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REPORT on the STAGE 1 EVALUATION VISIT to the FACULTYof VETERINARY MEDICINE, GHENT, BELGIUM

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INTRODUCTION

The University of Ghent (UGent) is relatively young (founded in 1817) and became the first Dutch-speaking university in Belgium in 1991 as well as having graduated some eminent scientists such as the chemist who invented bakelite (Leo Baekeland) and a Nobel Prize winner in Medicine (Corneel Heymans, for his work on blood pressure). Ghent University is currently composed by 11 faculties.

The Faculty of Veterinary Medicine (FVMG) was established 80 years ago (in 1933) as a veterinary curriculum within the Faculty of Human Medicine, and then became a separate faculty in 1968. Its 6-year veterinary curriculum is composed of a 3-year Bachelor degree and a 3-year Master's degree (the so-called BaMa structure), the latter being the one which entitles graduates to practice as veterinarians. The FVMG is the only Veterinary School in the Flanders (Flemish speaking) region of Belgium serving a population of 6.5 million inhabitants, although by Belgian law students obtaining a Bachelor degree in pre-veterinary studies from any other academic institution in Belgium have the right to be accepted as Master's students in Ghent. The University of Antwerp offers a bachelor degree in pre-veterinary medicine, and its students can freely register into the Master's program at Ghent.

According to the Flemish Government undergraduate education has to be accessible from anybody irrespective of financial possibilities; therefore, registration fees for academic studies are very low and there is no restriction to enrolment except for Human Medicine and Dentistry. As a consequence, the number of first year bachelor students at the FVMG has been on average >250 (see table 9.2 of the SER) but increasing regularly over the last 6 years, now exceeding 300 (see Chapter 9). Because of Flemish being identical to Dutch, about 25% of 1st year bachelor students come from The Netherlands.

New buildings (or parts of) since the last EAEVE visitation include additions to:

a) Departments of Veterinary Medical Imaging and Small Animal Orthopedics
b) Pathology Bacteriology an Poultry Diseases
c) The scintigraphy/nuclear therapy and magnetic resonance units
d) New stables at the Experimental Farm
e) A Small Animal Dispensary up in the city of Ghent to treat pets owned by indigent people.

The Veterinary Curriculum underwent a profound restructuring in 2004, right after the last EAEVE visit. Tracking was initially introduced at the beginning of the 6th year through the choice of 5 different tracks (companion animals, research, horses, ruminants and pig-poultry-rabbit), and was recently advanced to the middle of the 5th year (see Chapter 4). New items in the veterinary curriculum include a course on "How to Manage a Veterinary Practice", which has been recently introduced for 3 year students (obligatory course) and the 6th-year students (elective course).

The visit was very well organized and every Faculty member was extremely open and transparent when further information was needed. The Team was treated extremely well, the hospitality was excellent and the atmosphere was always very friendly and pleasant.

1 OBJECTIVES & STRATEGY

1.1 Findings

Major objectives and goals of UGent are formulated and detailed in the SER. UGent regularly produces a Strategic Plan. The 2012 Strategic Plan has identified 12 major points (i.e. blended learning, valorisation of research, academic expertise outreach program, community service learning, vision on guidance incoming students and postdocs etc.) under which many of the issues relevant also to the FVMG obviously fall.

The most important overall goals of the FVMG are education, research and services to the Community. The objectives cover the education programme adequately, particularly considering that the main scope of the FVMG is to train veterinarians. A strong emphasis on research and teaching is evident in chapter 1 of the SER. The FVMG has invested a lot in terms of time and energies in revising the curriculum and elaborating strategies to stimulate high quality research. An assessment of learning outcomes of the Ba-Ma curriculum based on the changing needs of the veterinary profession was started in 2010 by sending out a survey to FVMG alumni and Belgian veterinarians. This will lead to a revised version of the veterinary curriculum to be published in 2013. Flemish veterinarians are also contacted on a regular basis with surveys from the FVMG as well as from UGent to assess the achievements of the FVMG. A vision statement is not present in the SER or on the Faculty web site.

1.2 Comment

Although research and teaching are strategically revised on a regular basis, the FVMG does not normally produce a holistic Strategic Plan on the ground that the University strategic plan covers all relevant aspects of long-term planning. While the three items of the FVMG mission (education, research and service to community) are important short as well as long term points, it is clear that the importance of having a Vision is not fully grasped by the Faculty. A "Vision" refers to the capacity of looking into the future and getting a perspective of what will be the reality in 10, 20 or 50 years, and through this being capable of anticipating what a changing society will need from the profession as well as foreseeing potential crisis or future developments of the veterinary profession. The UGent Strategic Plan tries to anticipate future needs and potential crisis of the society at large; however, a closer look from the FVMG at specific problems potentially faced by our profession would be advisable.

1.3 Suggestions

The FVMG should consider producing its own strategic plan on a regular basis. Also, it is not clear whether or not the surveys sent out to the professional world are aimed at Flemish veterinarians only. If this is the case, a wider target is warranted, as the inclination of the majority of the veterinary students the Team met is to look for jobs outside of the Flemish region: therefore, such surveys should not be limited to the Flemish region but rather extended at least to the entire country.

2 ORGANISATION

2.1 Findings

UGent is under the control of the Flemish government which provides roughly 76% of UGent's total funding, with the rest being provided by a variety of other sources (private sector, student fees, real estate income etc). A government Commissioner and a government Financial Controller supervise UGent on a regular basis, although the University enjoys a fair amount of independence as long as it acts in accordance with the university decree.

Similarly to most other European Universities, UGent is headed by a Rector who is helped by a Vice-Rector and a number of collaborators within the Executive Board including 2 representatives of the Flemish Government (Commissioner and Financial Controller).

Important bodies of the UGent are the Council of Educational Affairs and the Research Council.

No major differences in management exist between FVMG and other veterinary teaching establishments in Europe. The FVMG is headed by a Dean who is helped by an academic secretary and academic coworker/s as well as a number of Committees (Study Programme, Education Quality Control, Research, Permanent Training and others) who are normally chaired by the Dean. The Faculty Council is composed by all full professors (corresponding to equal to or more than 50% of the Council) and an elected representation of Senior Lecturers, Lecturers, academic assistants, technical staff, and students. The Dean is elected by the Faculty Council (also with the vote of the students) without having to formally run for the position (in fact there have been cases of elected Deans who have subsequently declined the appointment). Deans and Department Heads are elected for a renewable 2- and 4-year terms, respectively.

The Faculty is in charge of overseeing all departmental activities making sure that stakeholders expectations are properly met, particularly (but not only) with regard to its permanent training programme. Formal responsibility for academic education, research and services to clients lies within the 12 FVMG Departments. Departments can be very small in terms of number of staff members (even 8-10 members). The veterinary profession and the general public are not involved at any stage in the decision-making process or even for consultation. However, the FVMG may ask its stakeholders for advice, particularly when new developments are being discussed.

2.2 Comments

Although the FVMG might appear fragmented when looking at the number of Departments, this does not appear to be a problem, as the degree of collaboration and sharing resources and equipment among teachers of different departments is very good. Because of UGent regulations concerning representation of different categories of staff members within the Faculty Council (FC), the FC of the FVMG appears to be controlled by the full professors. Although the full professors at the FVMG seem to not be taking advantage of this situation and to be managing the FC in a very democratic way, the principle by which FC representation is decided at UGent is not very democratic, as democracy in this case is not guaranteed by the system but rather depends on the goodwill of the FC members. There are countries in Europe where all members of the teaching staff (including all associate and all assistant professors, plus a representation of students and support staff) are members of the FC; and although FCs tend to be fairly crowded this does not preclude them from being properly run while giving everybody a chance to speak. Although discussing this type of University regulations is probably beyond the scope of EAEVE, it is our responsibility to flag a potential cause for slower growth of a University, as innovation rarely flourishes from an environment with not enough democracy and where strategic decisions for the future are taken by the oldest and most conservative group of people.

2.3 Suggestions

The FVMG should propose for inclusion in the next UGent Strategic Plan the issue of how to eliminate constraints to cultural growth of a University, and within this frame the constraints to full representation of all staff members within the FC could be discussed.

