

The Veterinary Business Landscape: Contemporary Issues and Emerging Trends

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1. Introduction

The veterinary sector has witnessed considerable change in recent years, and this has had a significant impact on the wider veterinary business landscape. Most noteworthy, perhaps, has been the change at the global level in the focus of animal welfare, with a growth in small/companion animal care and a reduction in large animal work (Lowe, 2009). This has resulted in increased competition amongst veterinary practices and the recognition that veterinary services need to be appropriately marketed. Furthermore, it has been noted that the increase in and improved access to on-line veterinary pharmacies is beginning to 'squeeze' practices' profit margins on the sale of veterinary medicines, prompting the realisation that pricing structures for core veterinary services may need to be significantly revised in order to compensate.

With specific regard to large animal work, equine services now tend to be handled by specialists, and farm animal work is considered to be in decline, with the latter prompting particular concern. Indeed, significant changes to the farming sector (i.e. declining livestock populations, a reduction in the number/size of farm holdings, new legislation and a radical change in the relationship between government and veterinarians) mean that farm animal veterinary practices now face significant competitive and sustainability issues.

There have also been significant changes to existing veterinary business models, with a marked decrease in the number of small private, independent practices and a drive toward partnerships, groups and large corporate structures with shared resources and strengthened buying powers. As a result of the latter, new management career opportunities have opened up within the corporate sector for appropriately trained and entrepreneurially motivated veterinarians to run individual clinics or sites as semi-independent business units.

Collectively, the above changes have created an extremely dynamic and highly competitive veterinary business landscape. Indeed, it is now widely recognised that managers within the broader veterinary industry need to be much more commercially aware than in the past, prompting the recognition of a significant skills gap in business and management (Lowe, 2009). This skills gap is recognised beyond the traditional practice management role, with some acknowledgement that managers in the veterinary science, diagnostics and genetics

areas of the pharmaceutical, bio-science and pet food industries are experiencing similar difficulties. Recent literatures further platform the need for other veterinary professionals, such as advisors in government departments and those responsible for intensive livestock production units, to acquire business and management skills. Such trends, are not confined to the UK, rather, they would appear to be global phenomena.

Against this backdrop, and by way of providing valuable context for some of the more clinically oriented chapters in this book, our chapter considers some of the recent changes and emerging trends within the broader veterinary sector and the actual and potential impact of these on the veterinary business landscape. In particular, we focus our discussion on changes and trends within three key areas related to veterinary medicine: firstly, the recent changes within the agricultural sector; secondly, the global gender shift toward a predominately female profession and, finally, the evolving veterinary educational curriculum with an emerging trend toward the incorporation of business and management topics. We argue that, collectively, changes in these areas will have a considerable impact on the veterinary sector from a business perspective, and that such impact will be both positive and negative in nature. Given that the extent of the changes and emerging trends in these particular areas is only beginning to gain recognition, little by way of robust academic attention has been paid to their potential impact from a business perspective. As a consequence, there is a dearth of research at both the conceptual and empirical level in these areas, with a clear need for extant literature to be developed and expanded.

In this conceptual chapter, we explore the above issues by reviewing relevant literatures, identifying current trends and discussing the potential impact of these on the veterinary profession. With few studies in this particular area, the authors adopt an inductive approach, designed to generate new understanding and propositions for further research (Rosa & Dawson, 2006). Following this introductory section, we examine some of the recent changes within the agricultural sector and the impact of these on the veterinary profession. This is followed by a discussion of the gender shift currently being experienced within the profession and, subsequently, the emerging trend within veterinary curricula to include business and entrepreneurship modules. With regard to the latter, the potential impact of such curricula developments on employable skills is explored. The chapter concludes with a discussion on the implications of all these changes for the veterinary sector and offers some suggestions for future research. Thus, the authors lay the theoretical foundation for future empirical work in this field by debating some key concepts and generating hypotheses for future study. Specifically, the authors posit that veterinary curricula will need to continue to adapt to ensure graduates are equipped with the relevant skills and abilities to enable them to keep pace with the dynamic and highly competitive industry in which they will eventually work. In this regard, the incorporation of business and entrepreneurship education will be critical.

