

**Diferenciación Veterinaria:
cómo la educación veterinaria
puede apoyar adecuadamente
el desarrollo de la profesión**

**Veterinary differentiation:
how veterinary education
can adequately support the
developing profession**

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Resumen

Estamos en un punto crucial en el tiempo para la enseñanza de la veterinaria. La decisión de ampliar el alcance y el potencial de la educación veterinaria es fundamental para que la profesión pueda navegar hacia un futuro sostenible. El liderazgo, la colaboración y una visión compartida determinarán el destino de la profesión. La expansión del conocimiento en el ámbito veterinario es un reto a la formación de los veterinarios omnicompetentes. La educación veterinaria puede apoyar adecuadamente el desarrollo de la

Abstract

We are in a pivotal point in time for the veterinary medical education. A decision to broaden the scope and potential of veterinary medical education is fundamental for the profession to navigate a transition into a sustainable future. Leadership, collaboration and a shared vision will determine the destiny of the profession. Knowledge expansion in the veterinary field is challenging the training of omnicompetent vets. Veterinary medical education can adequately support the developing profession by implementing

profesión mediante la implementación de una diferenciación en sus programas para responder a la demanda de la sociedad de una manera sostenible. Mediante la formación de los veterinarios a ser más competente en animales de compañía o animal de producción se podría influir positivamente la confianza de los veterinarios, ayudando así a mejorar su comunicación con los clientes y el bienestar mental. Este artículo describe los retos actuales de la profesión y las oportunidades para la diferenciación en la educación veterinaria de cara a combatir estos desafíos.

Palabras clave: Comunicación, Especialización, Retos, Sociedad, Percepción pública.

a differentiation in their programmes to answer the demand of society in a sustainable way. By training vets to be more competent in either companion animal or food animal medicine one might positively influence the vets' confidence, which can help to improve their communication with clients and improve mental wellbeing. This article describes current challenges in the profession and the opportunities for differentiation in veterinary education to combat these challenges.

Key words: Communication, Specialization, Challenges, Society, Public perception.

A brief history

Formal veterinary education began in the Western world in the 1760s in Lyon and Alfort in France with the establishment of the first Western veterinary colleges (Smithcors, 1957). These institutions were established in an effort to reduce the severe economic impact of animal diseases, particularly, rinderpest. The French colleges had high standards for producing well-educated veterinarians who quickly addressed important animal health problems and the new profession flourished. The first anglophone college was established in London in 1791 (Pattison, 1983). This was followed by the Edinburgh Veterinary College (Royal Dick) founded in 1823. A graduate of the Edinburgh school established the oldest existing veterinary college in North America, the Ontario Veterinary College, in Toronto in 1862. In the United States, the first veterinary colleges were established in 1852 and 1854 in Philadelphia and New York respectively (Pritchard, 1994).

Between the World Wars, veterinary education was consolidated. After World War I, the influence of horses as a means of transportation declined and agricultural productivity expanded. As predicted by the sculpture "The Gentle Doctor" (Christian Petersen, 1937), the emphasis of the veterinary medical profession shifted once again by the 1950s toward companion animal medicine, an emphasis that remains today.



Figure 1. 'The Gentle Doctor', by Christian Petersen, 1937.

During the early 1980s, rumblings of concern about the future began to be heard within the profession. Practitioners, particularly those in small animal practice, believed that there were too many veterinarians. More recently, the globalization of food distribution, and the market increase in livestock production have increased the demand for veterinarians to be involved in the health and management of livestock at population level. In addition, veterinarians are increasingly encouraged to be involved in veterinary public health.

The environment of veterinary medicine is one of change. There are major demographic, political, environmental, disease, technological, and economic influences, all driving changes in society. These changes have significant impacts on future veterinary medicine and veterinary medical education. In addition, the profession continues to differentiate, i.e. limit the scope of professional responsibility of individual veterinarians in order to maintain needed levels of competency. In 1992, 67% of all practicing veterinarians in the US limited their professional efforts exclusively to a class of animals or species, and 92% predominantly to a class or species (AVMA, 1993). This differentiation is followed by more disciplinary specialization.

The veterinary curriculum

Education aims to be reactive to the needs of the profession, as laid down by directive and accreditation standards that are set and administered by the profession. As a professional training a veterinary study programme should focus on the outcome in terms of skills and competences. Veterinary training shall provide an assurance that the professionals have acquired the competencies required "to enable the veterinary surgeons to perform all their duties" (Dir 2005/36/EC, Annex V). Minimum knowledge and skills are listed in Article 38 of Dir 2013/55/EU. These have been interpreted and translated into more specific day-one competences by the European System of Evaluation of Veterinary Training (ESEVT, 2009). The list was set up 1978 and has never been revised according to scientific, technical and societal development. An update and modernisation is necessary, in response to the knowledge expansion that has occurred in the veterinary field.