3 FINANCES

3.1 Findings

Gent gets its major funding for educational purposes from a combination of government money and income generated internally through research and clinical charges. The funding from government is either through the central university or directly to the faculty. A breakdown of the income in euro from 2009 to 2012 is detailed below:

State (Flemish government)			Income generated by the faculty		
Year	Funded through central university	Funded directly	Income from services provided	Research	TOTAL
2011	13,940,129	1,534,140	9,812,543	7,215,382	32,502,194
2010	13,689,185	1,536,942	8,791,559	8,804,310	32,821,997
2009	13,442,939	1,557,734	7,785,506	7,527,624	30,313,804

A breakdown of the expenditure in euro from 2009 to 2012 is detailed below:

Year	Pay	Non Pay				
	Salaries	Teaching support	Research support	Clinical support	Other support	TOTAL
2011	18,112,997	840,865	3,770,311	5,258,947	3,974,863	31,957,982
2010	17,357,371	705,226	3,722,931	5,197,435	3,896,923	30,879,886
2009	15,974,046	714,577	2,949,005	4,754,444	3,816,771	28,208,843

The emphasis on research in the faculty generates a very satisfying amount of external research funds which together with a very comprehensive and successful PhD programme creates an interactive and multidisciplinary research structure within the faculty. While the construction of the campus was entirely paid by the government, all additional buildings have been constructed and financed by the university and although it takes a lot of planning and lobbying to get projects approved, there are several “in the pipeline” such a new research block, a major addition to the small animal hospital and a new pig unit.

The considerable direct income derived from clinical services and research grants is subject to a 17% central university tax. The visiting group noted that this level of tax had risen from a figure of 12% during the last visit of EAEVE in 2004. As far as the costs to the students are concerned the Belgian system of higher education is heavily subsidized. Students only have to pay a moderate registration fee and no tuition.

3.2 Comments

In addition to the university derived tax of 17% the faculty has to charge VAT at a current rate of 21% on all services rendered (although this is less for services provided to the agriculture sector). The university then partially claims back this 21% VAT, which can afterwards be used for expenditure from the university to fund current and planned infrastructure costs within the faculty. For example, as discussed in other sections, finances need to be found to recruit additional staff in both the clinical and non-clinical areas.

The salary scale of staff does not appear to affect the ability of the faculty to recruit experienced teachers, even at the clinical level.

3.3 Suggestions

No suggestions

4 CURRICULUM

4.1 GENERAL ASPECTS

4.1.1 Findings

Factual information concerning the curriculum at FVMG is extensively and concisely reported within the SER in chapter 4. The main objective of FVMG is to provide both a scientific academic education and professional training to the veterinary students, offering the skills and attitudes that modern veterinarians need to easily adapt their services to the fast changing demands of society. The Executive Board of UGent has installed in each of their constituent faculties a "Study Programme Committee" and a "Education Quality Control Unit" which are designed to develop, supervise and evaluate the individual education programmes that are offered. The Study Programme Committee at FVMG was established in 1992, and the Education Quality Control Unit established in 1999.

The Education Quality Control Unit consists of a Director of Studies (Full Professor), the Dean, the Chair of the Study Programme Committee, a permanent Secretary (DVM) and two students. They evaluate the quality of the programme contents, the didactic methods and equipment that are used for teaching, and the didactic expertise of the teaching staff. They discuss possible innovations of the study programme and formulate proposals for curricular adaptations to the Study Programme Committee.

The Study Programme Committee at FVMG includes one representative from each department, one from the academic assistant staff and 8 students. The Study Programme Committee sets the objectives of the bachelor and master courses and is responsible for the development, implementation and evaluation of the two programmes. However, the Study Programme Committee is an advisory committee and reports its proposals to the Faculty Council for final agreement.

In 2004 a new Bachelor/Master structure was introduced at FVMG, with the emphasis shifting from study years to the European Credit Transfer and Accumulation System (ECTS). The ECTS is a student-centred system based on the student workload required to achieve the objectives of a programme. As a result there is an increased flexibility in which a student can choose the courses to be followed during an academic year whilst taking into consideration the proper course sequence. In a standard learning track, completion of all the courses taught in both the Bachelor's and Master's programmes takes at least three academic years (60 credits per annum, 180 credits in total). However, the students are not required to take all subjects (60 credits) of a standard learning track year. They can decide to take less or even more, depending on their personal abilities.

One ECTS credit stands for 30 hours of study activities and part of the quality control system of the UGent consists of a study time measurement per subject (see 5.1.4 in the SER). A schematic representation of the overall curriculum at FVMG is shown in Fig 4.1 within the SER. For additional information see the report by the student member of the team.

4.1.2 Comments

The EAEVE team recognised the efficient coordination and integration amongst subjects. The team also recognized the good balance of the 2004 curriculum review that offers the students extensive practicals as well as lectures in the majority of courses.
Discussion with the practitioners revealed that due to the extensive curriculum, students have limited spare time to voluntarily visit private practices and exercise their skills. Extramural learning is undoubtedly very important as it links university and practitioners. The number of hours that are devoted to "self directed learning" appear to be somewhat arbitrary. For example, with 6B "Veterinary certification and report writing" (SER p.55) only 20h are covered by lectures and seminars while 880h are self directed learning (equivalent to 22 weeks at 8h/day!) Such a high number of hours was justified by the Faculty because parts of the credits for the Master Dissertation (30 ECTS) were included in this calculation. The reason for this is that a large part of a Master dissertation involves the writing of case reports, and it was assumed that the writing of case reports could fit within the scope of "report writing."

4.1.3 Suggestions

It would be useful to have a closer look at how the important concept of self directed learning is integrated into the curriculum, especially how it is designed to deliver learning objectives within individual courses.

4.2 BASIC SUBJECTS & BASIC SCIENCES

4.2.1 Findings

Basic Subjects form part of the "in-house" curriculum and are taught by faculty teaching staff members. The basic subjects and sciences take up a rather high proportion of the overall curriculum hours. Basic Subjects (750.5 hours) and Basic Sciences (between 3824 and 4178.5 hours depending on the track) account for more than 40% of the curriculum (between 10350 and 10620 hours, depending on the track and excluding the 6 to 15 ECTS credits of elective subjects).

They seem to be adequately taught (some if not all of them are research-based and generally related to later disciplines) and most of the subjects contained therein are taught with a veterinary orientation, both in content and in practical work. Problem-based learning has been implemented in some basic subjects (table I.2, SER pages 14 and 15). Due to Flemish Government regulations there is no restriction in the number of students who start veterinary studies; consequently, everybody who finishes high school with a diploma is allowed to enroll at the university. This means that the population of students in the 1st year (Bachelor) at FVMG arrive with dissimilar educational backgrounds (classical, scientific or technical education) and the number of students enrolled in this year is quite high. Moreover, as no restrictions for enrolment are set to Belgian citizens, no requirements can be imposed on citizens of other EU-member states. This is the reason why students from The Netherlands (26% of the undergraduate students of the FVMG are from this country) also enroll at FVMG, since a limitation in the number of students is imposed in The Netherlands for veterinary studies.

An additional point of interest is that another veterinary Bachelor's program is offered by the University of Antwerp. After finishing the bachelor studies, a not well defined number of students (an estimated average of 46 per year) from Antwerp have to come to FVMG to start the Master's program. The level of practical work seems to be adequate, depending on the subject, with a reasonable hands-on participation of the students. The number of students per

group in practical work seems to be excessively high (up to 50), but large groups are generally divided in smaller clusters depending on the availability of staff, facilities and equipment.

Another positive aspect of Basic Science teaching is that although not all teachers implicated are veterinarians, instructors focus their teaching on pre-professional orientation of these subjects, particularly for practical work. Moreover, basic animal handling (small and large animals) has been included into the extramural stages of the 2nd and 3rd bachelor years.
Communication skills are practiced at different levels.
Hygiene, security and waste disposal appears to be adequate. Arrangements for disabled students are appropriate.

4.2.2 Comments

The curriculum includes the major basic subjects required for veterinary training. However the level of knowledge of students enrolling the first year is highly variable. Basic Sciences are well covered with a relatively good organization and a growing veterinary orientation. However, a certain lack of systematized coordination among the subjects is leading to repetition of teaching. This sometimes necessary redundant teaching if excessive should be reduced.

The model of research-oriented teaching should be emphasized much stronger and should primarily be understood as teaching based on own research (as some students carry out during the preparation of their master dissertation). This will allow the students to develop scientific and critical thinking. Undergraduate students should be earlier and stronger exposed to research in the curriculum.

The most important items of the basic disciplines are satisfactorily taught. Although there is a good horizontal (chronological) coordination within the basic subjects, increased teaching integration would be of benefit. A vertical coordination-integration is present between basic sciences and clinical sciences; this stimulates the students to study basic subjects and to understand their relevance in acquiring their professional competences. Another benefit will be that these horizontal and vertical integrations will permit to reduce the total study load.
Due to the high amount of students, an increase in the number of teaching and support staff is urgently required in order to assure the desirable level of education of the students at the FVMG. The practical teaching in basic sciences should be supported by more staff, at least in the largest practical groups.