2. The agricultural sector

According to Lincoln (2004), the veterinary profession of old was primarily concerned with horses and other large working animals; this was not surprising, given the strong agricultural basis of earlier local economies. However, as national economies moved away from dominant agricultural bases, the mass manufacture of farm machinery made life somewhat less laboursome for farming communities, reducing the dependence on large

working animals and manual labour. Eventually, modernization processes led to the industrialization of both arable and livestock farming (Ilbery & Maye, 2010), with assembly-line production systems incorporated into farming practice to help boost production and lower costs. Through a combination of mechanisation, genetics and artificial inputs, farmers were able to improve yields (Boulton, Rushton, Wathes & Wathes, 2011). As a result, in the dairy sector, milk quotas had to be introduced in the '80s to address overproduction, and this was followed by the deregulation of milk markets in the '90s. Dairy producer numbers declined, lactation yields per cow increased and there was a significant reduction in the number of dairy cattle (Boulton et al; 2011). The impact of such a radical change on the veterinary profession was becoming clear - fewer dairy cattle would eventually mean fewer 'patients' for farm animal vets. Indeed, the gradual reduction in veterinary 'patient' numbers has not been confined to the dairy sector. The pig population has also halved over the past fifteen years resulting from a combination of factors including the Euro-pound exchange rate, changes to animal welfare regulations and disease problems (Henry, Baillie & Rushton, 2011). The 'Foot and Mouth' (FMD) epidemic of 2001, in conjunction with changes to EU subsidy payments, has also resulted in a reduced sheep population. According to the Department for Environment, Food and Rural Affairs (Defra), the gradual decline in livestock numbers witnessed by the agricultural sector has been developing over recent decades (Defra, 2010). The net effect of this raft of changes and events has been a reduction in the number of family-run, working farms in the UK, whilst a growth in larger corporate holdings and 'hobby-style' or supplementary-income farms has been noted (Defra, 2009; Rushton & McLeod, 2006; Henry et al., 2011).

EU enlargement, the CAP reform, changing consumer demands and globalization have also impacted negatively on the agricultural sector (Rudmann, 2008), with the scale of support provided to farmers drastically reduced (Alsos, Carter, Ljunggren & Welter, 2011). A gradual decline in income from traditional farming activities has forced many farming businesses to diversify in order to remain viable. Diversification requires farmers to combine other, typically non-agricultural activities with their core farm business. In this regard, conversion of farm buildings for alternative, tourism-related product offerings became a popular choice. Indeed, about 50% of farms in the UK have supplemented traditional incomes through some type of farm diversification (Defra, 2008, as cited by McElwee & Bosworth, 2010: 820). Again, all of this has had a negative impact on the veterinary community, as the trend toward smaller farms with fewer livestock and diversified activities has resulted in less demand for veterinary services overall.

3. The gender shift

The veterinary profession has traditionally been a male domain, however, in recent years, there has been an unprecedented increase in the number of women entering veterinary medicine (BVA/AVS, 2008; Lowe, 2009). By way of example, in 1998, one in three vets in the UK were female, with 57% of those under thirty being women; by 2002, 37% of vets registered with RCVS were female (RCVS, 2002), whereas in 2010, seventy one percent of UK vets under 40 were female (RCVS, 2010: viii). The recent '2010 Survey of the UK Veterinary and Veterinary Nursing Professions' (RCVS, 2010) highlighted that fifty-four percent of respondent veterinarians working in practice were women; furthermore, eighty-four percent of respondents in veterinary practice were employed within clinical veterinary

practice and fifty-seven percent of those were women. Indeed, in 2011, women outnumber men as working veterinarians in the UK; moreover, eighty percent of veterinary undergraduates are female (RCVS, 2010). This significant shift in the gender make-up of both the student and practicing professional veterinary populations raises a number of important issues relating to educational strategies, career orientation, pay, working practices, and the general future direction of the profession. All of these, as will be discussed in section five of this chapter, will have a direct impact on the future veterinary business landscape.

Not surprisingly, perhaps, the trend toward a predominantly female profession is not restricted to the UK. According to statistics from the American Veterinary Medical Association (AVMA), the number of female veterinarians in the US more than doubled between 1991 and 2002 (Zhao, 2002). Whereas only 5% of applications to US vet schools were from females in the late 1960s, by the end of the 1990s, over seventy percent of applications were from young women.