Supply and demand

The American Veterinary Medical Association (AVMA) reported in 2013 that market indicators suggest excess capacity of veterinary services at national level. The AVMA calculated that there was national excess capacity of 12.5% at current price levels for services. The magnitude of the surplus capacity in the US is expected to range from 11% and 14% between 2012 and 2025, equivalent to approximately 9,300 to 12,300 vets. The AVMA report observes that high student debt and stagnating vet incomes in recent years mean that vets are unlikely to choose to reduce their average hours or retire earlier, adding to the problem. Excess capacity appears to be largest for equine practices, followed by small animal practices, food production practices, and mixed animal practices.

Concerns about an oversupply of vets in the UK are recurring in the literature, it has been suggested that the supply of small animal vets in the UK is 28% over capacity (Veterinary Record, 2014). Some of the indicators of excess capacity identified in the US are beginning to show through in the UK. In the US, vet graduates are reported to be getting fewer job offers and earning less in their first year of employment (Shepherd & Pikel, 2012). Similarly, UK vet graduates report increasing difficulty in finding work of the type they seek – although almost all of those surveyed had found a job within three months (Robinson & Buzzeo, 2013). Contrary to what one might expect, student intakes have been increasing in many UK veterinary schools over the past years and new veterinary schools have started. One argument for not restricting student intake or the development of new veterinary schools in the UK is the growing number of veterinary surgeons coming to the UK from other European countries. Portugal and Spain annually take in approximately 420 and 1400 students respectively (Table 1), of which 40 and 190 respectively registered with the RCVS to work in the UK in 2013-2014 (RCVS Facts, 2014).

Country	Population (millions)	Active vet.	No. of Vet Schools	No. of new students per year	Active vet. per million of inhabitants	1 st year students per million of inhabitants	1 st year students per thousand of vet.
Sweden	9.0	2,700	1	84	300	9	31
Finland	5.3	1,922	1	70	363	13	36
Norway	4.7	2400	1	56	511	12	23
Denmark	5.5	3,104	1	180	564	33	58
The Netherlands	16.7	5,815	1	225	348	13	39
France	64.0	17,186	4	400	268	6	23
Germany	82.3	35,098	5	770	426	9	22
Portugal	10.7	3,842	6	420	359	39	109
UK	64.1	19,682	8	946	307	15	48
Spain	46.5	28,188	12	1,400	606	30	50
Italy	58.1	27,000	13	774	465	13	29

Source: Self-elaborated from information available from different sources.

Table 1. Numbers of veterinary surgeons and veterinary students as proportion of the population in various European countries.

Communication

In the US, veterinary leaders have described the profession as being at ‘tipping point economically’ and have voiced concerns about the state of the industry (Burns, 2013). A recurring message in the literature is about vets communicating value – both as a qualitative concept of what they can offer, and also in terms of value for money. One US study reported that 95% of vets believed that dogs and cats require at least one ‘wellness examination’ annually. Yet, at the same time, 65% of vets thought their clients did not value these checks (Brakke Consulting, 2011). Another US survey found that – while pet owners were generally happy with their vet practice – they identified a lack of association between the value and price of services.

The Lowe report (2009) challenged the profession to renew its relationship with farmers, amid revelations that farmers want vets to provide services that meet the broader needs of their business. Wrigley and Lambiri (2014) state that consumers increasingly value ‘authenticity, traceability and ethical sourcing’. This message is echoed across the literature: there is a necessity for vets to better understand – and respond to – the needs of clients. The importance of this is reinforced by a study of public expectations carried out on behalf of the Royal College of Veterinary Surgeons (RCVS) in the UK (MG&A, 2014). The study found that the three main criteria for selecting a vet practice were: proximity, standard of care and personal experience. It can be inferred from the literature that one of the fundamental drivers underpinning veterinary services may need to change – from a model driven by what vets are prepared to offer, to one that is driven by the needs and wants of existing and potential clients. This issue is emphasized by the growing challenge of other professionals taking on work related to animal health. These professionals (such as nutritionists, equine dentists, farm advisors, lay scanners) spend most of their time in their area of expertise and compete with vets who only spend half or less time in that specific area, particularly when working in mixed practice.

Mental wellbeing

A number of studies have tried to develop an understanding of the wellbeing and mental health status of vets in the UK. Of great concern was the discovery that one in seven vets suffer burnout within the first ten years after graduation, and that one in five female vets meets the criteria for burnout in their first five years after graduation. Falling salary levels and increasing student debt could also be factors moving forward.