The FVMG should guarantee the basic knowledge of all the students independently of their university (or country) of origin. The logical difference in basic knowledge between students of both universities is a burden. The desirable and growing coordination and collaboration with the University of Antwerp should be improved. Differences in progress of Antwerp's students enrolled in the FVMG's Master Program should be assessed. In general, students have free direct access to teaching materials through the FVMG website; however the use of e-learning tools should be promoted.

4.2.3 Suggestions

Although the FVMG has no responsibility for the unpredictable high number of students enrolled in the 1st year of the bachelor program, the UGent should exert all the reasonable pressure on Flemish Government to establish an entrance examination for the veterinary studies as required to Human Medicine and Dentistry studies and/or set a specific *numerus clausus* for the FVMG. The organization of core teaching in the traditional independent subjects should be revised with the aim of enabling and encouraging interdisciplinary

teaching. Also, the amount of students joining the FVMG's Master Program from Antwerp every year should be clearly traceable in the calculation of the Ratios.

4.3 ANIMAL PRODUCTION

4.3.1 Findings

As mentioned previously the study programme at Ghent is divided into two cycles, each of 3 years, the Bachelor's programme, in which predominantly all pre-clinical subjects are taught, and the Master's programme comprising paraclinical and clinical subjects. The Bachelor's programme is not only taught in Ghent but approximately 20%-25% of the Master's intake are taught the Bachelor's programme in the sister university at Antwerp. The Animal Production teaching covers all the EAEVE subject criteria of Production, Nutrition, Agronomy, Rural Economics, Husbandry, Veterinary Hygiene, Ethology and Welfare.

4.3.2 Comments

At Ghent there are two Teaching and Research Farms where students on the Bachelor's programme receive hands-on learning, as well as receiving practical work in animal production, nutrition and husbandry. Similar experience is provided at Antwerp. These facilities ensure that the hands-on training is in small groups among both students and species. In addition, obligatory extramural work is scheduled within the programme designed to give the students additional experience with both animal handling and husbandry. As in many other veterinary schools within the EC many of the first year students do not have prior experience of agricultural production so the curriculum offers introductory information on this at the outset, utilising both didactic courses and practicals. For the Master's programme Animal Production is taught within all the tracks and the total number of student contact hours varies from 1017 in the companion animal research track to 1222 in the Pig/Poultry/Rabbit track. The students have to write reports on their practical training to present to staff for assessment.

The previous visitation to Ghent in 2004 recommended an appointment of a post in animal welfare/ethology. As a result a tenured post was established and this has had a highly positive effect on teaching.

4.3.3 Suggestions

The development of the new curriculum should provide an opportunity to further integrate the teaching within the different departments especially in relation to the herd health/preventive medicine teaching in the clinical years and nutrition/husbandry in the earlier years.

4.4 CLINICAL SCIENCES

4.4.1 Findings

The establishment operates an emergency veterinary service in which students participate on a compulsory basis. The service includes both small and large animals. The students will spend one week at a time at the emergency service and work approximately 60 h/week. Due to the tracking system, the amount of time spent in the small animal emergency service and in the large animal emergency service will vary. There is a mobile clinic connected to the large animal emergency service and the students participate in this service as described above. The students are covered by liability insurance during extramural work. Allocated hours are adequate and in balance with the curriculum. Students are getting adequate hands-on clinical training.

Although facilities are presently not entirely adequate, the organization and environment is adequate, as well as the case load in the different disciplines and among species. The staff is

certainly supportive of students and perform well in clinical as well as theoretical teaching. Students are able to perform an ovaro-(hyster)ectomy in a cat alone and many students in a dog depending on the tracking system. There are adequate opportunities for each student to handle parturitions, dystocias, displaced abomasums, traumatic reticulitis, milk fever and acetonaemia in cattle. There is a satisfactory balance between species and the disciplines are well coordinated. The case load in equine medicine and surgery teaching is adequate and there is a 24hrs emergency service available. Colic surgery in the horse is routinely performed, and depending on the tracking system students will have a first-day skill to castrate a horse.

4.4.2 Comments

Overall, the large case load and good clinical services provided at the FVMG give the students ample opportunities to learn in all disciplines and in all species. The large animal internal medicine clinic should be commended for teaching the students hands-on ultrasonographic examinations of the abdomen and thorax and also for proving excellent opportunities to learn obstetrics in cattle.

4.4.3 Suggestions

More emphasis should be put on overall hygiene in the clinics. Staff and students engaged in patients should be encouraged not to use the same clothes and foot wear that is used outside of the clinic. The clothes used in the clinic should be changed on a daily basis or more often if required.

4.5 FOOD HYGIENE & TECHNOLOGY AND VETERINARY PUBLIC HEALTH

Preamble - The visitation team scrutinised the curricular elements at Ghent that have relevance for protecting public health, more particularly the protection of humans against the transfer of biological/chemical hazards through animals and/or foods of animal origin. On an international level this part of the veterinary curriculum is commonly understood to include a range of teaching activities aimed at obtaining veterinary skills that are directed towards solving community problems of health and disease in humans. Hence, in the following, only those curricular elements are considered that have PUBLIC health relevance.

The criteria for the assessment of the quality and range of teaching activities at Ghent are taken from the SOP suggested by the EAEVE/FVE working group on the FH/VPH curriculum as issued in 2012. In essence, these criteria imply:

1) An assessment of whether or not the scientific basis for all 22 elements stipulated in EC No 854/2004 (professional qualifications for veterinarians in a control function) is provided

2) How the various ‘content areas‘ conform to the weighting factors suggested in said SOP.

4.5.1 Findings

The staff involved in teaching FH/VPH is largely concentrated at the Department of Veterinary Public Health and Food Safety, although some important aspects of VPH (e.g. epidemiological considerations and related aspects of herd health management) are also addressed by other departments (see Table 1). Both safety and quality assurance aspects are covered, including microbiological and chemical analysis of fresh and processed foods. Finally, environmental issues are dealt with, albeit in a rather modest way. The Visitation Team found the FH/VPH teachers to be very motivated and enthusiastic, the Team was also pleased to notice their awareness of the internationally accepted VPH priorities and their zeal

to identify areas where teaching can be improved. The following tables include short overviews of:

1) Where in the curriculum Food Hygiene/VPH elements have been included (Table 1)
2) If the 22 points are covered either by the FH/VPH or other teaching staff of the Ghent Faculty (Table 2).

Table 1. Coverage of the 22 points in EU regulation 854/2004 by DI06 and other departments throughout the veterinary curriculum.

Item in EU regulation 854/2004		**Department VPH**		**covered by other departments**
		covered	**year (1-6)**	
a.	national and Community legislation on veterinary public health, food safety, animal health, animal welfare and pharmaceutical substances	yes	2-3-4-5-6	yes
b.	principles of the common agricultural policy, market measures, export refunds and fraud detection (including the global context: WTO, SPS, Codex Alimentarius, OIE)	yes	2+3	yes
c.	essentials of food processing and food technology	yes	2+5	
d.	principles, concepts and methods of good manufacturing practice and quality management	yes	3 + 5 + 6	
e.	pre-harvest quality management (good farming practices);			yes
f.	promotion and use of food hygiene, food related safety (good hygiene practices)	yes	4+5+6	
g.	principles, concepts and methods of risk-analysis	yes	3+6	yes
h.	principles, concepts and methods of HACCP, use of HACCP throughout the food production food	yes	3+6	
i.	prevention and control of food-borne hazards related to human health	yes	5	yes
j.	population dynamics of infection and intoxication			yes
k.	diagnostic epidemiology			yes
l.	monitoring and surveillance systems	yes	4+5	yes
m.	auditing and regulatory assessment of food safety management systems	yes	5+6	
n.	principles and diagnostic applications of modern testing methods	yes	1+2+4+6	yes
o.	information and communication technology as related to veterinary public health	yes	3+4	
p.	data-handling and applications of biostatistics	yes	1+2	yes
q.	investigations of outbreaks of food-borne diseases in humans	yes	5	
r.	relevant aspects concerning TSEs	yes	4	yes
s.	animal welfare at the level of production, transport and slaughter	yes	3	yes
t.	environmental issues related to food production (including waste management)	yes	2+4	
u.	precautionary principle and consumer concerns	yes	3+4+5	
v.	principles of training of personnel working in the production chain	yes	5+6	

Table 2. Conformity with EAEVE/FVE balance factors.