The increasing numbers and dominance of women within the veterinary profession have also been discussed in several other countries (see, for example, Heath (2007) in relation to Australia; Lofstedt (2003) in relation to Canada, and Basagac Gul et al. (2008) with regard to Turkey). Collectively, such data suggest that the 'feminization' of the veterinary profession is not only a global phenomenon but also looks set to continue for some time.

With regard to the 'cause' of this phenomenon, several explanations have been offered, including improvement in chemical restraints available for large animals, the elimination of gender-based admission discrimination and the generally caring portrayal of veterinarians in both the literature and on television (Lofstedt, 2003:534). Controversially, perhaps, the marked increase in women entering the veterinary profession and, in parallel, the decline in men's participation, may also be attributed to the relatively lower salary levels of veterinary professionals (Lofstedt, 2003). This hypothesis builds on Tuchman's (1989) argument that professions deemed to be lacking in appropriate economic incentives and, by association, cultural legitimacy, may quickly lose their attraction for men. It must be noted, however, that despite the increasing number of women entering veterinary medicine and the fact that women now make up more than half the veterinary workforce, most veterinary businesses, whether based on traditional practice or the commercialisation of scientific research, are still led by men. Thus, to date, women have not featured prominently as business leaders within the veterinary profession, nor have they been perceived as potential entrepreneurs or innovators. This point is particularly important, because based on what we know about women and business ownership/entrepreneurship generally (see, for example, Brush, 1997; Brush, Carter, Gatewood, Green & Hart, 2001; Henry & Treanor, 2010), it is unlikely that current levels of veterinary entrepreneurship will be maintained or, indeed, increased in a female dominated veterinary sector.

As with the majority of professional disciplines, veterinary colleges are the 'gatekeepers to the profession' (Andrews, 2009). However, the merit-based admission system now in place, whilst undoubtedly facilitating women's entry into the profession, means that it is veterinary 'applicants', rather than veterinary 'students' who should be profiled to gauge the attractiveness of (or barriers to) veterinary medicine (Andrews 2009; Lincoln, 2004). For example, in the US, Zhao (2002) reports that both vet students and veterinarians consider

the salary to be off-putting to male students. The salary of veterinary practitioners is significantly less than that of their human medicine counterparts and, therefore, men may be more inclined to train in human medicine. Zhao (2002) indicates that males and females choose their careers for different reasons – women will select something they are passionate about and think they will enjoy, whereas financial reward tends to shape the options considered by men. Zhao (2002) points to anecdotal evidence that men consider their longer-term futures and ability to provide for their families; similarly, he posits that an attraction for women to veterinary medicine is the ability to work part-time when raising young children, an option that has not traditionally been open to medical professionals to the same extent.

Interestingly, Lincoln (2010) found that young males were more likely to be deterred from applying to veterinary schools where faculty is predominately female. Research also suggests that men are dissuaded from entering female dominated professions as ‘women’s work’ tends to attract lower salaries (Reskin & Roos, 1990; Lincoln 2004). It certainly seems that the veterinary profession is likely to become increasingly feminised in the medium to long term, and that the implications of such feminisation for future veterinary businesses now need to be given serious consideration.

4. Veterinary education

Admission to veterinary programmes around the globe is a highly competitive process, with candidates typically required to attain top grades in science-based subjects to qualify for entry. Owing to the large number of applicants to veterinary schools, interviews often form part of the selection process. Although curricula will vary from provider to provider, veterinary programmes are extremely intensive courses of study and typically include pre-clinical, para-clinical and clinical components. In addition, as part of their extramural study (EMS), veterinary students are required to spend a considerable amount of time over the course of their degree in a range of veterinary practices and hospitals to gain practical clinical experience. In the UK, course duration is typically five years, although it can be longer elsewhere.

