also fulfilled. By now, about 50 sows are reared there what makes a sufficient number of pigs for clinical training in swine diseases.
- 5) As swine are concerned, for the training of students we provided opportunities for study visits at pig farms with which we have contractual relations, and at the pig farm of the University experimental farm. There students perform physical exams and treatment of sick animals, organize prevention such as immunization, collect samples for screening and monitoring tests, large-scale in-field diagnostic TB tests, etc. In the productive animal clinic, the number of examined and treated pigs was increased, especially the share of patients needing surgical help. Students are able to do practice and internships in the industrial pig farms in the country.

To sum up, the ratios referring to the number of consulted farms, number of poultry and rabbits seen are improved.

## Ratios reflecting the clinical training in FVMSZ

Ratio	FVM denominator for					Average ratios in accredited faculties in Europe
	2007-2009	2010	2011	2012	2013	
<b>R 11</b> no. of students graduating annually /no. of food-producing animals seen	0.72	1.04*	1.36	1.31	0.77	2.47–1.73
<b>R 12</b> no. of students graduating annually /no. of individual food-animal consultations outside the Faculty	<b>44.66</b>	<b>32.14</b>	34.02	38.23	37.82	2.56-1.02
<b>R 13</b> no. of students graduating annually / no. of herd health visits	<b>0.11</b>	<b>0.16</b>	0.18	0.16	0.22	0.20-0.09
<b>R 14</b> no. of students graduating annually /no. of equine cases	0.27	0.45*	0.77	0.34	0.21	1.78 – 0.92
<b>R 15</b> no. of students graduating annually / no. of poultry/rabbit cases	<b>0.36</b>	<b>0.36</b>	0.38	0.31	0.33	0.58 – 0.37
<b>R 16</b> no. of students graduating annually/ no. of companion animals seen at Faculty	9.43	14.27*	15.87	20.00	22.25	48.74–37.94
<b>R 17</b> no. of students graduating annually/ poultry (flocks)/rabbits (production units) seen	<b>0.02</b>	<b>0.04</b>	0.06	0.04	0.04	0.07–0.02

Note: Denominators without considerable improvement are marked with asterix (\*).

The ratio for companion animal cases used in tuition, although the marked increase from 9.43 to 22.25 in 2013, is yet below the recommended level. In this particular case, the cause is also the competition from private clinics on one part, and insufficient number of patients referred for vaccination or antiparasitic treatments, the location of faculty clinics outside of town etc. on the other. The Small Animal Clinic at the FVMSZ makes all efforts to improve this ratio further.

At the same time, the ratio about food animal consultations (R11) is highly compensated by the considerable number of productive animals seen during mobile clinics and extramural training sessions (R12). That organization of tuition is consistent with the specific reality, so the FVM had decided to be flexible in training its students. Clinical training does not fit into a strict frame as the conditions in the different countries are different.

## **Deficiency № 2: Hygienic conditions and student security**

### **Solution:**

Concerning that comment, the FVM administration developed a programme for constant surveillance of the biosecurity measures for students, lecturers and employees.

- 1) Special clothing is provided in laboratories, clinical facilities and for mobile clinic training.
- 2) Lockers where students can change their clothing are provided.
- 3) In laboratories with health hazards identified, automated pipettes, goggles, disposable gloves, working and safety instructions are introduced.
- 4) In the beginning of each course, an obligatory safety instruction is carried out and certified by personal signatures. Information stating hazards ensuing from work with specific chemical agents and first aid measures are placed in prominent places.
- 5) Overhaul was performed in the laboratories in the Chemistry unit, they are provided with soap dispensers, single-use paper wipes. Glass pipettes were replaced with automated ones. A similar overhaul is done in the teaching labs of the Biochemistry unit. The hygiene in all laboratories was improved.
- 6) Further detailed programmes were developed in the various units (departments, clinics, animal hospitals) to guarantee the biosecurity both of staff and animals. In the clinics and animal hospitals a regular preventive disinfection has been implemented and the necessary disinfection equipment (steam generator) was purchased.

**Deficiency № 3: Animal welfare – inadequate housing of animals, also experimental animals**

**Solution:**

Experimental animals are no longer housed in premises intended for hospitalization of animals with infectious diseases. To this end, a biofacility was built for animals used for training and research purposes, absolutely separated from the animal hospitals. The biofacility possess units for small animals (cats, dogs) and a section for productive animals with units for cattle, sheep and goats, swine, rabbits and poultry. In the biofacility a strict registration and control on the correct use of species for the training activities and for experimental purposes has been implemented.

In the relevant clinics hospital stationaries for small animals, productive animals and horses have been established. In these premises measures were taken to provide optimal housing conditions, including regular disinfection before accommodation, individual care for each patient providing comfortable bedding, high quality feed, hospital inventory, etc.

Animals from different species (dogs with farm animals) are no longer housed in the same premise.

Despite all measures taken, due to inadequate architectural planning of clinical premises (they were built from 1997 to 2002!) we are not able to solve one of most important problems – the distance between clinics and animal hospitals – as financial costs related to new construction works are enormous. The space between clinics, hospitals and isolation facilities leaves the impression that students could not follow all stages of a patient's treatment. Of course, this is not true and we believe that the expert group was not well oriented during the evaluation visit.

The internal yard between faculty clinics and animal hospitals is isolated by vehicle access barriers. A ramp leading to small animal hospital is built. The ramps leading to clinics' entrances are protected by additional parapets. During the summer of 2013, we fully renovated the pavement outside and practically built a new yard for the clinics.

**Deficiency № 4: Requirements with respect to basic equipment are not met, since for adequate training you need adequate equipment (ultrasound, equipment for ophthalmology)**

**Solution:**

For the period 2010-2013, about 680,000 EUR have been spent for equipment purchasing. A list of items purchased follows below.