Content area	% of the curriculum covered by DI06	Related to bullet points of the 'professional qualifications' in EU regulation 854/2004 (see Table 1)
Food microbiology, food spoilage and biological/chemical food safety hazards	26	i, l, n, o, p, q, r, t
Food preservation and technology	15	c
Meat inspection	21	s, t
Food analysis and official controls	20	a, b, m
Risk-based approach to ensuring food safety and quality	18	d, e, f, g, h, u

It is to be noted that all students (i.e. regardless of their ultimate choice for a particular track) are subjected to all these curricular elements, albeit the production animal track is exposed to some topics in more detail (see percentages mentioned below).

As evidenced by the contents of the above tables, the Ghent curriculum conforms to both major criteria (i.e. all points covered with the correct weighting). More importantly, the various topics are presented in a stable-to-table approach, considering VPH relevant aspects of animal production, such as the biological and chemical hazards associated with nutrition, husbandry system and medication strategies (if applicable), those related to transport and lairage (including animal welfare and quality related issues) and, obviously, to the processing (technology), marketing and industrial and domestic preparation of foods of animal origin.
In general, training activities (lectures, seminars, practicals on food microbiology and chemical analyses) take place on-site. The training in meat inspection of all major production animal species, (pigs, cattle, poultry), hygiene monitoring exercises, introduction to industrial processing of various meat products is provided through excursions to a number of commercial enterprises (including a fish auction). Incidentally, occasionally (e.g. in the case of cattle slaughtering) students are confronted with religious (halal) slaughter and the physiological and welfare as well as the cultural/sociological aspects of such practices and the associated procedures are discussed.

4.5.2 Comments

As stipulated by the EAEVE visitation template, the overall percentage of FH/VPH teaching hours should constitute no less than 12% of the overall curriculum hours. Based on the data provided in Chapter 4 of the SER, the percentages at Ghent University range from approximately 3 to 4 % (companion animal track) to 5 to 6 % (other tracks). It should be noted that the visitation team assumes that an increase in these percentages is achievable after a systematic analysis of VPH associated topics (already partly included in Table 1) offered by other departments. It should be stressed that - as an essential part of such analysis - it would have to be convincingly argued that indeed such topics have PUBLIC (rather than general medical or animal) health relevance. However, it is unlikely that the 12% minimum limit can thus be achieved. There are a number of topics that, although covered to some degree, may deserve more attention. Hence it would appear necessary to identify these, while maintaining the balance between the major content areas as indicated in the SOP of EAEVE/FVE.

4.5.3 Suggestions

The visitation team was pleased to notice that the Ghent FH/VPH staff are eager to team up with colleagues of other departments - particularly those involved in preventive medicine/herd health management - and to form a working group identifying possibilities for a thorough joint analysis of VPH relevant topics provided throughout the Ghent curriculum. The visitation team suggests that such a working group (WG) is coordinated by the Staff of DI06.

The visitation team suggests that the 'visibility' of the VPH associated curricular elements, e.g. in the herd health and preventive medicine area, could be significantly improved. The outcome of the WG's analysis should inspire alterations in the curriculum, either by providing support in terms of personnel, or – alternatively – by shifting the focus of attention in some parts of the curriculum to VPH issues, thus preventing an unfair distribution of educational tasks.

4.6 ELECTIVES, OPTIONAL DISCIPLINES & OTHER SUBJECTS

4.6.1 Findings

An extensive list of electives (SER I, pp 69 - 72) is offered for the different tracks of specialization. 6 ECTS credits of electives are compulsory for every student of the 6th year that has chosen a clinical track, 15 ECTS for students with a track in research. Electives cover additional practical education (e.g. ambulatory clinic duties) or provide an elegant access to topics that are not covered within the track (e.g. veterinary public health for companion animal track students). Lectures or seminars are usually offered in the afternoon and therefore do not interfere with rotation duties.

FVMG offers altogether five tracks that are entered in the 10th semester. At this time students decide on companion or large animals with common courses (and exams) and proceed in the 6th within companion animals track towards clinical education or research. The large animal track is pursued with four different foci Equines, Ruminants, Pigs Poultry and Rabbits and research. For each track a detailed curriculum is established. While track specific lectures are abundant in the 10th semester, the 6th year is mainly devoted to practical training or research. In parallel to the rotations students have to prepare their Master thesis.

Omni competence is assured by the end of the 9th semester, before the tracking starts. At this stage students may not have reached a pass mark in all the disciplines requested by Directive 2005/36 EC as they can retake one or more "modules" later on within their own personal curriculum.

4.6.2 Comments

Tracking appears to be very efficient and provides an excellent intra- and extramural training. The practical skills obtained during rotations surpass the levels of most other veterinary schools.
Mandatory rotation routines in the selected track, electives and master theses account to an exaggerated workload in the final 1.5 master years.

4.6.3 Suggestions

The workload in the final years should be limited in order to allow a better focus on obtaining practical skills.

5 TEACHING QUALITY & EVALUATION

5.1 TEACHING METHODOLOGY

5.1.1 Findings

The Study Program Committee of the FVMG is the body responsible for the teaching process at faculty level. The Study Program Committee supervises and regulates the structure and quality of the study program. A permanent monitoring system (evaluations by the students of the individual courses and the entire study program) ensures that the goals set by the FVMG are reached. This committee is also responsible for taking measures when problems are detected with the above mentioned monitoring system.

The pedagogical approach of the learning process at the FVMG is student-focused and is in compliance with the Bologna Declaration and the recommended day-one skills of graduates, and is built on acquiring a basic knowledge in the first years and gradually integrating and using this knowledge during the later years of the study program in a problem-based atmosphere. There is a reasonable balance between theoretical and practical teaching.
Attendance in practical and clinical activities of all courses and subjects (obligatory and elective) is compulsory. Attendance in practical and clinical activities is verified by means of attendance mark lists. Absence at these activities makes it possible to give insufficiency marks for repeated absence.

Courses in the Bachelor's program are mainly based on lectures, complemented by a substantial amount of practical teaching. These practical teaching include traditional sessions (cadaver dissections, laboratory work, etc.) and in some cases newer approaches (computer-assisted teaching, self directed learning based on scientific articles, micro-teaching, etc.). In the Master's program, clinical activities become progressively important from the first to the last learning track year. During these clinical works, students work in small groups together with staff members who generally stimulates cooperation and critical thinking, and try to involve students in the examination and treatment of the patients. Additionally, newer teaching methods are also implemented in the Master's program (a skills lab has been developed, including phantoms for practicing intravenous injections/ blood sampling, endotracheal intubation, rectal palpation, etc.).

Although the hours allocated to self-directed learning are extensive, and predominantly Flemish textbooks are provided by the lecturers, the lecture is decisive about the focus and essential topics of the exams. General competencies are defined for the bachelor studies (SER I annex, pages 19 to 21). Learning outcomes and competencies are detailed for the clinical tracks in great detail (SER I annex). Problem based and research oriented learning is strengthened by two master theses for each student that are prepared in the last two years of the masters studies. Master thesis I with a workload of 340 hours is due towards the end of the 5th year and consists of an extended case report. Master thesis II should consist of a scientific research project and cover about 480 hours of work.

The FVMG library contains most of the relevant veterinary and veterinary-related sciences textbooks, and a progressively growing collection of e-books. Standard veterinary textbooks are supplemented by documents and material, which are given to the students in order to favor the completion and the in-depth study of textbooks. Additional teaching material (case descriptions, digital recordings of clinical activities, links to relevant veterinary sites, digital recordings of seminars and lectures, etc.) is also offered through the portal site created in Minerva called the Digital Veterinary Portal Site (*Digitaal Diergeneeskundig Platform*) which provides the students with an easy access to this digital teaching material. Exposure to

all common animal species (companion and food animals) seems to be satisfactory. Teaching of pathological anatomy on carcasses and organs is also appropriate.

5.1.2 Comments

Specific learning objectives are clearly stated. Two main types of teaching methods are used: theoretical training and supervised practical training. Teaching at FVMG follows the traditional system in which there is relative balance between theoretical teaching and practical teaching, adding more weight to the theoretical than to practical teaching, especially during the first years of the study program.

There seems to be a general good teaching atmosphere. In the classroom, students are taught principally by using power-point presentations and given written materials or articles, most of them available on the FVMG's Digital Veterinary Portal Site. The accessibility of internet sources is adequate. In some topics a problem-based-learning method is used, but it does not seem to be widespread.

The quality control system used at the FVMG seems to be adequate, although the number of surveys submitted to the students seems to have reached a saturation point. The excessive number of students in the first and second year of the Bachelor program would not allow a real hands-on teaching as well as a genuine tutorship.