In addition to an in-depth knowledge and understanding of the scientific and clinical aspects, veterinary students also need to have a grasp of the legal, ethical and social elements of veterinary practice. Thus, communication and interpersonal skills; responsible and professional behaviour, and an understanding of the business context of veterinary practice are now recognized as important areas that should be incorporated into veterinary curricula. With particular regard to the latter, it was a group of women veterinary surgeons in the UK who, in 1941, first called for business training to be included within veterinary programmes (Aitken, 1994). While such calls are gaining momentum, the Lowe Report (2009) highlights that UK veterinary graduates remain insufficiently prepared for effective business management or leadership, this despite the fact that most will probably work within or lead a small veterinary business at some stage in their careers. More specifically, Lowe (2009) called for the inclusion of business planning, marketing, human resource management and an awareness of the veterinary business environment to be provided to veterinary students as part of their undergraduate training so that, upon entering the workplace, they would be equipped to offer clients treatments and prevention strategies

that are both cost-effective and aligned with the needs of the individual veterinary business within which they work (Lowe, 2009: 55). Similar calls have been made for the inclusion of such business and management training in North America (Ilgen, 2002; Kogen et al., 2005).

Currently, where business and management topics are included in the veterinary curriculum, they tend to be incorporated under the banner of 'Professional Studies', a strand of education running through most veterinary degrees, which, as its label suggests, covers the professional behaviour aspects of veterinary medicine. This strand typically includes the non-clinical skills and abilities associated with working as a veterinary professional, thus, communications, legal and ethical considerations, insurance, veterinary certification and compliance issues, all form part of this element of the programme. With particular regard to business and management, a range of topics are taught, including enterprising skills and abilities (i.e. creativity and idea generation), practice management (i.e. marketing, finance and human resource management for existing veterinary practices) and entrepreneurship (i.e. new venture creation or the development of a new service/clinic within the veterinary practice sector). Indeed, there appears to be growing recognition that any type of entrepreneurship education can be extremely beneficial for students regardless of their discipline area. Such education not only prepares individuals for starting new businesses but, in increasingly competitive environments, equips students with the knowledge, skills and competences to engage in a more enterprising, innovative and flexible manner (Hynes & Richardson, 2007: 733), preparing them for a world where they will increasingly need to manage their own careers in an entrepreneurial way (Hytti & O'Gorman, 2004: 11-12) and add value to their employers' businesses (Henry & Treanor, 2010).

Notwithstanding the above, the incorporation of business education, including entrepreneurship education, within veterinary curricula is still relatively new, despite the long-standing recognition that the provision of business skills will benefit both veterinary graduates and employers. However, the typical positioning of business topics within the professional studies strand of the veterinary curriculum has been somewhat problematic, with anecdotal evidence suggesting that such non-clinical topics tend to be viewed by students as peripheral rather than core. While this is, to some degree, understandable, given the already overcrowded veterinary curriculum, it does pose a number of problems for veterinary business educators tasked with preparing students for the competitive business environments in which they will eventually work.

While pedagogical approaches to veterinary education will vary from provider to provider, most veterinary schools tend to employ a combination of formal lectures, directed learning sessions, tutorials, practicals and case-based learning (QAA, 2002), with assessment methodologies ranging from multiple-choice questions (MCQs) through to portfolios and objective structured clinical examinations (OSCEs) (Baillie and Rhind, 2008). Veterinary business topics also tend to be examined in the traditional MCQ or EMQ (extended matching questions) format, however, the more practical and reflective assessment methods normally associated with mainstream business education are beginning to be introduced. While the current trend within veterinary curricula is clearly toward the inclusion rather than the exclusion of business education, it is widely acknowledged that the business curriculum is still evolving and is undergoing continuous refinement as a result of student feedback and industry consultation.

5. Discussion and implications

The changes discussed above under the three headings of the agricultural sector, the gender shift and veterinary education have significant implications for the veterinary business landscape across the broader veterinary sector, impacting beyond the practice wing of the profession. As mentioned at the outset of this chapter, to date, robust academic attention has not been paid to the implications of changes in these areas. Such implications will now be discussed under the relevant headings below.