**I. EQUIPMENT PURCHASED AFTER THE VISIT FOR THE CLINICAL FACILITIES**

- 1) Fluoroscopy system
- 2) Digital X-ray system
- 3) Four-channel ultrasound (cardiography and Doppler) (Mindray)
- 4) Draminski portable ultrasound – probe 7.5 MHz
- 5) Surgical microscope
- 6) Electroretinograph
- 7) Slit lamp
- 8) Direct ophthalmoscope
- 9) Indirect ophthalmoscope with video camera
- 10) Electrocardiograph
- 11) Anesthetic machine for small animals
- 12) Patient monitoring equipment with invasive and gas measurement

An ophthalmology unit was created and what is more important, equipped with modern equipment after consultation with Prof. Roberto Koestlin, ophthalmologist and member of the visiting team.

The two patient monitoring systems equipped with invasive and gas measurement allow better treatment of emergency states in animals in faculty clinics, namely equine colic, and provide a reliable monitoring of patients under anaesthesia.

A physiotherapy ward was built with units for small and large animals.

A new center for reproduction and animal reproductive health was built.

## II. EQUIPMENT PURCHASED FOR CLINICAL AND RESERACH LABS

- 1) Automated biochemical analyzer
- 2) Blood gas and electrolyte analyzer
- 3) Biolog Gen III Microbial Identification System.
- 4) Automated biochemical analyzer RDL

The first two items are purchased with the faculty's own funds due to a tight budget and savings, and the other two are provided by the Extension Service to the Trakia University.

The haematological and biochemical lab of the FVM is the only one of its kind in the country and is extensively used by farmers within the frames of herd health management practices.

A modern center for diagnostics of contagious diseases of animals was built, with equipment for molecular genetic diagnostics – conventional and quantitative PCR, device for automated nucleic acid extraction, immunoblotting unit etc., with peripheral devices and additional equipment, providing adequate level of biosecurity.

Requisition has been made for purchase of new modern equipment in 2014, comprising a specialized table for dental manipulations, computed tomograph, a new anesthesiology device, new large and small animal patient endoscopes, combined ultrasonographic device – B mode + Doppler), a new conventional 96 gradient PCR device, new laminar flow cabinets, automated CBC analyzer, rotational microtome, etc.

### **B) CATEGORY TWO DEFICIENCIES**

**Deficiency № 1:** Lack of training in Molecular biology, Herd health Management and Food safety

**Solution:**

- 1) New courses are included with curriculum update according to recommendations made: a) Molecular biology; b) Herd health management; c) Laboratory food quality control (elective). Another elective course offered now is

Veterinary Oncology. Corrections are made in the Radioecology course – it was renamed to General Ecology.

- 2) The Herd Health Management course has been developed after the head of the productive animal clinic has visited the Faculty of Veterinary Medicine at the Free University of Berlin and consultations with prof. Kerstin Möller, an undisputable expert in this field.
- 3) In the academic year 2013/2014, a new MSc major has started “Sanitary microbiology and Food Safety”

**Summary:** The curriculum is fully compatible to Directive 2013/55/EU amending EC Directive 36/ 2005 and the remarks of the EAEVE expert group after the first visit. The organization of student participation in admission, registering and service of patients at the Faculty clinics has been considerably improved. Duty shifts were organized during holidays and weekends.

**Deficiency № 2:** Insufficient number of necropsied dead pets for training in pathoanatomy, also for anatomical dissections

**Solution:**

The issue is partially solved with contractual use of a carcass disposal car provided from the National Veterinary Service that will operate in the Stara Zagora region. All juridical procedures are settled.

Nevertheless, the FVM has shown a definite progress as ratios from R18 to R20 are concerned:

The table shows that the average ratios with regard to necropsies of food animals and horses are reached (R18). The ratio about companion animals, is still not what we desired, although the trend towards improvement. This could be attributed to: 1) The major part of pet owners in Bulgaria refuse necropsies due to emotional reasons; 2) The still insufficient number of patients seen in the Small Animal Clinic.

Ratio	FVM denominator for					Average ratios in accredited faculties in Europe
	2007-2009	2010	2011	2012	2013	
<b>R 18</b> no. of students graduating annually /no. necropsies food producing animals + equines	0.60	0.81	0.65	0.38	0.69	0.75 – 0.46
<b>R 19</b> no. of students graduating annually / no. necropsies poultry/rabbits	1.76	2.04	2.44	1.11	1.38	0.26 – 0.12
<b>R 20</b> no. of students graduating annually / no. necropsies companion animals	0.64	0.76 *	1.36	0.5	0.80	1.26 – 0.89

Note: Denominators without considerable improvement are marked with asterix (\*).

Recently the FVMSZ has signed contracts with pig and poultry farms to ensure a regular flow of carcass material from pigs and poultry for teaching purposes.

The report of the visiting team has also made numerous remarks on what seem to be desirable improvements, so they should not influence the final evaluation of the experts. If other flaws can be identified, we will discuss them in details during the re-visit. We do hope that our efforts to cope with everything on our own will be highly appreciated.

**In conclusion, we believe that the Faculty of Veterinary Medicine in Stara Zagora has implemented a substantial part of ECOVE recommendations to overcome deficiencies of category 1 and 2, which allows us to request a re-visit, as stated in standing operation procedures of EAEVE, in late 2014 (November-December) or in the beginning of 2015. The most convenient period for us is the second half of February 2015 or the beginning of March 2015, when the summer semester begins.**

**Dean:**

**Prof. Mihni Lyutskanov, PhD, DSc**