The preparation of two distinct master theses is unusual. The workload equivalent to 30 ECTS is not allocated to one semester but is rather spread over 1.5 years of advanced clinical education. As the 5^{th} year is already very busy and the 6^{th} year is filled with clinical rotations the master theses are supposed to be prepared in the free (extra) time.

5.1.3 Suggestions

The extension of the use of newer didactic concepts and techniques, such e-learning, should be promoted.
Hands-on teaching and tutorship should be a priority.
The widespread implementation of problem-based learning should be encouraged as a way of making learning more effective and improving student motivation, especially in the clinical and public health areas.
The preparation of a single master thesis over a longer period of time would be sufficient.
The university should assure that student evaluations impact positively or negatively on changes in the curriculum and on evaluation of didactic skills of teachers. If possible, the results of the teacher's evaluation should be on the public domain.
The system to reward and incentive teaching excellence should be further developed as an essential monitor of quality. Student participation in the quality control system should be rewarded in order to promote their essential contribution to the system.
Courses on teaching techniques for academic staff should remain to be available, as these are a good quality indicator in any higher studies institution.
FVMG needs to provide more space for self directed learning within the campus. The shortage of a suitable learning environment for the students is in strong contrast to the otherwise generous setup of the facilities on the Merelbeke campus

5.2 EXAMINATIONS

5.2.1 Findings

The examination procedure at the school is strictly regulated by the university's Education and Examination Code (EEC). All examiners are free to use any kind of examination method,

as long as it is mentioned in the EEC. Two types of assessment are used: continuous assessment and more traditional exams taken during a defined examination period. This combination of continuous assessment and traditional exams changes as students proceed through the course with the amount of continuous assessment increasing during the clinical training. The traditional exams comprise several methods of assessment: written papers, multiple choice tests (written or e-based), project reports, presentations to students and staff, oral exams (limited really to the clinical years), practical tests, clinical exams, competence-based weekly or monthly assessment of students progress.

After each teaching semester there is a 4 to 6 week examination period, the dates of which are set out by the central university in Ghent. During the examinations all teaching activities (except for clinical activities) are stopped. External examiners are not really used at FVMG and as a result each individual teacher is entirely responsible for the both the setting of exams as well as their evaluation.

Retakes of failed exams are quite flexible for students and failing one or more courses does not completely block the progress of the students. Also, students can include courses from higher years in their curriculum for a particular year. The basic rule is that all previously failed courses have to be included in the curriculum when registering for courses of a higher year. However, when specifically asked some students commented that it is possible for them to register as Master student without having completed all exam requirements from their Bachelor years. This appeared to occur both for Ghent as well as for Antwerp students.

The examination system at FVMG appears to be properly structured and monitored.

5.2.2 Comments

Although the examination system at Antwerp for the Bachelor course is run separately there is an increasing level of cooperation between the two faculties both in the actual curricula as well as the assessments. Due to central government policy there seems to be little possibility of utilising external examiners to a meaningful extent.

Although students have an inbuilt right for an observer during oral examinations, there is only a very limited take-up. Although a significant number of the Masters students at FVMG take their three year bachelors course at Antwerp, the visitors were not provided with any details of the course such as was clearly set out in the SER from Ghent. In an attempt to assess the consequence of such a large input of Antwerp students into the masters programme the visitors initiated a number of additional investigations:

1. Two senior members of the Antwwerp faculty met up with the chairman for an in depth coverage of the bachelor course at Antwerp and a discussion as to the level of cooperation between the two faculties both at the level of the two curricula as well as the actual examinations
2. A number of the visitors, including the student representative, met Antwerp students from different years of their masters course
3. After a request from the visitors, staff from FVMG providced an analysis comparing Antwerp and Ghent students in the length of time taken to complete both their bachelor and master degrees. This analysis is shown below for students graduating in 2011/2012:

Graduated Vets 2011/2012	Years for bachelor degree	Years for master degree	Years for complete course
Students with Ghent bachelor degree (n=124)	3.75	3.25	6.64
Students with Antwerp bachelor degree (n=32)	3.66	3.53	6.59
Statistical analysis (T-test)	0.31 Not significant	0.02 Significant: $p<0.05$	0.4 Not significant

These results clearly show that during the three years masters course, the Antwerp students perform at the same level as their colleagues from Ghent.

5.2.3 Suggestions

Students should not be allowed to register for as Master students without having completed all their exam requirements from the Bachelor years.

6 PHYSICAL FACILITIES & EQUIPMENT

6.1 GENERAL ASPECTS

6.1.1 Findings

FVMG's facilities are divided in two main areas located in Merelbeke (a small suburban town a few km South of Gent), called Main campus (on Salisburylaan) and a group of buildings located in Heidestraat, where the Department of Food Sciences, Genetics and Ethology, and part of the pilot farm ("Biocentrum Agrivet") are placed. The buildings on Salisburylaan and those on Heidestraat are divided by the highway Brussels-Ostende and connected by a bridge. A cattle farm is located in Melle, a village near the campus. The premises in general are in good condition and are easily accessible for both the students and staff (including the Heidestraat section of Campus, within walking distance),.

Apart from the Cafeteria (which the team did not visit) and a general administration building with the Dean's office, a Library and the office for the Flemish Veterinary Journal, the buildings on the right side of the Main Campus host the large and small animal clinical facilities, with related offices, laboratories and accommodations for students and interns on duty.

The buildings on the opposite side of the Main Campus (to the left of the pond upon entering Campus) host basic sciences, pharmacology and toxicology, public health, parasitology, microbiology, virology, bacteriology and the Clinic of Poultry and non-conventional animals. The Departments of Morphology and Pathology are particularly well equipped and organized: the Team was impressed by the high quality of practical teaching possible in pathology and anatomy, thanks to the excellent working organization and dedication of teachers.

All lecture rooms, laboratories and dissection and necropsy halls are spacious, well kept and appear adequate for the current number of students.

The laboratories used for practical teaching are well equipped and students can do individual or group work comfortably and safely. In most cases health and safety matters are well approached. Safety and biosafety guidelines are documented in manuals that are provided to

all students and posters which are available in most laboratories. However, some laboratories lack specific safety equipment (i.e. no eyewashes in the Bacteriology laboratory and in the corridor A of Food Microbiology) or may have only emergency showers in the corridor and, sometimes, it is quite difficult to find some safety devices. Eyewashes are absent in many laboratories.

6.1.2 Comments

Facilities and services present in the clinical premises on Campus vastly exceed minimum requirements for providing a good level of clinical care and teaching at FVMG. The high number of students entering and attending the veterinary curriculum at FVMG puts a lot of pressure on facilities and practical teaching, mainly in the first and second year of the bachelor program and the small animal clinics. However, the funded programme for routine maintenance of the buildings and facilities of the FVMG seems to be adequate.

There should be a clear financial commitment on the part of the UGent providing the Faculty with new facilities for staff rooms and laboratories. Also, the extension of the small animal clinic must start as planned, and without delay.

Safety in laboratories is considered to be barely sufficient. Many laboratories where chemical or biological hazard is present do not have eyewashes or emergency showers. On most floors of the buildings of the left side of Campus (Public health, Parasitology, Virology, Bacteriology etc.), eyewashes and emergency showers are only present in the corridor (and in some cases only showers are present, no eyewashes at all). The general layout of laboratories allow for injured personnel to quickly run out to the emergency shower. Although these biosafety provisions are to be considered sufficient, they are far from optimal and certainly not in line with the type of working quality UGent prides itself with. Eyewashes should be present in every laboratory with a chemical or biological hazard, so as to be as close as possible to potentially injured personnel. Also, instructions on what to do in case of an emergency should be posted in every laboratory. Specific courses on instructions for personal safety should regularly be offered to students and staff. Attendance on such courses should be mandatory for every new student.

Modern concepts of problem based learning require "on campus" facilities or rooms that facilitate studying in small learning groups. The current facilities are clearly undersized.

6.1.3 Suggestions

Install eyewashes in all chemical and biological laboratories. Provide each lab with a poster of instructions on what to do in case of an emergency. Perhaps an increase in the number of laboratory examinations undertaken within the faculty, rather than being sent to an external laboratory, would be beneficial to the students and to the staff.
The construction of Facilities for self directed learning with space for 100 - 200 students is recommended.

6.2 CLINICAL FACILITIES & ORGANISATION

6.2.1 Findings

The Large Animal Hospital is well laid out with abundance of stable and boxes (all equipped with an automatic manure collection system), semen collections rooms, surgical theaters and even a smithy. A relevant number of kennels and an experimental cattery are also present. Physical facilities of the clinical areas of FVMG are more than adequate with good equipment for examining and treating small and large animals with medical and surgical conditions. The

general setup of the clinics is excellent and allows efficient turnover of patients. Diagnostic laboratory facilities are available for rapid analyses of clinical patients. However, the majority of analyses are performed by external laboratories.