5.1 Implications of changes within the agricultural sector

A review of the literature highlights a number of changes within the agricultural sector, all of which have a direct impact on the provision of farm animal veterinary services. In the first instance, and at the fundamental level, reduction in livestock numbers, farm holdings and farm sizes mean that there are going to be significantly fewer farm 'patients' requiring veterinary services. Although it is now recognised that farm animal veterinary practice is in decline (Lowe, 2009), there is still a substantial farming community around the globe, and thus this valuable specialist service still needs to be provided to those who require it. As a result, farm animal veterinary practices are coming under increasing pressure to review their operational business model to ensure their practice is both viable and sustainable.

In parallel, with reduced government support, a decline in income from traditional farming activities, and forced to diversify to sustain their own businesses, farmers now have less disposable income to spend on veterinary services. As a result, with regard to veterinary work, there is a growing trend toward farmers doing more for themselves rather than immediately referring work to the vet. Therefore, the average spend on veterinary services per farm holding is going to reduce. The business implications of this for rural farm animal veterinary practice are quite serious: turnover and profit margins will be affected. As a result, farm animal veterinary practices will need to revisit their operational costs to ensure the service they are offering is both viable and aligned with their clients' needs. In this regard, future veterinary graduates interested in farm animal work will need to have a thorough understanding of their clients' needs; appreciate the changes taking place within the farming sector and be able to advise farmers on the more strategic issues related to farm animal health and welfare.

It would appear too that marketing will be crucial to the survival of farm animal veterinary practice. With reduced demand for services but increased competition from existing providers, farm animal vets will need to engage more closely with their client base to determine farmers' needs, adapt their service and market it appropriately. It seems inevitable that, in the future, farmers will look for a more holistic veterinary service offering. It would appear, therefore, that in parallel with farming enterprises themselves, farm animal veterinary practices will need to explore diversification strategies if they are to remain viable from a business perspective.

5.2 Implications of the gender shift

Interestingly, the global trend towards a predominately female veterinary profession, as discussed above, has raised a number of serious concerns that will directly impact on the

future veterinary business landscape. Such concerns range from a potential reduction in mean salaries for veterinarians overall (as evidence from other sectors suggests that women tend to accept lower salaries), through to potential ramifications for large animal practice (as women tend to favour small, companion animal work (Lowe, 2009)). There are also fears that women will remain less likely to own practices than their male counterparts (RCVS, 2006, 2010), which may result in larger corporate chains becoming increasingly commonplace.

Rubin (2001: 1753) cites a succinct list of 'critical issues or concerns' set out by the Gender Issues Task Force (GITF), established by the National Commission on Veterinary Economic Issues (NCVEI) in 2000, as:

- Women's income lags that of men
- Women work fewer hours
- Women may be less likely to own practices; may achieve practice ownership later
- Women may define job satisfaction more subjectively, with less objective rewards
- Women may price services lower than men
- Women's business acumen may lag that of men
- Women may be more highly satisfied with lower income levels
- Women's income may be negatively influencing income levels for all veterinarians
- Women tend to bear more of the burden of balancing home, childcare, and eldercare responsibilities with professional responsibilities
- Women may be more reluctant to take on job or management responsibilities in the face of home management responsibilities.

By way of example of the potential negative impact of the 'feminization' of the veterinary profession, Smith (2002) highlights the gender shift that has occurred in the United States since the 1980s and outlines the parallel decline in veterinarians' economic standing over that period. In a similar vein, other commentators have reported that male veterinary graduates in the USA have received more offers of employment, larger salaries and, typically, greater benefit packages than their female counterparts (Gehrke, 1997; Slater & Slater, 2000; Lincoln, 2004). Similarly, the Brakke Management and Behaviour Study conducted in the USA in 1998 showed that women earned significantly less than their male peers even when factors such as ownership status, years experience and hours worked were the same.

Similar concerns relating to reduced salaries and pay gaps between genders have been voiced in the UK. For example, the Inter-Professional Group study of 'Women Professionals in the EC' (1993) highlighted unfavourable salary trends for UK women vets (Aitken, 1994). This issue was further highlighted in the RCVS Survey of the Profession (2010), which highlighted that: "females account for 59% of those who are leaving [the profession] on grounds of pay" (RCVS, 2010: 40). Thus, the veterinary sector could face significant staff shortages in the future, with veterinary businesses unable to deliver the range of services required by their clients.