Where vets once ranked first amongst occupations with the highest suicide rates, that risk has dropped considerably. They no longer rank among the top 30 occupations with the highest suicide rates (Roberts *et al.*, 2013). The most recent RCVS survey found that nearly 90% of vets considered veterinary work to be stressful, however it was also the case that a similar proportion said it provided variety and over 80% reported job satisfaction (Buzzeo *et al.*, 2014).

The difficulties that have been identified as contributing to mental ill-health in vets practising today include: managerial aspects of the job, long working hours, heavy workload, poor work-life balance, difficult client relations, and performing euthanasia (Platt *et al.*, 2012). Proactive approaches to managing workplace stress in veterinary

practice suggested by the literature include regular appraisals for all members of the vet team, as well as the importance of personal and professional development plans (Field, 2011). Fewer than 30% of vets who responded to the 2014 RCVS Survey reported that they often had energy to spare and felt relaxed (Buzzeo *et al.*, 2014). The veterinary profession is acutely aware of the changing environment, and the need to embrace the future including a need for an evolving skill set.

How can veterinary medical education adapt in preparing veterinarians to respond to new needs of society?

To remain relevant to shifting new societal needs, veterinary medical education must prepare veterinarians for what might come in the future, not just for what can be seen now. Veterinary medicine is the only profession in the health and medical field, trained in comparative medicine. Concern for animals, their health and wellbeing, and their interface with people, inserts veterinarians as critical components of public health and as essential health care providers to society locally, nationally and internationally. Veterinary education can be strengthened by forming collaborations with other disciplines on the same campus to form interdisciplinary links with business, law, education, science, medicine and social sciences, and by collaborating amongst the veterinary universities on a European or international plan for veterinary medical education (Willis *et al.*, 2007).

The European Directive states that veterinary education “shall comprise a total of at least five years of full-time” study. The five-year study programme should be regarded as the minimum to provide the essential basic competences across all common domestic animal species needed to practice the veterinary profession at entry-level. However, the available knowledge and techniques in the veterinary field are increasing rapidly, and many schools are now considering or have incorporated a differentiation (tracking) of their veterinary degree. Tracking provides a means for students to concentrate on certain areas of veterinary medicine, while others are studied to a lesser extent. With this differentiation in mind, there are several areas to consider, and four issues are discussed here:

1. Vets would like to see veterinary training developed further. They want it to reflect the real breadth of career choices graduates face – and allow students to specialise earlier (BVA1, 2015). Without significantly increasing the length of the veterinary training programme, it is unfeasible to expect all individual universities to provide the requirements to meet all of the anticipated needs. Increasing the length of the study programme similar to the human medical field, will further increase student debt. In addition, society has accepted differentiation of veterinarians at a basic level, i.e. the ‘farm vet’ versus the ‘companion animal or equine vet’. The concept of change is for an adaptive and responsive system of veterinary medical education, achieved by defining the areas of professional focus. Universities would choose to offer selected areas of professional focus most appropriate to their capabilities. Experts would be centralized in appropriate centres of expertise to create leading-edge critical masses. Food and farming industries, the veterinary profession and veterinary education centres of expertise would be in an ideal position to explore opportunities for a ‘food supply chain career development path’ for veterinary graduates.

It is challenging to recruit vets with clinical and academic expertise in all the different fields of study for each university. In the UK only a minor part of the veterinary training programme covers poultry or pig medicine. Recruiting academic members of staff specialised in these areas at each university is becoming more challenging. Similar challenges occur in delivering clinical training in these minor species, particularly in urban locations with a limited livestock industry in the vicinity of the university. A centre of poultry/pig/livestock expertise at one university, collaborating with other universities to deliver basic undergraduate training, may help to attract experts to collaborate and share their knowledge by teaching undergraduate students.

Veterinary medical education struggles with an overload of information in the curriculum. This is partly due to the considerable developments that have been implemented in first opinion practice, which require more knowledge and skills within each species area. To address this information overload, differentiation (tracking) of the curriculum is commonly applied in veterinary training. This reduces the training for all students in all tracks except one. For example, the Faculty of Veterinary Medicine in The Netherlands, delivers a three-year Bachelor's study programme and a three-year Master's programme. The Bachelor programme consists of 2 parts of which the major part (165 out of 180 credits) consists of basic training in all species areas, whereas the Master's programme offers three different tracks: Companion Animal Health, Farm Animal Health/ Veterinary Public Health and Equine Health. Although graduates are licensed and trained in all species, they are given the confidence and competence in one area of veterinary medicine. This approach of veterinary medical education is better adapted to what society expects; a 'companion animal vet' to take care of their pets, and a 'food animal vet' from who a farmer can expect veterinary advice and skills for his livestock business. However, in case of an emergency or during disease outbreaks all graduates are still adequately trained to step in and help resolve those situations. By spending more time and training in one field the graduate should feel more capable to live up to the clients expectations, and feel more confident to acknowledge their professional strength in certain areas and lack of competence in other areas. Being better able to build on their strengths and acknowledge their limitations can help to reduce the stress vets currently experience.