Clinical services are well organized. The degree of specialisation is high with a total of 58 European College diplomates. Currently 9 residents and 9 interns are employed in the small animal clinic. Almost all types of advanced clinical and diagnostic equipment (such as CT-scan, MRI, advanced ultrasound techniques including tissue Doppler imaging) are available on site, the only exception being a large animal MRI.

There is a 24 hour emergency service with adequate hospitalization and isolation facilities, as well as a 24 hour intensive care unit, for both small and large animals.
A mobile ambulatory clinic for large animals is operated by experienced practitioners that provide an excellent service to contract farms. This service is provided with a sufficient number of 5-seater cars for taking students on field trips.

A highly innovative installation is a charity funded small animal practice in the centre of Ghent operated by the FVMG which provides a low costservice to animal owners with very low income. This facility allows for real life training to undergraduate (interns and master) students of the small animal track.

The FVMG does not have its own slaughterhouse or food processing plant, but students are taken to a number of different slaughterhouses/food processing plants (see page 111-112 of the SER). These are all EU approved establishments where students can get hands-on practice of meat inspection and food processing. As there was no practical teaching in food hygiene timetabled during the visit, a trip to slaughterhouses was not organized for the visiting team. Waste management at the FVMG is properly done through a national rendering company

6.2.2 Comments

Clinical premises and equipment allow for an excellent quality of clinical activity and clinical teaching. Diplomates of 20/23 European Colleges among the teaching staff allow for a high quality teaching in all fields of veterinary medicine. A very strict dressing code is well respected by student and staff whenever entering pathology or morphology premises or any other laboratory where hygiene and sterility are important, which is commendable.

6.2.3 Suggestions

Strict dress code and everyday hygene should also be implemented in both the small and large animal clinic for the purpose of minimizing the risk of contamination and spreading of infectious diseases. It is important that the staff serves as a role model in this regard for the students so that they may continue this trait in their future professional life.

7 ANIMALS & TEACHING MATERIALS OF ANIMAL ORIGIN

7.1 Findings

The case load of live animals is adequate for all disciplines and species. For research purposes and for the teaching of clinical skills, about 20 Beagle dogs and 20 horses and 20 cattle are kept within the premises. Volunteer blood donors are available for cats and dogs.
The number of necropsies performed is impressive and all students are encouraged to visit the department for daily rounds among the specimens collected. There is abundant material for anatomy, both as live animals (2 dogs, 2 bovine, 2 horses), as cadavers (6 dogs, 30 goats, 3

horses, 100 cats 40 pigs 160 rabbits, 60 chicken) or as specimens (60 dog heads, 120 dog limbs, 240 bovine limbs, 60 horse heads, 360 horse limbs and 120 pig hearts and lungs). Cadavers and specimens are preserved by low temperature, whereas toxic preservatives like formalin are rarely used. The Department of Pathology provides an ample case load for necropsies that account in average to 466 food producing animals, 1491 companion animals, 400 horses and 22 zoo animals.

The case load for consultation and hospitalization of the clinics account in average to 1269 food producing animals, 6443 horses, 19,000 companion animals (including birds and reptiles) and about 270 other animals. The average number of visits to farms by the Ambulatory (mobile) clinic account to 4200 cattle, 230 pigs and 250 horses. Herd health management services are provided for 420 livestock farms with 12-15 visits per year. Attached to FVMG is an experimental farm for teaching purposes where students can develop their expertise in handling the different species, including dogs, cats, pigs, horses and cattle.

7.2 Comments

Again, the Faculty of Veterinary Medicine should be commended for the overall large case load provided in all disciplines and species.

7.3 Suggestions

No suggestions.

8 LIBRARY & EDUCATIONAL RESOURCES

8.1 Findings

The library at FVMG is part of the UGent library network and serves as the basic library of the faculty. However, the library is complemented by 17 departmental libraries that are used as reference libraries both by students and staff. The total number of available books in the main library and the departmental libraries is approximately 10,000. In addition, there is an increasing use of e-books and e-journals with readers having access to nearly 28,000 journals online out of which there are over a 1000 of veterinary interest.

Including the computer classes, the library provides 70 computers for personal use. Additionally, the library provides 60 student workplaces and 80 workplaces are also available in the faculty restaurant after lunch hours. The workplaces in the restaurant are accessible from 14h to 20h.

The library at FVMG is open from 9h to 19h during the normal semesters with the final three hours being covered by student volunteers. During exam and vacation periods the opening hours are restricted from 9h to 16h30. The library has tried opening on Saturday mornings but there was little interest from the users.

The library employs one full-time member of staff and a number of student part-timers. The loan of books is based on a trust system which appears to work well with only a few of the more popular clinical-based books being lost each year.

8.2 Comments

The library is controlled by a Faculty Library Committee which has representation from both students and researchers. This committee has control over an operating budget provided by the Faculty including funds for both hard copy and e-books.

Notwithstanding the widespread use of laptops/tablets by the student body and the free access to e-books and e-journals, there is a shortage of space for students to sit and work. This is especially apparent during the examination periods. Further details are within the student report appended to this document.

8.3 Suggestions

The Faculty should work with their Library Committee to create more working spaces for students, especially areas which are quiet and where food and drinks are not permitted.
Due to the success of their current collection of e-books, the library at FVMG would like to extend this catalogue. However, not all publishers are prepared to offer certain titles on library-based platforms as individual e-copies are much more profitable.
Provide sufficient space for self directed learning.

9 ADMISSION & ENROLMENT

9.1 Findings

As discussed above, the veterinary programme at Ghent consists of a Bachelor's programme and a Master's programme, both of which consist of a minimum of three years of study. The Bachelor's study programme can be completed either in Ghent or in Antwerp. The breakdown of student numbers for 2010-2011 is given below:

	Bachelor	Master	Total
Total number of undergraduate students	756	621	1377
Total number of male students	183	160	343
Total number of female students	573	461	1034
Students from EU countries	211	189	400
Students from outside the EU	1	0	1

9.2 Comments

As discussed within the Introduction student admission is regulated by Flemish law and the underlying principle is that unrestricted access to higher education must be guaranteed for everyone who holds the relevant diploma qualifications. When one looks into these diplomas it is obvious that many of such diplomas have little relevance to a course in veterinary science. In addition, there is no entrance "examination" for entry into veterinary science in Belgium; this is in contrast to the situation for entry into medical school where a science based exam is held and the results used to limit entry. As a result of this policy of unrestricted entry, the number of first year students in 2011 was 310 and in 2012 was 304.

This situation results in the need for relatively large facilities within the Faculty to train this high number of students in the first year. While lectures can be handled relatively easily, the teaching and support staff have to make a great effort to deliver the practical training. Therefore, practical exercises are often taught repeatedly which is bound to affect the ability of staff to deliver their research objectives.

Another outcome of the large and unregulated intake of students into the first year is that the faculty is unable to adjust the intake to take account of the national need for veterinarians.
Also, as mentioned above the lack of admission procedure results in students entering (both in Ghent and Antwerp) who lack the aptitude, knowledge base and motivation for veterinary studies. This results in a high drop-out rate after the first year.

The number of Erasmus exchange students at the FVMG is very low. The teaching in Flemish language and the unwillingness of Ghent students to do part of their training at a Faculty with a potentially lower case load were claimed as reasons for such a low figure. The Erasmus program was originally conceived by EU politicians to help European students to experience and be enriched by the various different cultures in Europe. The Erasmus experience is almost always an unforgettable one for all students who have such an opportunity, and from this point of view it is a shame that Ghent veterinary students cannot take advantage of it. From a European perspective, the reasons claimed by the FVMG and its students for not wanting to engage in the Erasmus program seem somewhat parochial. While it is understandable that a Faculty with such a good teaching hospital and case load would not want to send its student to an institution with a lower case load and "poorer" clinical premises, it is the opinion of the Team that a veterinary faculty of a European level such as the FVMG should have among its aims a desire to foster cultural student exchanges in any possible way. As anywhere else in the world, those European institutions who have gained a high profile thanks to their hard work should feel the responsibility of helping Europe to gain a higher sense of belonging. Cultural exchange is one of the milestone of our cultural growth as European citizens.