As women come to dominate the profession numerically, the lower pay they receive ultimately means that the average salary for veterinarians may fall in real terms. For women in particular, the impact is greater, with existing pay gaps and potentially lower salary

levels restricting women from amassing the requisite capital to buy into a partnership or establish their own practice. This will have a direct impact on the veterinary business landscape, with potentially fewer independent practices and a continued growth in large corporate structures.

5.3 Implications of changes within veterinary education

In contrast with the two areas discussed above, the trend in veterinary education toward the incorporation of business and management topics within the curriculum should have a significant positive impact on the veterinary business landscape. Regardless of their discipline area, graduates in the 21st century face an increasingly competitive and volatile employment market and it is critical that they are equipped with skills that enable them to maximise their full potential (HEA, 2005). Future graduates will need to have greater ownership of their employable skills and be able to cope with economic upheavals to capitalise on career opportunities (McNair, 2003, as cited in HEA, 2005:12). Universities are under pressure to demonstrate how they are enhancing graduate employability (Dearing, 1997; BIS, 2009) and, in this regard, veterinary schools are no exception. According to BIS (2009), employable skills are modern workplace skills such as team working, business awareness and communication skills; essentially, they are skills that prepare students for the world of work. Thus, interpersonal, leadership and team skills; confidence, motivation and networking skills; problem-solving and business acumen are all deemed critical to enhancing graduate employability (Hawkins, 1999). In this regard, business and management education, more specifically, entrepreneurship education will have a particularly valuable role to play in veterinary curricula in the future. Indeed, there is already evidence in the literature to show that employers recruiting postgraduates place considerable value on such skills in the context of leadership, analytical thinking, problem-solving and idea generation in addition, of course, to actual work experience (CIHE, 2010).

Due to the highly competitive nature of the current veterinary business landscape, veterinary practices need to operate as viable business entities more so than ever before. Thus, veterinary graduates will need to have at least some foundation in marketing and finance. Furthermore, the new career opportunities created by the corporate sector will require entrepreneurially minded individuals who have an understanding of the broader veterinary business sector in addition to their veterinary degree. Through joint venture partnership arrangements, appropriately oriented veterinary graduates will have the opportunity to run their own business without all of the costs and risks associated with setting up a new independent practice or raising the finances required to buy into an existing partnership. If current trends in veterinary (business) education continue, then future veterinary graduates should be well equipped to not only exploit such opportunities as they emerge, but also to add value to the business dimension of all types of existing veterinary practice by helping to develop effective marketing strategies, contributing toward financial sustainability and enhancing the overall veterinary service offering. Furthermore, given that the majority of veterinary graduates take up roles within traditional practice settings, there would appear to be considerable scope for the commercialisation of research and new venture creation outside of this realm. In this regard, increasing the entrepreneurship dimension of the veterinary business curriculum will have obvious benefits.

6. Conclusions

This chapter has considered some of the recent changes and emerging trends within the broader veterinary sector and the actual and potential impact of these on the veterinary business landscape. Focusing our discussion on three key areas: the agricultural sector, the gender shift toward a predominately female profession and the evolving veterinary educational curriculum we reviewed the relevant literatures and explored the implications involved for the veterinary business landscape. Essentially, given the dearth of research in these particular areas, our primary contribution in this chapter has been to raise awareness of the potential impact of recent changes on the broader veterinary business landscape. In so doing, we enhance understanding of the business dimension, platform concerns, and encourage debate around future potential strategies that could help alleviate the negative impact of some of the changes we have discussed. This is important, given that little by way of concerted academic attention has been paid to the business dimension of the broader veterinary sector.

We demonstrated that the above changes have created an extremely dynamic and highly competitive veterinary business landscape. In the first instance, changes to the agricultural sector have had a significant negative impact on farm animal veterinary businesses, with fewer 'patients' for farm animal vets. Rural veterinary service providers will have to rethink their service offering and, possibly, diversify to ensure business viability in what is essentially a declining but still competitive marketplace. To some degree, this parallels the measures that farming clients have had to implement in order to sustain their own farm business. Undoubtedly, in the future, we will see significantly fewer farming enterprises and fewer farm animal veterinary practices in the veterinary business landscape. However, those farm animal veterinary service providers remaining in the sector will be offering a much more holistic service much more aligned to the changing needs of their farming clients.