2. Development of a situation where veterinary licensure will not cover all areas of professional focus, but rather will lead to public assurance of competency in a selected area of veterinary medicine. Licensing of a graduate veterinarian would recognize competency in a specific area of professional focus, for example 'food animal veterinarian' and 'companion animal veterinarian'.

In discussions with vets in the UK, a recurring issue was whether existing curricula deliver the competencies required for modern veterinary careers – there were perceptions of insufficient emphasis on industry, food hygiene, research etc. Some vets questioned whether omnicompetence was appropriate in the context of increasing specialisation – some felt a Limited Licence to Practice (e.g. graduate as a small animal vet and can train in other areas later, as required) would better reflect the role of the modern vet (BVA2, 2015). All veterinary establishments

could deliver a Bachelor programme and then excel and train students in their specific area of expertise. Postgraduate education can build on these programmes with further specialist training.

3. Universities would need to develop opportunities for continuing education for veterinarians seeking to change careers and licensure in a new area of professional focus. Completion of the undergraduate veterinary education should be considered as a starting competence and good quality education also implies training students for life-long learning. After a differentiated Masters programme there will be further specialisation options into single species, or disciplines.
4. Modernisation of the curriculum and introducing new learning technologies should be encouraged. Universities should capitalize on new technology to provide distance education. With these new technologies and specialised centres of expertise, veterinary education in a proposed Bachelor programme could be delivered in collaboration with other veterinary establishments focussing on each others area of expertise. In that way, undergraduate students could be trained and inspired by a qualified clinician and academic who is an expert in the field and can share relevant and up to date knowledge in his or her species area.

The policy paper on veterinary education from the Federation of Veterinarians of Europe (FVE, 2014) states: 'A common five-year full-time study programme should be regarded as the minimum period to provide the necessary width of essential basic competences all students must have acquired at graduation. Clinical training constitutes the core of the veterinary education and must cover all the listed subjects across all common, domestic animal species. In depth competence and specialisation must be acquired after graduation.' The breadth of basic competences required within each field however has increased to such a level that adequate training in all areas may be beyond what is feasible for most students. However in society (usually depending on geographical location of the veterinary practice) one is expected to be competent across species in certain areas, for instance emergency medicine and basic veterinary skills such as vaccination. These essential skills could be taught in the final year of the Bachelor programme. Although it is desirable for undergraduate students to be exposed to all areas of veterinary medicine, focussing on companion animals or food animals only during their Masters programme, may contribute to the development of more competent veterinarians, which is what society and other vets tend to prefer. The Bachelor programme will also continue to provide the all-round skills current vets have which makes them so suitable in many areas of 'One Health'. A suggested complete differentiation starting at Bachelor level would remove this strength and is therefore not encouraged.

During their study some students will not make the 'right' decision and want to change their career path later on. In the suggested differentiated Master programme with limited licensure, a 'food animal veterinarian' would need to upskill and enter the 'companion animal' Masters programme to change career to a 'companion animal veterinarian'. Currently differentiation, including limited licensure, is not supported by any veterinary accreditation programme and a veterinary graduate can therefore still perform any form of veterinary

medicine, regardless of their Masters training area. With current developments in companion and food animal medicine it is doubtful if this is desirable; to ensure best practice qualified veterinarians are voluntarily entering re-training programmes already (for example after a long break from practice, or when changing species areas) and it seems reasonable to request this when vets want to change their career path. Each 'track' (food animal or companion animal) needs a skilled and competent vet to be able to communicate their value confidently. The balance between omnicompetence and adequacy for society could partly contribute to the issues described earlier with regards to mental wellbeing and communication. A perceived lack of confidence in the field may inhibit vets from communicating their value; they need to believe 'they are worth it' to be able to sell their service.

Conclusion

Knowledge expansion in the veterinary field is challenging the training of omnicompetent vets. Veterinary medical education can adequately support the developing profession by implementing a differentiation in their programmes to answer the demand of society in a sustainable way. By training vets to be more competent in either companion animal or food animal medicine one might positively influence the vets' confidence, which can help to improve their communication with clients and improve mental wellbeing.

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