9.3 Suggestions

While the faculty at Ghent has no involvement in the number of students applying to study veterinary science and consequently it has to admit, there is a direct link between the University budget and the number of students admitted. As a result, financial support by the central university is not allocated on the basis of compliance with targets and milestones. It is also the case that the admission procedure does not take the limitations of the resources (both physical and human) into account
As a consequence of the large number of students in the Bachelor years, an increase in the number of staff is urgently required to assure the level of education of the students in Veterinary Medicine.
The FVMG should investigate ways to increase the number of Erasmus Exchange students across its curriculum. Exchanges of students at the Master level could be done with Faculties whose clinical premises are perceived of the similar quality. Furthermore, the Faculty should establish Erasmus agreements with other Faculties whose program in basic and preclinical science is considered of similar quality to that of Ghent, and through these agreements Bachelor students should be stimulated to take advantage of the Erasmus programme.

10 ACADEMIC TEACHING & SUPPORT STAFF

10.1 Findings

The overall number of teaching and support staff is 376. The ratio of teaching staff to support staff is 1/0.88. Of the 200 FTE of the academic staff 169 are involved in teaching, 31 are in research. 71.2% of the teaching staff have a veterinary background. The ratio of teachers to students is excellent (1/ 6.85). A shortage of staff is certainly not obvious.

The number of UGent budgeted positions is about 50%. The other half of the positions is supported either by the income of clinics or by third party funding. The search procedure for new full professors is not open to the outside. All eligible - intramural - personnel (e.g. associate professors) can apply for the next level in the academic hierarchy. Promotion towards the full professor position is largely dependent on the performance in research, teaching, and common duties. FVMG requests proficiency in the Flemish language, which de facto limits the hiring of personnel to Flanders or The Netherlands.

The support staff consists of 176 employees, the majority working in research and administration. They receive a good continuing professional education and overall are happy with the university as employer. Evaluations are the basis for promotions or salary increases. There are currently no restrictions with the replacement of vacant positions.

10.2 Comments

The junior professional staff appeared somewhat frustrated about the recently changed system of career development. It should be noted that the current recruiting system - mostly occurring at the (senior) postdoctoral level - is not fully compatible with international standards of academic mobility. This concept has the inherent danger of inbreeding.

10.3 Suggestions

FVMG should promote international exchange of senior academic personnel especially with regard to advertising full professor positions.

11 CONTINUING EDUCATION

11.1 Findings

Continuing Professional Education (CPE) is in the objectives for the Faculty. There is the Institute of Permanent Education (IPV) in place handling continuing education for practitioners in both small and large animal medicine and surgery. Currently, in Belgium there is a 60 hours CPE requirement per 3 year period for veterinarians. For practitioners wanting to become “specialists” on a national level, a 3 year programme with weekly lectures is provided. All staff veterinarians participate in giving lectures provided by the IPV. The CPE is mandatory for all Belgian veterinarians; however, there is no formal control system to assess individual participation. The income generated by the CPE is used to pay the teachers, secretaries and for catering.

11.2 Comments

The faculty should be commended for providing an extensive CPE programme to practitioners.

11.3 Suggestions

No suggestions.

12 POSTGRADUATE EDUCATION

12.1 Findings

The FVMG has developed two postgraduate programmes, these including the Clinical Specialty Training Program - a system of internships and residencies according to the guidelines of the European Board of Veterinary Specialisation (EBVS) - and the PhD Degree Program.

PhD is the highest academic degree. In order to achieve this degree an extended research program is required. The total duration of the doctoral studies fluctuates between 4 and 7 years, depending mainly on whether or not the PhD student can spend most of the time on research and how the doctoral research is funded. As a general rule, the prerequisite to obtain the PhD degree at FVMG, is that the research results in at least 2 (conditions are showed on page 169 of the SER) or 3 original articles that have been published or accepted for publication in international peer reviewed scientific journals with the candidate as first author. The results of the research have to be written down in a doctoral dissertation which has to be publically defended.

The title of Diplomate of any European and/or American College is highly appreciated at the Faculty. The Diplomates are essential to support the quality of clinical research, education and services at the FVMG. In fact, the FVMG has at present 56 Diplomates of 20 different European Colleges being recognized as European Specialists by the EBVS, and therefore entitled to act as supervisors in residency programmes; however, only 33 residents were involved in training programmes (Table 12.1, page 167 of the SER). These Diplomates have no obligation for PhD degree. Interns and residents participate in the veterinary training of undergraduates where they give practical clinical education. Presently, there are 19 interns involved in nine different clinical specialty training.

12.2 Comments

The FVMG offers an appropriate spectrum of post graduate education programmes on both the academic and non-academic paths. Although is a difficult task, the FVMG should stimulate the double title Diplomate/PhD in order to increase research in clinical sciences. In order to maintain the global quality of research at FVMG, the number of doctoral dissertations (doctoral degrees) should be at least maintained if not slightly increased.

It is somewhat confusing that in the SER the PhD is termed equivalent to a "Doctor in veterinary science". This is even with clinical qualifications as the diploma also grants the DVM (doctor of veterinary medicine) title. UGent has established a distinguished PhD study programme that, however, not compulsory for FVMG. PhD students at FVMG have the right to obtain 30 ECTS credits during a doctoral training programme, but this is not a mandatory prerequisite for admission to the thesis defense.

The postgraduate PhD study program seems to be well organized and efficiently contributes to the quality of research at FVMG. The FVMG should increase the number of residency programmes through motivation and recognition of the staff involved in such programmes.

12.3 Suggestions

A certain minimal amount of credits (less than 30) for a doctoral training programme would be beneficial for every PhD student. Along these lines the "Structure of the Doctoral Schools" does not specify whether a PhD student has an independent co-supervisor for her/his thesis. The Team was reassured that PhD students do have the possibility to obtain an independent co-supervisor for their thesis upon their requests. However, because of the importance of co-supervision with respect to quality management, it would be important that such possibility was clearly outlined in the official documents.

13 RESEARCH

13.1 Findings

The overall research activity at FVMG is considerable. For the years 2011/12/13 an impressive 739 publications are listed. For the first 4 months of 2013 alone, 70 publications in peer reviewed journals have been put forward. The average impact factor (IF) is between 0.5 to 3 but papers exceeding an IF of 4 are frequent. The high publication activity is in line with the successful annual graduation of 156 PhD students since 2007, each of whom required to publish at least 2 papers with an IF >2 as well as being first authors. 96 of these PhDs have a veterinary background. Third party funding is very reasonable although FVMG has its own PhD programme as part of a larger initiative of UGent.

While there is no strategically defined scientific focus, most research has a clear connection to veterinary medicine. Professors have full freedom to pursue the topics of their interest with several international research efforts in operation.

Students normally are actively in contact with research during the preparation of the master thesis. To attract undergraduate students into science, summer school programmes are offered on a variety of topics. The average attendance is about 50 students per year. As a new development FVMG has adopted the "honours" programme of the UGent to provide a special research training to bachelor students with distinction. This programme is available to a maximum number of 10 students per year and is equivalent to 16 ECTS credits.

13.2 Comments

The scientific output of FVMG is very good despite the high teaching workload. The introduction of a PhD programme together with UGent has clearly improved quality and quantity of publications. It can be expected that this will continue to provide positive feedback on teaching quality and to provide future positions for young researchers. It is impressive that FVMG successfully recruits a large number of veterinarians into PhD programmes despite the DVM title is granted with the diploma.

13.3 Suggestions

As Erasmus exchanges are becoming more and more difficult to arrange, consideration should be given to establishing exchange programmes on the PhD level with international partner universities.

EXECUTIVE SUMMARY

The visit from the EAEVE team was carried out in a cordial, friendly and professional atmosphere. The team was given access to all the information, facilities and individuals they asked for. In addition, the SER produced by the faculty proved very helpful, was easy to read and was written in full accordance with the SOP from EAEVE.

The campus at FVMG was both spacious and well laid out. The team were able to note many examples of excellent teaching with a useful and productive interaction between staff and students.

The team identified several really strong areas of excellence to be especially mentioned:

- Teaching Hospital (with no exception)
- Small and Large Animal case load
- Necropsy, especially the innovative use of specimens
- Ambulatory Clinics
- Morphology Laboratory

- Local small animal hospital in Ghent aimed very much at routine first opinion work
- Research, including a remarkable number of PhD students
- An excellent number of publications in refereed journals
- Effective monitoring of student workload

However, there are a number of suggestions made within the report

- Size of groups in some practicals
- Bio-safety in a number of laboratories
- Monitoring of free access to Pharmacy
- Hygiene and dress code in clinics
- Lack of student facilities for both study and recreation
- Size of workload for both students and staff
- Career development somewhat inward looking
- Support for Erasmus scheme
- Representation on the Faculty Board
- "Visibility" of VPH within the whole course

In conclusion, there were no deficiencies and the visiting Stage 1 team from EAEVE unanimously recommends full approval to the Faculty of Veterinary Medicine (FVMG) (the Veterinary School of Ghent, Belgium).