The gender shift toward a predominately female veterinary profession will, as highlighted above, have a considerable impact on the veterinary business landscape. This area, however, has been particularly slow to gain attention in the literature and now requires urgent action if some of the potential negative impacts outlined in the earlier part of our chapter are to be avoided. The impact of career breaks, maternity leave, lower pay and, potentially, a continued trend toward companion animal care only, all suggest a future veterinary business landscape that fails to appropriately cater for farm animal, exotic species or specialist services and procedures. Furthermore, if women make up the majority of the veterinary workforce in the future, then their needs, working behaviours and career aspirations will need to be appropriately catered for and managed. This will have to lead to the introduction of new, more family-friendly working practices. In addition, if, as our discussion suggests, women remain less likely to pursue business leadership roles, then the veterinary business landscape will be 'stocked' with corporate enterprises managed, very possibly, by non-veterinary business managers. While further exploration is clearly needed, this could potentially be detrimental for the veterinary profession as a whole.

With regard to the veterinary curriculum, while the case for business and entrepreneurship education within veterinary medicine has never been stronger, the challenge now for educationalists is to figure out *what* exactly should be taught and *how* best to teach it. In

what is already a crowded curriculum with large student groups to cater for, prioritizing the business and enterprise agenda over the more clinical topics or 'ologies' (i.e. immunology, pathology, epidemiology, etc) is not an easy task. Given all the changes that are taking place in the broader veterinary sector, we argue the case for including the full spectrum of business and entrepreneurship education - 'enterprise skills for life', core elements of 'practice management' and opportunities for 'new venture creation' within the five-year veterinary medicine degree programme. Given that relatively few graduates work outside the pure practice wing of the profession, the opportunities to encourage entrepreneurship are significant. Indeed, while a full discussion on this particular topic is outside the scope of this chapter, the potential for innovation and new venture creation in the context of commercialisation of veterinary clinical research, development of new drugs and treatments, and the creation of new products and services for supply to veterinary practices to date has not been fully explored. Developments in these areas could only serve to enhance the veterinary business landscape in the future.

6.1 Future research

Looking to the future, collaboration and partnership arrangements amongst veterinary service and education providers, both nationally and internationally, is likely to offer considerable mutual benefit for all those involved in the veterinary sector. In this regard, future research should consider how such partnerships might be encouraged and where they might be most beneficial. In addition, and with specific regard to the gender shift, future research should focus on increasing the business leadership and entrepreneurial intentions of female veterinary students. This is particularly important if the veterinary business landscape is to continue to include practices led by veterinary professionals. Finally, from our discussion in this chapter, we posit that there is considerable potential within veterinary educational curricula to enhance students' understanding of the business dimension of the veterinary sector, to ensure they are fully aware of the changes taking place within the sector and how these will impact on the veterinary businesses in which they will work in the future. In this regard, the evolving veterinary educational curriculum needs to continue its trend toward a business orientation.

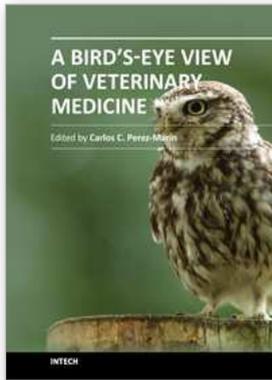
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Veterinary medicine is advancing at a very rapid pace, particularly given the breadth of the discipline. This book examines new developments covering a wide range of issues from health and welfare in livestock, pets, and wild animals to public health supervision and biomedical research. As well as containing reviews offering fresh insight into specific issues, this book includes a selection of scientific articles which help to chart the advance of this science. The book is divided into several sections. The opening chapters cover the veterinary profession and veterinary science in general, while later chapters look at specific aspects of applied veterinary medicine in pets and in livestock. Finally, research papers are grouped by specialisms with a view to exploring progress in areas such as organ transplantation, therapeutic use of natural substances, and the use of new diagnostic techniques for disease control. This book was produced during World Veterinary Year 2011, which marked the 250th anniversary of the veterinary profession. It provides a fittingly concise and enjoyable overview of the whole science of veterinary medicine.

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