ECOVE DECISION: FULL APPROVAL

Annex 1

Student report on the FVMG

The role of the student representative is to assess the faculty and the student experience from the perspective of the end "consumer". The report below aims to offer an overview of most aspects of student life and learning, and sets out observations of good practice and tries to highlight areas which could be enhanced to achieve a better student experience.
Suggestions made below do not constitute requirements, and at no point have any major deficiencies been identified. Instead it is hoped that they are viewed as proposals of mechanisms of developing the student experience in the future.

1) Objectives

The UGent set out to train students in preparation for a career in veterinary medicine or surgery within Belgium and the rest of Europe. Overall the students are extremely happy with the these aims, and research performed by the university appears to suggest that new graduates leaving the course and entering the profession feel that these objectives are sufficient, and that in fulfilling these aims the graduates are well prepared for entering into professional life.

2) Organisation

The students integrate into the organisation structure of the university academic structures in a very comprehensive fashion. Students are highly organised socially, politically and academically, and are fully integrated into the governing institutes within the veterinary school structure.

Mechanisms of feedback from students to staff on matters concerning academic time tabling and delivery of teaching and learning material is highly sophisticated and comments from the students are highly valued with their input playing a large role in the shaping of the course structure and delivery. However, students seem to have to take a role in the administration of the course, which, whilst they do not object to this, can be quite time consuming on an already busy course

Suggestions:
A member of administrative staff centrally responsible for the veterinary program, timetabling, and coordination of academic activities, could be of great benefit to the students.

It could free up their time, and may allow for centralised oversight of the whole course from a single point of contact.

4) Curriculum

The overall perception of the course is that it is highly detailed and contains a considerable volume of theoretical knowledge across the six years of study. As a result of the open access to higher education there is a variable knowledge of basic sciences upon entrance to the first year, for this reason the course spans a considerable knowledge base and there is considerable pressure to deliver a uniform standard of knowledge in the first year. This is reflected in the high dropout rate at the end of the first year. Whilst it would appear that the motivation of a faculty should always be to teach students and help them learn, there does seem to be a permissive attitude towards failure of students as a "necessary evil" of the "open access" system. Whilst failure is always regrettable it is obvious that a minimum standard must be obtained in order to proceed, and that this situation is unlikely to change without an alteration

in the admissions process to courses of veterinary medicine (such as a pre entrance examination of a candidates aptitude)
Student satisfaction with clinical and basic science teaching is high and there is an impressive level of respect for the depth and breadth of knowledge that the curriculum imparts. Students appear to have a progressively more integrated understanding of knowledge and its relation to clinical and scientific practice as the course progresses.

However, there does appear to be a lot of repetition of material over the six years. Additionally, the curriculum contains no "professional studies" course covering the essential skills of communication with clients, business management, and professional liability. A course of this nature could also be used to deliver further guidance on career choices. It may also help to ensure that students and the university make an official commitment to each other with regard to professional conduct and appearance in clinics and to safe and effective communication with clients and clinic staff - a "student professional conduct agreement".

There also appears to be some concern amongst the students that practical skills are not prioritised enough and that the development of clinical veterinary skills is largely restricted to the final year. It also has consequences for the development of clinical competences given the tracking system; some students worry that by tracking they do not get enough practice in some of the basic clinical skills on species not covered in their track (i.e. if you track in ruminants you may never practice the castration of a cat, but castration of a cat would still be considered a day one competence for all new graduates).

Suggestions:
More emphasis on the development of clinical veterinary skills throughout the six year course.

Development of a "student contract" whereby students agree to professional codes of conduct and dress in the clinics to help ensure all students are obliged to observe high levels of hygiene, smart and safe attire, and professional communication with clients.

5) Teaching
A majority of courses employ both didactic and practical class teaching methods, with generally good provision of computer based learning/learning support material. There is a very impressive level of problem based learning and case based analysis in both lectures and practical classes.

The nutrition course in particular appears to promote formative assessment during the delivery of the course through informal summaries between students and lecturers. However, there is little evidence that all courses are equally as good at ongoing formative assessment. This is a very useful way of assessing how well a student is coping with the course and can help them to guide their own study and learning priorities and to set efficient and targeted study goals.

Students sit multiple examinations during two examination periods at the end of each teaching semester. There is one week of timetabled "catch up and study time" in which classes that have been missed due to timetabling problems can be delivered, although in general this time should be reserved for exam study.

The problem based learning approach used in the Antwerp bachelor course seems to be very effective at training students to think like vets, and to support students learning particularly in clinics.

Students are provided with significant amounts of learning material prepared by teaching staff. The provision of comprehensive syllabi in Dutch is particularly impressive; however, these are sold to students (albeit at cost price). This can amount to several hundred euros of extra expense every year. Some departments do make this resource available on Minerva.

Suggestions:
Absolute protection of the study week, with missed material/classes being delivered elsewhere during term time or by alternative methods (computer tutorial with a problem sheet for example if a lecture has been missed from the timetable).

More practical assessment of practical skills with fewer written assessments of manual skills in the first to fifth years.

Universal provision of the syllabi of all courses on Minerva so that students have access to the resource without the need to purchase printed copies if they do not want to or cannot afford to.

6) Physical facilities
Clinical facilities are very impressive, and students seem to be well protected from injury whilst in clinics or labs or practicals, and have excellent access to clinical services buildings and equipment. However, due to the shift in gender demographics of the student body, it is sometimes felt that female changing facilities are disproportionally small and or have inadequate locker/storage space for personal possessions.

Lecture theatres appear to have adequate seating for all students with appropriate use of audiovisual equipment to enhance delivery of material to students and ensure all students can hear/see material being delivered.

Computers are freely available to all students who want to use them. However, there are fewer than 100 computers for over 1000 students, and whilst many have personal computers/laptops or mobile devices (tablets/iPads) there are very few electrical points to plug these in.

Whilst provision for student teaching and learning facilities are generally good provision of student social facilities are disappointing. The faculty appears to be aware of the small size of the restaurant and have plans in place to enlarge these facilities; however, students currently have no central facilities in which to relax, socialise or take part in communal or group study (eg a "common room"). There is also a total absence of sports facilities.

Suggestions:
Increase size/number of female changing areas

Increase numbers of lockers available in female changing areas.

Provide a communal area solely devoted to students for their exclusive use for informal study, eating, socialising (a common room)

Look at providing some sports facilities for the students such as a football pitch, gym or similar.

8) Library

The library itself is quite a small space and contains very few physical books. However, there is a large stock of e-books available for staff and students to access. In addition, library opening hours are very limited and actually decrease around examination times. The justification of this is that the library is staffed by students outside of the normal 9-5 opening hours and that these students don't want to work in the library around the examination period. However, this would seem counter intuitive and all students should be able to study in the library and use it for their self directed study in the evenings and opening hours should be EXTENDED at periods of higher demand (ie examination period).

In addition to this, and as a result of the total absence of communal space for the students, the library is quite noisy and students have to eat their lunch in there resulting in an atmosphere not particular conducive for private study.

It is recognised that most students currently seem happy to study at home but with such a large student body the option should be available for all students to study when and where they want. In an ideal world students should have access to a study space with computers/wifi and study desks (not necessarily physical book loans) 24 hours a day 7 days a week all year round.

Suggestions:
Increase the opening hours on the library to allow students to study on campus in the evenings (this does not necessarily mean that they can borrow books (perhaps install a book security system)

Include copies of all syllabi for all courses in the library. Some of the copies should be available for loan and some should be restricted to the library.

There should be additional copies of the most important/useful books which are restricted to the library to ensure that there is always a copy available to be used for study.

9) Admission

Admission appears largely out of the control of the Faculty. But there is a small majority of students (50-60% of those questioned) who would support an entrance exam to help create a baseline level of knowledge, or aptitude.

Summary

The students of FVMG are a highly motivated, intelligent, articulate and sociable cohort who work alongside the faculty staff to shape and hone the structure and delivery of the veterinary curriculum. In general they are very well supported pastorally and academically, and appear highly valued by the staff of the faculty.

As with all courses there are imperfections, but students are integral in their correction and in the development of course structure and the formulation of solutions to problems.

The biggest challenges facing this student body appear to be support for their extra curricular activities and private study, and the ongoing commitment to curriculum review to ensure students are not overloaded with extraneous material. For this reason it is essential that the provision of social and study space is prioritised.

As with all veterinary students the veterinary curriculum not only provides knowledge but it must also shape high quality clinicians of the future, an ongoing commitment to professional excellence starting with the student body would be a desirable development.